PARTNERS

COST ACTION FA 1403

Interindividual variation in response to consumption of plant food bioactives and determinants involved

Brief description of the Research Group

- ***Organisation & Facilities***

The Department of Food Science and Technology (DLWT, http://www.dlwt.boku.ac.at/) of BOKU, which comprises 15 departments, is divided in 2 institutes with different working groups (Institute of Food Technology with General Food Technology, Food Biotechnology, Process Engineering and Institute of Food Sciences with Food Microbiology and Hygiene, Food Chemistry and Food Authenticity, Food Quality Assurance, Food Physics, and Food Sensory Science). The DLWT is the major Austrian research institute for food science and technology and is an experienced and reliable partner with other universities and industries. DLWT thematic scope includes: quality and safety aspects, chemical, biochemical, physical, (micro) biological and sensory characterisation of food and feed, nature and properties of enzymes, microbiology and hygiene of food stuff. Also in our university, DLWT takes the first place within the competence field "food–nutrition–health" which is one of the main areas of BOKU's competence. The working group Food Physics is equipped with 2 texture analysers, an oscillating rheometer, a tensiometer and an imaging analysis system. Also our well-equipped pilot plant is available to produce different food products. It is equipped with homogenizers, extruder, spray dryer, fluidized bed dryer, high preasure and critical CO_2 extraction, etc. (http://www.dlwt.boku.ac.at/en/ilmt/lmt/ausruestung-und-service/).
DLWT has a good collaboration with the Department of Nanobiotechnology (SEM, AFM, Zetasizer, etc. http://www.nano.boku.ac.at/en/) and Department of Chemistry (Spectroscopy, etc. http://www.chemie.boku.ac.at/en/) which have state of art facilities that help us to perform our experiment.

- ***Aims of the Research Group***

The research group has a fundamental science approach. The goal is to improve the basic knowledge about the assembly of bioactive components with other macromolecules to increase the solubility and accessibility of bioactive for their possible use in food products. Moreover, the interactions between them provide a promising starting point to design and perform the encapsulation of bioactive compounds.
In addition, we would like to achieve an efficient method for producing fine particles of the microencapsules that will contain sensitive and water insoluble bioactive compounds using emulsion-gel technique in which the barriers caused by low emulsion stability and low loading capacity are largely solved. Furthermore, simulated gastrointestinal tract will be used to assess the effect of encapsulation on the accessibility of bioactive compounds.

- ***Methodologies & Approaches***

- Assessment of encapsulation efficiency according to different encapsulation methods and using different biomacromolecules.
- Visualization of encapsulated particles using different imaging methods such as Transmission electron microscopy (TEM), Confocal Laser Scanning microscopy (CLSM), scanning electron microscope (SEM), Atomic force microscopy (AFM)
- Assessment of the behaviour of the encapsulated particles through the upper gastrointestinal tract, through simulation of gastric and small intestinal processing based on the InfoGest protocolParticipation in the most relevant European and National projects

Participation in the most relevant European and National projects

- COST Action FA 1005 (INFOGEST)
- COST Action FA 1001 (FOODSTRUCTURE, https://www.foodstructuredesign.net/, https://www.iseki-food.net/general/sigs/sig1)
- HEALTHGRAIN (https://www.healthgrain.org/hg_project)
- TRAFOON (http://www.trafoon.eu/)
- EU-FOOD-STA (http://www.food-sta.eu/)

Description of the principal personnel involved with their relevant experience

Gerhard Schleining (Ass.Prof. DI, Dr.) is senior research scientist in food quality management at DLWT since 1983. His current research and teaching areas are food physics with special interest in rheology and food texture, quality and safety of food, with special interest in quality management systems, hygienic design, chemometrics, informatics and computer science. He made his dissertation on textural properties of cereal products. He is responsible for education at the department and has experiences in IT and e-training through several EU-funded projects like DEMENET, FOODNET, ISEKI (www.iseki-food.eu/), HEALTHGRAIN (FP6-514008, www.healthgrain.org), MONIQA (www.moniqa.org) and TRACK_FAST (FP7 KBBE 227220, www.trackfast.eu). In the Thematic Network ISEKI-Food he was chairman of the working Groups "teaching materials and methods" and "project exploitation", where he organized an European e-learning course "train the trainer" and established several web-databases. Currently he is Secretary General of the ISEKI-Food Association (www.iseki-food.net/). He was MC member of the COST Action FA 1005 (INFOGEST) and COST Action FA 1001 and is now coordinating the EU-FOOD-STA project (http://www.food-sta.eu/) an Erasmus+ Knowledge Alliance project.

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Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Elham Ghorbani Gorji is a PhD student at BOKU University and currently working on encapsulation of bioactive compounds using emulsion-gel method.
Recently she worked on the interaction of resveratrol with different milk protein to increase the solubility of resveratrol and to protect it from environmental impact. Now she is study the effect of gastro intestinal tract on the release of encapsulated bioactive compounds and their accessibility.
She was a MC substitute member of COST Action FA 1005 (INFOGEST) and COST Action FA 1001.

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Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The University of Vienna is the oldest university in the German-speaking world and one of the largest in Central Europe with currently about 92,000 students. The Department of Microbiology and Ecosystem Science (DMES, http://dmes.univie.ac.at) is an internationally leading research and teaching unit consisting of 14 scientists in 12 research groups (4 professors, 4 associate professors, 4 assistant professors, and 2 staff scientists in three divisions. The department's research ranges from ecophysiology, (meta)genomics-transcriptomics-proteomics, and evolution of key microorganisms in selected ecosystems to symbiotic interactions of microbes among each other and witheukaryotes. Novel molecular, microscope, and isotope techniques are being developed and applied to identify and characterize microorganisms with major importance for the functioning of the investigated systems. Department members have published >250 papers since 2010, including papers in Nature (4), Science (2), Nature Communications (2) and PNAS (6). In addition, department members are solely responsible for the operation of the instruments located in the Large Instrument Facility for Advanced Isotope Research http://nanosims.univie.ac.at/, specifically the NanoSIMS and Isotope Ratio Mass Spectrometers.

- ***Aims of the Research Group***

The"Human and Animal Microbiota Function" research group is well recognized as a leader in application of novel methods to study the activity of gut microbiota organisms in vivo. By integrating methodologies including metagenomics, metatranscriptomics, fluorescence and chemical imaging (fluorescence in situ hybridization, as well as NanoSIMS and Raman microspectroscopy), the group aims to uncover novel activities and interactions of members of the gut microbiota. Key application areas include nutrition, intestinal inflammation, sulphate reducing bacteria, polysaccharide degradation, and mucus-associated microorganisms.

- ***Methodologies & Approaches***

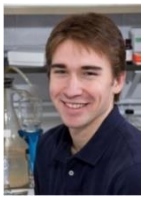
- Metagenomics and metatranscriptomics, as well as targeted sequencing analyses
- Single cell imaging of microorganisms (for identification, spatial studies, and chemical analyses)
- Animal models

Participation in the most relevant European and National projects

During the last five years, involvement in projects from the Austrian Ministry for Science and Research (BMWF GENAU program), Austrian Science Foundation (FWF), as well as EU (Marie Curie IF).

Description of the principal personnel involved with their relevant experience

Dr. David Berry (microbiologist) is an assistant professor at DMES and internationally recognized for his work on gut microbiome as well as development of single cell stable isotope probing approaches to study gut microorganisms. He is particularly interested in the ecology and evolution of polysaccharide degrading bacteria, mucus-associated bacteria in the gut, and the role of the gut microbiota in inflammation.
Contact: berry@microbial-ecology.net



Major contribution to POSITIVe: WG1

Role in POSITIVe: MC Member

Dr. Alexander Loy (microbiologist) is an associate professor at DMES and internationally recognized for his work on the evolution and ecology of sulphate-reducing microorganisms and gut microbiota in health and disease.
Contact: loy@microbial-ecology.net

Major contribution to POSITIVe: WG1

Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

EUFIC's goal is to communicate science-based information to health and nutrition professionals, educators, and journalists in a way that promotes consumer understanding. As a non-governmental organisation EUFIC receives funding both from the agri-food chain and the European Commission. Since 2014, EUFIC has been involved in 18 EU-funded projects, some of which are still ongoing. EUFIC's role in those projects is dissemination partner/leader, research partner or coordinator. For an idea of the types of projects EUFIC works on you can visit: http://www.eufic.org/block/en/show/eu-initiatives/

- ***Aims of the Research Group***

The benefits EUFIC brings to a consortium are experiences/expertise, tools, networks and massive outreach to a wider audience of relevant stakeholders, such as consumer organisations, consumer scientists, food and drink industries (including SMEs), food scientist associations, health professionals, media policy makers, retail and catering sectors, public and society at a European level.

- ***Methodologies & Approaches***

As an indication of outreach, EUFIC's website has over 600,000 visits a month, EUFIC's newsletter FOOD TODAY, which exists in 11 languages, is distributed to over 46,000 educators, health professionals, media, scientists, and other communication multipliers.

The types of dissemination activities EUFIC offers to a consortium are:

- Development of project identity (logo and digital templates) and project website.
- Communication strategy for the project.
- Communication materials: articles for different target audiences, project leaflets, fact-sheets, infographics, or best-practice documents.
- Other communications: podcasts, videos and webinars.
- Social media activities: project Facebook page and Twitter account, e-newsletter, discussion forum or e-surveys, quadrant on www.eufic.org (which allows traffic to be driven to the project website).
- Stakeholder engagement: Stakeholder advisory board, community platforms.
- Networks of exchange: identify relevant projects and networks and regular exchange of information.
- Media activities: press releases, project media-monitoring, media training, etc.

The types of research activities EUFIC offers to a consortium are:

- Quantitative and qualitative consumer research (e.g. to get insights on awareness, perceptions, understanding and use).
- Desk research (e.g. reviews of the literature).
- Citizens' juries (e.g. to assess a change in opinion of a group of stakeholders after being exposed to specific information).

Participation in the most relevant European and National projects

EUFIC is an active member of the EU Platform for Action on Diet, Physical Activity and Health of the European Commission. In addition, EUFIC has been the communication/dissemination leader in the following EU Framework Programme 6 and 7 and H2020 projects: SAFEFOODS, HELENA, IDEFICS, EURRECA, AGRIFOODRESULTS, EATWELL, FoodRisC, Food4Me, NU-AGE, CHANCE, RECAPT, INPROFOOD, CONNECT4ACTION
EURODISH, DIVERSIFY, MyNewGut, Protein2Food, FLABEL (as coordinator), CLYMBOL (as coordinator)

Description of the principal personnel involved with their relevant experience

Dr Laura Fernández Celemín is Director General at EUFIC. She holds a degree in human nutrition and a PhD in Biomedical Sciences from the Catholic University of Louvain, Brussels, Belgium. Laura is involved in deciding the Nutrition and Food Safety strategy for EUFIC and supervising EUFIC's role in EU-funded research projects. She coordinated the FLABEL project on behalf of EUFIC.
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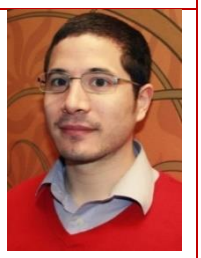
Major contribution to POSITIVe: FG



Adrian Giordani is EU Projects Communications Manager at EUFIC. His previous role was as a Science Journalist and Editor at the European Organization of Particle Physics (CERN) in Geneva, Switzerland. He has worked in digital communications such as science communication, journalism and online marketing for nine years. Adrian has an MSc in Science Communication from Imperial College London and a Degree is Software Systems from the University of Hertfordshire, UK.
Contact: Adrian.Giordani@eufic.org

Major contribution to POSITIVe: FG

Brief description of the Research Group

- ***Organisation & Facilities***

The Institute for Agricultural and Fisheries Research (ILVO) is an independent research institution financed by the Government of Flanders and performs multidisciplinary, innovative and independent research aimed at economically, ecologically and socially sustainable agriculture, fisheries and food processing. The Technology and Food Science Unit comprises three research areas (Agricultural Engineering, Food Safety, and Product Quality and Innovation). The food science research covers the entire food production chain: from primary agricultural and fisheries products to the processed product, ready for consumption. The research group 'Product quality and Innovation' has experience in turning primary agricultural products of vegetable and animal origin into high-quality, profitable food, feed and other derived products, with attention. In addition, the group focuses on physico-chemical and technological research for innovative, functional food and feed products and their safety and quality improvement (stability, composition, taste, transformation and shelf life). This is done in close collaboration with the 'Food safety' group which has a long experience on the analysis of microbial and chemical food safety. For each of these research areas, ILVO has well-equipped analytical labs. Finally technological research via pilot tests for food model systems, dairy and meat products, vegetables, fruit and ready-to-eat food products can be performed in the Food Pilot facility.

- ***Aims of the Research Group***

The research group 'Product quality and Innovation'is involved in multiple research projects dealing with optimal valorisation of plant biomass. The research focuses on the characterisation of raw and processed agrifood products and generated by-products and waste streams, with special attention to bioactive compounds. An integrated approach is followed to 1) characterize potential health-promoting phytochemicals in agrifood products, wastes and by-products 2) to study the impact of well-established and novel, innovative processing technologies on the overall quality and nutritional macro- and micronutrients 3) to support food industry in the development of novel healthy and functional food ingredients with a focus on process and product optimization.

- ***Methodologies & Approaches***

- Metabolomics to the study the impact of plant variety, growing method and conditions, food processing methods etc on the content in bioactives. For this purpose ultrahigh performance liquid chromatography-tandem mass spectrometry (UHPLC-MS/MS) is used to simultaneously detect, identify and quantify different target compounds in all kinds of matrices. Four LC-MS/MS configurations are available at ILVO-T&V, plus a recently bought UHPLC high resolution mass spectrometer (HRMS) (Synapt G2-S, Waters), a high-end QTOF-based device with an ion mobility cell that allows the analysis of both known and unknown compounds in various matrices (targeted/untargeted analysis).
- A wide range of other basic analytical methods that are used to characterize food products (sugars, fibres, proteins…) is available
- Pilot-scale experiments: an important collection of versatile equipment (over 50 devices) and in-house scientific advice is available in the Food Pilot (www.foodpilot.be/EN), making it the ideal venue for agro-food companies to conduct pilot tests or prepare new food/feed products

Participation in the most relevant European and National projects

During the last 5 years the research group was involved as partner in different ERA-NET (SUSFOOD project SUNNIVA) and FP7 projects (NOSHAN), national PhD projects (one on leek bioactives; one on pome fruit polyphenols; one on tomato and Belgian Endive bioactives) besides a large number of project in collaboration with food industry (via Flanders Food projects e.g. NOWaste, IWT and FOD projects – either bilateral or cooperative projects. The group has also participated to a number of other COST actions (e.g. FA1001, TD1203).

Description of the principal personnel involved with their relevant experience

Prof.Dr. Marc De Loose is Scientific Director of the research group on product quality and innovation.He has been working over more than ten years in the domain of GMO detection, characterization, identification and quantification. He has been has been a member the EFSA GMO Panel and is currently involved in discussions on safety of GMO within the Belgian Biosafety Council. He is member of the European Network for GMO Laboratories and is partner of the NRL laboratory for GMO testing in Belgium. Similar expertise was developed over the last five years for allergen detection. In addition his research interests are functional and healthy foods.
Contact: marc.deloose@ilvo.vlaanderen.be

Major contribution to POSITIVe: WG3, FG
Additional contribution to POSITIVe : WG1

Dr.ir. Bart Van Droogenbroeck, group leader, joined the Research Group 'Product Quality & Innovation' in 2007. Since then he has been leading research projects in the field of plant biotechnology (GMO development, detection, co-existence), allergen detection and optimal valorisation of plant biomass. Related to the latter topic research includes the characterisation of bioactives in agri-food products (polyphenols, organosulfur compounds, sesquiterpenes) using metabolomics and other methods, also to study the impact of food processing and to realize innovation in food processing and product development. Previously he worked on recombinant protein production in plants.
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Major contribution to POSITIVe: WG3, FG
Additional contribution to POSITIVe : WG1
Role in POSITIVe : Substitute MC Member

Dr Ir Nathalie Bernaert is project manager in the Food Pilot, were she is responsible for the vegetable and fruit processing. She is also coordinator of the GeNeSys project, a intern ILVO project where 4 PhD's work on the valorisation of fishery and horticultural by-products. She did her PhD on the determination of bioactive compounds in leek as a function of genetic diversity, harvest time and processing techniques. During her PhD, she developed a method to analyse the typical sulfur compounds present in the *Allium* genus, and used an HR-MS method to identify and quantify polyphenols.
Contact: nathalie.bernaert@ilvo.vlaanderen.be

Major contribution to POSITIVe: WG3, FG, TTG
Additional contribution to POSITIVe : WG1

Dr. Ir. Domien De Paepe is an application engineer at Food Pilot. He focuses on alternative process technology for food industry. More precisely, he is specialized in the application of vacuum and inert gas processing (Vaculiq™ spiral-filter press), novel drying technology (Refractance Window Drying), and cryogenic applications. In his PhD (Bioscience Engineering, University of Antwerp, Belgium), he studied the possibilities of low quality apple and pear fruit as a feedstock for cloudy juices with a unique phenolic constellation. He studied the impact of cultivar as well as novel process technology on the presence of specific phenolic compounds in the final product. Besides his technological interests, he possesses extensive knowledge about untargeted metabolic profiling of fruit and vegatables with high-resolution mass spectrometry.

Major contribution to POSITIVe: WG3, FG
Additional contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

The research group Protein Chemistry, Proteomics and Epigenetic Signaling (PPES) is part of the Department Biomedical Sciences, Faculty of Pharmacy, Biomedicine and Veterinary sciences at the University of Antwerp. The University of Antwerp (UA) is characterized by its high standards in education, internationally competitive research and entrepreneurial approach. It was founded in 2003 after the merger of the three universities that were previously known as RUCA, UFSIA and UIA, the university's roots go back to 1852. The University of Antwerp has approximately 21.000 students, which makes it the third largest university in Flanders. Over 1.000 of these students - exchange students not included - are from foreign countries, with a majority of EU countries. All of our faculties conduct both fundamental and applied research of very high quality. UA has cuttingexpertise in various research domains (https://www.uantwerpen.be/en/research-and-innovation/research-at-uantwerp/research-excellence/). The key research domain **Molecular and Clinical Neurosciences** covers following disciplines Neuronal Degeneration (neurogenetics , neurobiology, neuro-pathology, biobank/ biomarkers); Neuronal Plasticity (stem cells, song birds); Neuronal Repair/ Replacement (stem cells, neuronal tissue engineering, nanotechnology); Cognition and Behavior (neurogenetics, rodent models, psychiatric disorders/ dementia); Applied Molecular Genomics; Neurodegenerative Brain Diseases; Neurogenetics; Peripheral Neuropathies. Another keyresearch domain is clustered in the innovative chain going from **target discovery** (disease pathology, disease mechanism, animal models) to **drug discovery** (medicinal chemistry, small molecules, in vitro screens, medicinal plants, followed by **preclinical drug development** (biomarkers, toxicity, imaging) to the end point **clinical trials**.The major focus **disease areas** are bone disease (osteoporosis); cancer; cardiovascular disease (atherosclerosis); infectious disease (bacterial, fungal and parasitic infections); kidney disease; metabolic disease (diabetes). A major part of the research in these areas is grouped in the **'Antwerp Drug Discovery Network'**, an integrated platform for early drug discovery from hit to lead optimization, with specific attention to protease Inhibitors and Infectious Diseases. It is recognized as Reference Center of the World Health Organization (WHO). This research is also characterised by the **integration and systematic analysis of large proteomic, (epi)genomic, transcriptomic, metabolomics datasets** acquired during high-throughput analyses. Multidisciplinary research on infectious diseases and vaccines, with **focus on microbiology and immunology**, relates to basic research (on immune system , disease mechanisms, antibiotic resistance) and preclinical research (on biomarkers, vaccines, injection devices) and clinical research (on diagnostic tests, vaccines, prevention, epidemiology), epidemiology, statistics/mathematical modeling, sociology and economics. Finally, various research groups areclustered with the **laboratory network EGAMI**: **Expert Group Antwerp Molecular Imaging**, involving the Biomedical Microscopic Imaging, the Bioimaging Lab, the Molecular Imaging Center Antwerp (MICA), the MicroCT Lab and Vision Lab. The PPES research combines proteomics, (epi)genomics, transcriptomics (mRNA, microRNA), proteinchemistry and chemical biology technologies to understand molecular biology of bacterial sensing, infection and cancer-inflammation.

- ***Aims of the Research Group***

Epidemiological, clinical and animal studies support a health beneficial role of xanthones (mangiferin), withanolides (withaferin A), polyphenols (genistein, resveratrol) and (cocoa) flavanols in the prevention or treatment of metabolic& cardiovascular diseases, cancers and neuronal disorders. By integrating epigenomic, transcriptomic, microRNomic, (chemo)proteomic approaches,the PPESresearch group wants to identify key signaling pathways and molecular targets of phytochemicals involved in chemoprevention, cardioprotection or hormone therapy sensitisation in various disease models (cancer, CVD, diabetes, obesity, neurodegeneration).By DNA methylome profiling of blood samples collected in diet intervention or clinical studies, we aim to identify disease specific epigenetic signatures related to diet or therapy specific response to bioactives, focusing on interindividual variation and personalized nutrition/medicine.

- ***Methodologies & Approaches***

- Cell culture, cell signalling studies, primary cells (HUVEC, PBMC), Western, QPCR
- Illumina mRNA array, RNAseq, microRNA profiling
- Illumina 450K array, RRBS, ox-RRBS, CpGpyrosequencing, Hiseq, Miseq
- Chemoproteomics (with biotin-tagged bioactives)
- Peptide array based nuclear hormone receptor activity profiling (Pamgene)
- Peptide array based Tyr/Ser/Thr kinase activity profiling (Pamgene)

Participation in the most relevant European and National projects

Dr. Wim Vanden Berghe is involved in various (inter)national projects (FP7 Flaviola, Inflammatum, Cardiyurveda, COST, SBO, FWO, IAP, VLIR), focusing on the role of kinase and hormone signaling in epigenetic reprogramming by phytochemicals or environmental stress, in cancer, cardiovascular disease (atherosclerosis) and neuroprotection (stroke, development, brain plasticity). He has been involved in organisation of various international meetings related to NFkB, GR or phytomedicine (NFkB 2001, Gent; Fapronatura 2012 Topes de Collantes; MMC 2012 Bangkok; Latinfarma 2013 Havana; Nuclear Receptor Meeting 2014 Antwerp; Fapronatura 2015 Topes De Collantes.

Description of the principal personnel involved with their relevant experience

Prof. Dr. Wim Vanden Berghe became a full professor in 2009 at the lab of Protein Science, Proteomics & Epigenetic Signaling (PPES) at the University of Antwerp (Belgium). He holds a Master degree in Chemistry-Biotechnology from the University of Ghent and obtained his PhD on research related to TNF induced IL6 gene regulation in 1999 at the lab of Prof. G. Haegeman (LEGEST, UGent, Belgium). During his PhD, he specialized in transcription regulation by kinases and selective glucocorticoid receptor modulators at the Department of Molecular Biology of Prof. W. Fiers (UGent, Belgium) and the Department of Bone Disease in collaboration with Dr. M. Resche-Rigon (Roussel Uclaf, France). Following postdoctoral training at the Nuclear Signaling Lab of Prof. L. Mahadevan (Oxford, UK, 2000) and at the Department of Biochemistry lab of Prof. J. Hapgood & Prof. A. Louw (Stellenbosch, South Africa, 2001) he started his own research group on epigenetic regulation mechanisms by nutritional and medicinal phytohormones in cancer and inflammatory disease. In 2008 he also became Assistant Professor Epigenetics at the University of Gent (Belgium).

PPES lab website: https://www.uantwerpen.be/en/rg/ppes/
Contact: wim.vandenberghe@uantwerpen.be
Resesarchgate: https://www.researchgate.net/profile/Wim_Berghe
Google scholar: https://scholar.google.com/citations?user=6hUgNQ8AAAAJ&hl=en

Major contribution to POSITIVe: WG2
Additionnal contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Drs.Ken Declerck is a PhD student at PPES, involved in genome wide transcriptome and epigenome profiling (Illumina, RNAseq), as well as bioinformatic analysis of epigenome & transcriptome datasets of blood samples from diet intervention studies (cocoa flavanols, with a nolides) or early exposure studies (endocrine disruptors) with special focus on the role of epigenetics underlying interindividual variation in therapy responses, or health-disease effects.
Contact: ken.declerck@uantwerpen.be

Major contribution to POSITIVe: WG2
Additionnal contribution to POSITIVe: WG3

Drs. Chandra Sekhar Chirumamilla is a PhD student at PPES, involved in peptide array (Pamgene) based analysis of hormone receptor or kinase activity based effects of phytomedicinal compounds in different cell models. He is also involved in molecular modelling and docking of phytochemicals in potential target proteins.
Contact: chandrasekhar.chirumamilla@uantwerpen.be

Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

LabMET is a multidisciplinary research lab consisting of 4 teaching staff, 20 postdocs and 30 PhD students. Focusing on microbial interactions and reactor technology LabMET uses microbial ecology in novel biotechnological applications. LabMET is at the forefront of microbial ecological research and the development of techniques and reactor technology where microbial consortia can be studied to explore novel biotechnological applications.

- ***Aims of the Research Group***

Within LabMET, the host microbe interaction technology group from Prof. Van de Wiele has extensive expertise in the simulation of the microbiome in different regions and microenvironments of the human gut. This is particularly useful for assessing microbiome interactions with nutrition, pharmaceuticals, pathogens or the human host in both a health as diseased context.
The primary research interests deal with the study of the gut microbiome, its metabolic potency, the interactions with the host and the development of methods to steer the gut microbiome in a health-promoting direction. Besides the microbial analysis of the gastrointestinal environment from animal models or human intervention trials, his group is broadly expertised in the in vitro simulation of gastrointestinal digestive processes. Using the dynamic human gut model, SHIME®, a wide variety of candidate drugs, functional foods and/or feeds can be screened before a more narrow selection enters the stage of in vivo trials. In addition, combining SHIME reactor technology with epithelial cell cultures, his group studies microbe-host interactions, which are relevant in the field of oral and gastrointestinal mucositis, inflammatory bowel disease or obesity.

- ***Methodologies & Approaches***

In vitro technology for studying host-microbe interactions: dynamic simulator of the human gastrointestinal tract (SHIME), simulator of the mucosal microbiota (M-SHIME), host-microbe interaction module (HMI); molecular microbial analytical techniques: PCR-DGGE, Q-PCR, FISH; imaging: light and epifluorescence microscopy; chemical analysis: GC-FID, GC-ECD, HPLC-F, IC… All research work with SHIME and related samples is performed in biosafety level 2 labs.

Participation in the most relevant European and National projects

- FOD-BIOTRAs (As metabolism by gut microbiome; 2012-2015),
- GOA Gut microbiome and IBD (2012-2017),
- SBO Butyrate producing gut microbiome (2012-2016),
- SBO Bran dispersions as functional foods (2014-2018),
- IOF Synthetic microbiomes (2014-2015),
- ITN BIBAFOODs on encapsulated enzymes (2014-2017).

Description of the principal personnel involved with their relevant experience

Tom Van de Wiele is professor at the Laboratory of Microbial Ecology and Technology at Ghent University in Belgium. Within the COST action positive he is Work Group 1 leader.
The primary research interests deal with the study of the gut microbiome, its metabolic potency, the interactions with the host and the development of methods to steer the gut microbiome in a health-promoting direction. Besides the microbial analysis of the gastrointestinal environment from animal models or human intervention trials, his group is broadly expertised in the *in vitro* simulation of gastrointestinal digestive processes.
Contact: tom.vandewiele@ugent.be

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: MC Member, Steering Committee, Working Group Leader

Brief description of the Research Group

- ***Organisation & Facilities***

BIR- BAS performs fundamental and applied scientific research as well as educational activity in the domain of biology and immunology of animal and human reproduction. This research is dedicated at resolving of social problems like reproductive health, sustainable usage and restoration of natural resources and improvement of quality of life. The study of molecular targets and mechanisms controlling the fecundation, pregnancy and delivery success is the base for the finding new functional tools for application in diagnostics and therapy strategies for reproductive disorders.In IBIR work 61 persons, among them 42 belong to the scientific staff: professors - 3, associate professors - 13, assistant professors - 9, assistants - 17, also specialists -6 and technicians-5. In IBIR at the moment there are 20 PhD-students. The Department "Embryobiotechnologies in Animals" is one of the five departments comprised the research infrastructure of IBIR – BAS. To this department belongs the Research group (four persons), which investigated the application of the bioactive feed additives for the enhancement of reproductive potential in animals. The IBIR-BAS has four well-equipped experimental units to whom all researchers have free access: Lab for proteome analysis; Lab for cell culture, physical and chemical analyses; Lab for in vitro fertilization and embryo transfer; Lab for confocal and light microscopy; and experimental animals facility (rodents).

- ***Aims of the Research Group***

The main aim of the Research group is the investigation of the ability of non-hormonal bioactive substances, including those from plant origin, to stimulate the reproductive system and to enhance the reproductive potential in animals. The properly function of reproductive system depends on whole healthy status of organism as well as on properly function of cardiovascular system. All positives for the CVS should be beneficial for the reproduction.
The research of the Group aims to study the effect of plant bioactive substances (1) on the gametogenesis, gametes quality and fertility , (2) on the expression of genes related to the reproductive performances in parents and offspring (epigenetic aspect) and (3) the correspondence/correlation between biomarkers reflected inter-individual effect of plant bioactives on reproduction and on cardiovascular system(CVS).

- ***Methodologies & Approaches***

Animal experiments; Histological and immunohistochemical analysis of tissues;
Metabolomics analysis in bio fluids; Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot)

Participation in the most relevant European and National projects

During the 5 last years the Group has been involved in several European and national projects: ReProForce (FP7-REGPOT-2009), Mitofood (COST Action FA0602), Epiconcept (COST Action 1201) and "Plant bioactive substances as stimulants of reproduction in female animals" (funded by Bulgarian Academy of Sciences).

Description of the principal personnel involved with their relevant experience

Elena Kistanova, PhD is Associate Professor in the Department of "Embryobiotechnology in animals" and a leader of the Research Group investigated the effect of bioactive feed additives on reproduction. Her main subject is the biology of reproduction, evaluation of spermatogenesis, oogenesis and gametes quality in different species of livestock animals at morphological, biochemical, genes and proteins expression level. During the last decade the plant bioactives are in the focus of her research: previously it was the plant hormones – gibberellins and cytokinins used for keeping of sperm viability during in vitro storage; now there are phytogenic feed additives affected the healthy status of animals, gametogenesis, gamete quality and fertility.
Contact: kistanova@gmail.com

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2
Role in POSITIVe: MC Member

Desislava Abadjieva, assistant professor is an Early Stage researcher. She had developed the PhD thesis in the Department "Embryobiotechnology in animals" of IBIR-BAS with title "Estimation of the *Spirulina platensis* and Vemoherb-T supplementation effect on the reproductive parameters of female rabbits". Her research is focused on the evaluation of the plant bioactives effect on the oogenesis at morphological, genes and proteins expression level. She applies the histological, immunohistochemical and RT-PCR methods for the reproductive tissues and cells.
Contact: dessi_l@abv.bg

Major contribution to POSITIVe: WG1, TTG
Additional contribution to POSITIVe: WG2

Michail Cherenkov, assistant professor is an Early Stage researcher. He received his PhD in reproductive biotechnologies at IBIR-BAS. His research focus is the definition of anti-viral effect of plant bioactives and their application for the decontamination of cell culture and oocytes in vitro. In her research he applies several methods as PCR, ELISE, cell culturing, Western blot, light and fluorescent microscopy.

Major contribution to POSITIVe: WG1, TTG
Additional contribution to POSITIVe: WG2

Vanya Mladenova is first year PhD student in the Department"Embryobiotechnologies in animals" under tutorship of Associate Professor E.Kistanova.
Her PhD project is focused on the identification of the epigenetic effect of bioactives from plant feed additives. Special attention in her work will be paid to the estimation of the correspondence between the inter-individual response of experimental animals to the feed additives supplementation from the side of reproduction as well as from the side of cardiovascular system.
Contact: vanya_mladenova@abv.bg

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

Institute for Adriatic Crops and Karst Reclamation (IAC) is the public scientific institution of the Republic of Croatia. Institute conduct innovative research projects in the biotechnical sciences, fields of agronomy, food technology, forestry and biotechnology. Primary research activities of the Institute are interdisciplinary in character, with the purpose of increasing the efficiency and competitiveness of agricultural production, but also to preserve the sustainability of agro-ecosystems, forest ecosystems, biodiversity, environmental quality, as well as the protection and management of soil and water management. IAC employs 47 persons, including staff of 20 PhD. The Department of Plant Sciences has the largest number of employees who are engaged in scientific and professional activities **within is the viticulture and enology research group. Viticulture and enology research group** has a team member of 6 people (senior research scientist, scientific associate, PhD student, two technicants and associate). The group research infrastructure are: germplasm vineyard with 94 varieties mostly native Croatian (founded in 2005), „virus free" vineyard (founded in 2014), ampelometry laboratory, small scale winery and enology laboratory. The Enology Laboratory is accredited for physico-chemical analyses of wine in accordance with standard EN ISO / IEC 17025 (since 2009, reaccredited 2014) according to Official methods of European Union.

- ***Aims of the Research Group***

Research focused of group are: 1) conservation, identification, characterization and improvement of autochtonous cultivars of grapevine, 2) location, conservation and characterization of wild grapevine cultivar 3) investigation of genetic, morphological and production properties of grapevine, 4) investigation of the complexity of genetic, environmental and production effect on the quality of wine with special interest on polyphenols

- ***Methodologies & Approaches***

- ampelographic and genetic analysis in identification of grapevine cultivar
- identification and quantification of anthocyanins in grape and wine by HPLC-DAD analysis
- determination of total phenols, proanthocyanidins, anthocyanins and catechins by spectrophotometric analysis
- chemical analysis of grape and wine by standard methods

Participation in the most relevant European and National projects

During the last 5 years the group has been involved in two national projects financed by the Ministry of Science and Technology ("Biotechnological Parameters of Premium-quality Dalmatian Dessert Wine – Prošek" and "Pathogens elimination from citrus and grapevines using *in vitro* techniques"), a few projects financed by local government concerning the growing revitalization of autochtonous cultivars, and two European projects, a collaborative "Preservation and establishment of true-to-type and virus free material of endangered grapevine cultivars in Croatia and Montenegro", funded by European Union, SEE-ERA.NET, and the "Locating the wild grapevine along the river banks of Krka, Croatia", funded by the International Critical Ecosystem Partnership Fund.

Description of the principal personnel involved with their relevant experience

Dr Irena Budić-Leto, is senior research scientist at IAC. She received her PhD in the field of food technology applied to enology. She is the head of the Enology Laboratory. Her main interests are identification of different types of polyphenols using spectrophotometric and HPLC methods. Her research interest is focused on polyphenols in grape and wine, studies of the changes in their content during winemaking and aging and evaluation of their impact on sensory quality of wine. She is the expert in sensory analysis of wine as a certified tester. She has been lecturer at the "Study of Mediterranean Agricultures" of Enology and other specialized modules.

Contact : irena.budic-leto@krs.hr

Major contribution to POSITIVe: WG1
Role in POSITIVe: Substitute MC

Brief description of the Research Group

- ***Organisation & Facilities***

The University of Zagreb is the oldest Croatian university and the largest in the region of South-East Europe. The University consists of 29 faculties, 3 art academics and the Centre for Croatian Studies. Faculty of Food Technology and Biotechnology is a high education institution in the field of food technology, biotechnology and nutrition. The Faculty comprises 29 laboratories in all. There are 6 Departments. Scientific activity of the Department of Food Technology Engineering is carried out through a number of scientific and technological research projects whose aim is the improvement and development of novel processes and technologies for production of various food products, especially functional foods. Studies are focused on the development and application of ultrasound treatments, high hydrostatic pressure, low temperature processes, extrusion and other processes, all with the aim of improving the quality of the already existing and developing new food products.

- ***Aims of the Research Group***

The main interest of research group is evaluation of influence of food processing/preparation practices on bioaccesibility/bioavailability of bioactives from food matrix and functional properties of various food systems (solubility, emulsification, foaming, viscosity, thermal stability, hydrophobicity)

- ***Methodologies & Approaches***

In all investigations the most modern methods of process monitoring and product quality control are applied. The Department research is done in its own semi-plant laboratory as well as in the central chemical and instrumental laboratory equipped with all necessary instruments (HPLC UV/Vis DAD, UPLC MS/MS, NIRS)

- release of plant food bioactives from the food matrix (extraction using conventional extraction and innovative techniques - ultrasound assisted extraction, high pressure assisted extraction, microwave assisted extraction)
- characterization of plant extracts using the NIR spectroscopy
- determination of bioactives (spectrophotometric methods, HPLC UV/VIS methods, UPLC MS/MS methods)
- antioxidant properties using different assay methods (DPPH, ABTS, FRAP, ORAC)
- stability during digestion (in vitro digestion processes)
- interactions of bioactives with other food components and influence on changes in the structural, functional and nutritional properties of both components

Participation in the most relevant European and National projects

During the 5 last years, department has been involved as partner in various national (New processing techniques in production of functional food, Stability of bioactive components of food in dependence of processing conditions, Application of electrical discharge plasma for preservation of liquid foods) and European (multilateral and bilateral cooperation in science and technology) projects.

Description of the principal personnel involved with their relevant experience

Suzana Rimac Brncic work as associate professor at University of Zagreb, Faculty of Food Technology and Biotechnology. Her research interests are to understand the effect of processing on physical, chemical and structural characteristics of foods, structure and function relationships of food components and use this knowledge to develop new processes and products. Processes under study include both traditional and novel technologies.
Contact: srimac@pbf.hr

Major contribution to POSITIVe: WG1
Role in POSITIVe: MC Member

Jasenka Gajdos Kljusuric work as associate professor at University of Zagreb, Faculty of Food Technology and Biotechnology. Her working experience enabled her participation in project with the main topics – food, biodiversity and active food components. Her research interest is Nutrition and Food Science with the focus on applied modelling and optimization in understanding of relationships within food components, including polyphenols. In the last 5 years she is using NIR spectroscopy in classification, identification and prediction of certain active components actively using chemometric tools.
Contact: jgajdos@pbf.hr

Major contribution to POSITIVe: WG1

Dr Marija Badanjak Sabolovic is an Early Stage Researcher. She received her PhD in Food Technology (2014). Thermal and non-thermal technologies in food processing have great impact on phenolic compounds structure, their content, antioxidant activity and availability. Her research is focused on iinfluence of ultrasound processing on bioactive compounds of Marasca sour cherry juice.
Contact: mbadanjak@pbf.hr

Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

The University of Nicosia (UNic) is the largest private university in Cyprus with over 5500 students. The University's research profile is grounded on a broad-based platform across a wide range of disciplines. It is supported by groups and programmes, dedicated research institutes and individual scholarship structured around and across our Schools. The University, adopting a dynamic and proactive strategy on research and innovation, wishes to reach out to all its stakeholders and to work with them in developing ideas for academic and applied research to better the Cyprus community, country and region. Within these parameters and taking a proactive role in research the University and its researchers are involved in projects both at the EU and national level. As of 2007 until 2015, UNic faculty and researchers have been actively involved in projects funded from national, EU and international grant programmes, with a total budget of over thirty two million Euros. Research at UNic focuses on global and local issues including health, complex networks, social organization, education, ICT, engineering, and environmental sustainability. Researchers at the University are interested in examining challenges to modern life from a wide range of perspectives, including technological and scientific advances, modern culture and thought, and apply their expertise derived from addressing local, regional and national issues to global challenges and develop teams to bring disciplinary strengths together to approach key issues with global impact. The UNic has, among other, state of the art facilities related to medicine, human biology, human nutrition, exercise physiology, pharmacy and biochemistry.

- ***Aims of the Research Group***

The ENSG_Cyprus research activities aims to examine the effects of exercise and nutrition intervention programs on various health and exercise performance parameters in healthy individuals of all ages as well as in patients with chronic diseases. The research conducted in the ENSG_Cyprus is divided into four main areas 1) the role of exercise and nutrition on health and quality of life in patients with chronic diseases such as chronic kidney disease and multiple sclerosis 2) hydration-dehydration effects on health and performance in healthy individuals and special populations (adolescents, aging, patients with chronic diseases) 3) the effects of caffeine in exercise performance and cognitive function and 4) non-pharmacological management of obesity

- ***Methodologies & Approaches***

- Randomized clinical trials in healthy and diseased populations
- Physical performance and functional capacity assessment:
- Non-invasive body composition assessment: total body fat, muscle size and mass, visceral fat
- Resting metabolic rate and energy expenditure
- Effects of caffeine in physical performance, cognitive function and health related parameters
- Assessment of quality of life levels, sleep quality, fatigue levels, depression, cognitive function
- Echocardiography

Participation in the most relevant European and National projects

During the last years the members of ENSG_Cyprus have been involved in various European and National research projects:

- Non-pharmacological management of adolescent obesity in Cyprus (National)
- The effects of combination of catechins and statins in dyslepidemia patients (European)
- The effects of caffeine in exercise performance (Nationa)

Description of the principal personnel involved with their relevant experience

Dr Christoforos D. Giannaki is a Lecturer at the Department of Health and Life Sciences of the University of Nicosia, Cyprus. He has an extended research experience in the area of exercise and health, sleep disorders and non-pharmacological management of chronic diseases. He has many research articles in scientific peer-reviewed journals and is a member of several international health and medical-related bodies such as the European Restless Legs Syndrome Study Group and the European Hydration Institute. *Now he* is also *actively involved* in research activities related to exercise and nutrition intervention programs in adult and adolescents in order to counteract obesity and reduce the risk for developing cardiovascular diseases in adult and adolescent populations as well as in patients with chronic diseases. Dr. Giannaki is familiar with the assessment of quality of life and wellbeing parameters, body composition assessment and analysis, fitness and functional capacity assessment using both lab and field testing methodology in healthy and clinical populations of all ages of both gender.

Contact: giannaki.c@unic.ac.cy

Major contribution to POSITIVe: WG2
Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The Institute of Microbiology (IMIC) represents the largest scientific body extensively exploring life cycles, molecular mechanisms and regulatory systems of various microorganisms such as bacteria, yeast, fungi and algae as well as mammalian cell lines with respect to basic research questions as well as their prospective practical exploitation in medicine and industry. The main research interests represent cellular and molecular microbiology, genetics and physiology of microorganisms and their resistance to antibiotics, production of microbial metabolites and their biotransformation, and grading up production strains by genetic modifications etc. Another main research direction is embodied by soil ecology, ecotoxicology and microbial degradation of organic pollutants in the natural environment. An immunological section of the Institute then studies the importance of microorganisms in acquisition of immunity, during the onset of autoimmune diseases and it is also focused on immunotherapies of oncogenic diseases. IMIC has an internationally recognized collection of basidiomycetes and its own biotechnological unit, which is mainly used to monitor microbiological and biotechnological processes at a semi-operational scale.

- ***Aims of the Research Group***

Research performed in the Laboratory of Biotransformation integrates both chemical and biological disciplines. It embraces biotransformations and chemical modifications of natural compounds (polyphenols – flavonolignans and flavonoids from Silybummarianum, polysaccharides, alkaloids, antibiotics, etc.) as well as isolation of microorganisms and use of their enzymes for biotransformations. One of the main interests of a laboratory staff is devoted to glycobiology. Research is formally structured into several projects – according to given or planned grants – but coherent mutual collaboration exists throughout the laboratory.

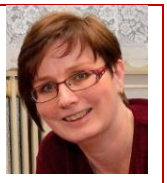
- ***Methodologies & Approaches***

The Laboratory of Biotransformation works in the field of natural bioactive compounds, especially polyphenols over 15 years. The laboratory is focused on semisynthetic modification of the polyphenols, and, recently, especially on the enzymatic preparation of potential metabolites of the polyphenols. This know-how can provide the standards required for the determination of inter-individual variation in bioavailability of the bioactive polyphenols. The group has now in hands effective tools for the production of the metabolites, especially sulfates in sufficient amounts and acceptable purity to allow their use as standards. We are able to combine chemical and enzymatic synthesis with the most efficient purification methods available to obtain fully characterized (400, 600 a 700 MHz NMR, MALDI TOF-, Q-TOF-, FT-MS, HPLC MS) pure compounds.

Participation in the most relevant European and National projects

FP7: Novosides (Novel Biocatalysts for the Production of Glycosides, 2010-2014), BIONEXGEN (Developing the Next Generation of Biocatalysts for Industrial Chemical Synthesis, 2010-2014), National projects: LC06010 (Center of Biocatalysis and Biotransformation, 2006-2011), GA303/08/0658 (Modulation of uncoupling protein UcP2 and mitochondrial bioenergetics in cardiomyocytes by natural substances, 2008-2010), GAP301/11/0767 (Modulation of intestinal inflammation and nitric oxide production by quercetin and its conjugates, 2011-2014).

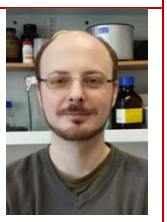
Description of the principal personnel involved with their relevant experience



Kateřina Valentová is associate professor in Medical chemistry and biochemistry (2012). She graduated in General and applied biochemistry at the Institute of Chemical Technology (200in Prague and then obtained her PhD in Medical chemistry and biochemistry at the Faculty of Medicine in Olomouc. Her research is oriented toward biological activity of natural phenolic compounds both in vitro and in vivo. She is experiences in the fields of free radicals and their scavenging, antioxidant and cytoprotective activity, lipid peroxidation, glucose metabolism and angiogenesis. She used to work with primary hepatocytes and HUVECs and performed several pilot clinical trials oriented on the effect and biotransformation of polyphenols in human volunteers. In 2013, she moved to the Laboratory of Biotransformation and shifted her research orientation on the chemo-enzymatic methods for the preparation of the metabolites and its detection in the biological material.

*Contact:*kata.valentova@email.cz

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2
Role in POSITIVe: MC Member



Dr. David Biedermann, PhD is a natural products chemist employed as a researcher at the Czech Academy of Sciences. He graduated and obtained his PhD in organic chemistry from the Charles University in Prague. After employment at the Czech Academy of Sciences, he spent his postdoctoral fellowship in the Vienna University of Technology, where he broadened his scope to biotransformations.

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Major contribution to POSITIVe: WG1

Eva Vavříková studied biochemistry at the University of Pardubice in the Czech Republic. She received her PhD in bioorganic chemistry in 2010 under the supervision of Prof. J. Vinšová at the Charles University at Prague. Since 2011 she has been a member of the Laboratory of Biotransformation headed by Prof. V. Křen. Her research interests include natural products chemistry and biocatalytic topics namely chemoenzymatic modifications on the silybin molecule.

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Major contribution to POSITIVe: WG1, TTG
Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

The Department has a total staff of ~280 and is organized in seven research groups that together have facilities for conducting dietary and exercise intervention studies in humans of all age groups and also conducts studies in third world countries. Additionally the department has a metabolomics and biomarker development facility and a biobank of samples from many of the previous and current studies.

- ***Aims of the Research Group***

The aims of the research group for Bioactive foods in Health and Disease are to explain the effects of nutrition and specific food bioactives in health, in disease development and in clinical care.

- ***Methodologies & Approaches***

The Bioactive Foods in Health and Disease group (http://nexs.ku.dk/english/research/units/bioactive-foods-health/) within the department has a staff of approx. 22 of which the ~14 senior and junior scientists specialised in conducting clinical and nutritional dietary intervention studies with foods and food components to investigate their special bioactivities. The studies are performed in healthy, health compromised as well as in hospitalised volunteers, depending on the aims. The group also works exploratively with metabolomics and other 'omics to find new biomarkers of exposure, effect, or individual susceptibility or to find patterns of markers potentially related to disease risk or mechanisms. The group members have extensive collaboration with clinical research groups, with groups conducting observational studies, and with industry. The group also leads the experimental biobank, CUBE (http://cube.ku.dk/)
The Department leads masters' educations in Human Nutrition and in Clinical Nutrition and also contributes to the Bachelor education in Food Science and Nutrition and the Masters education in Innovative Foods and Health. All master's level educations are taught in English and attracts students worldwide. PhD level courses and educations likewise contribute to the international atmosphere at NEXS.

Participation in the most relevant European and National projects

The group is (or has recently been) involved in the following major projects,
Nationally: 3G, OPUS, UNIK Food Fitness and Pharma, PROF, MetaBEER
Internationally: DASH-IN (ENPADASI), FoodBAll (Bio-NH), SYSDIET

Description of the principal personnel involved with their relevant experience

Prof Lars Ove Dragsted, PhD is Professor of Biomedicine and Nutrigenomics. He is trained in Biochemistry and Toxicology and his research focuses on bioactive food components, cancer and biomarker development. He leads the NEXS section, Bioactive Foods in Health and Disease which includes mechanistic and clinical nutrition. Prof. Dragsted has co-authored 153 peer reviewed research articles and ~60 books, book chapters and reports.

Major contribution to POSITIVe: WG1, WG3
Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The Integrative Systems Biology Group is part of the Centre for Biological Sequence Analysis, at the Dept. of Systems Biology, at the Technical Univ. of Denmark. The centre was started in 1993 and represents one of the large bioinformatics concentrations in Europe. The centre runs a very popular web site, www.cbs.dtu.dk, which offer prediction services organised as web-services. Currently the web-site has 30 million page views per year.

- ***Aims of the Research Group***

The group is at the leading edge of the general area of network biology, focusing mainly on understanding how intracellular networks of genes, proteins, metabolites and other small molecules regulate cellular behaviour and how perturbations to these regulatory systems may lead to disease for the individual. Our research strategies typically rely on integration of massive amounts of experimental data, molecular level readouts combined with clinical data. Pathways and protein complexes are key levels of analysis helping to understand how genetic changes in many different molecular components lead to the same or similar phenotypes.

- ***Methodologies & Approaches***

The group develop and apply data integration techniques, machine learning, and biostatistics. It also works on combining molecular level systems biology data with medical informatics data from the healthcare sector, such as for example electronic patient records and biobank questionnaires. The aim is to combine and stratify patients not only from their genotypes, but also phenotypically based on the clinical descriptions in the medical records which describe disease development in detail. The groups have specific focus on treatment related disease correlations and other comorbidities.

Participation in the most relevant European and National projects

- **DIRECT (IMI1)**: This project identifies biomarkers that address current bottlenecks in diabetes drug development and aims at developing a stratified medicine approach to treatment of 'type 2 diabetes' (T2D) with either existing or novel therapies.
- **eToX (IMI1)**: This project develops innovative methodological strategies and novel software tools to better predict the toxicological profiles of new molecular entities in early stages of the drug development pipeline.
- **OpenPhacts (IMI1)**:This project develop open access innovation platform, Open Pharmacological Space (OPS), via a semantic web approach. OPS comprise data, vocabularies and infrastructure needed to accelerate drug-oriented research. This semantic integration hub will remove key bottlenecks in small molecule drug discovery: disparate information sources, lack of standards and common identifiers, guided by well-defined research questions from drug discovery.
- **MetaHit (FP7)**: This project is on knowledge of the human genome and of the human metagenome, defined here as the ensemble of the genomes of human-associated microorganisms. The project focuses on the microorganisms of the gut, which are particularly abundant and complex and have an important role for human health and well-being.
- **BioMedBridges (FP7)**: The BioMedBridges consortium brings together the six established ESFRI infrastructures with common goals to define, implement and deliver data interoperability across the biological and biomedical domains.

Description of the principal personnel involved with their relevant experience

Søren Brunak is professor of bioinformatics at the Technical University of Denmark and professor of Disease Systems Biology at the University of Copenhagen Medical School. In 1993 he started the Center for Biological Sequence Analysis, which has grown into becoming one of the large academic bioinformatics centers in Europe. In 2007 he was one of the founding directors of the Novo Nordisk Foundation Center for Protein Research at the University of Copenhagen. He is also one of the founders of the European Infrastructure for Bioinformatics, ELIXIR, where he was chair of the interim board 2012-2014. Professor Brunak is a leading pioneer in the natural sciences through invention and introduction of new computational strategies for analysis of biological data for use in molecular biology, medicine and biotechnology. His main achievements are divided into two categories: 1) new, advanced bioinformatics and systems biology techniques, and 2) discovery of biological mechanisms, revealed by the use of these methods in a wide range of biological systems. His multi-disciplinary approaches, where concepts from different areas have been combined, have led to advances in the understanding of the function of biological systems, and thereby fundamentally improved the possibilities for control of disease via novel intervention strategies, and enhancement of health in general. Søren Brunak has been a member of the Royal Danish Academy of Sciences and Letters since 2004 and a member of the European Molecular Biology Organization since 2009.

Major contribution to POSITIVe: WG2
Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

As one of the largest universities in Finland, the University of Eastern Finland emphasizes multidisciplinary, international cooperation and a high standard of teaching and research. The areas of expertise of the university are Forests and the Environment, Health and Well-being, and New Technologies and Materials. The university's researchers and experts produce more than 2,000 scientific publications each year, and the majority of them are published in international scientific journals. The university is an active member of the international scientific community. The university has concluded bilateral agreements of cooperation with a large number of universities and research centres throughout the world, especially in Europe, North America, Russia, China, India, and southern Africa. The University has 2800 staff members, 15 000 degree students, and 15 000 adult education students.
Institute of Public Health and Clinical Nutrition, Department of Clinical Nutrition has a long history in well-controlled dietary intervention trials that have led to publications in high ranking journals. Most of the publications came from controlled clinical intervention studies, e.g. the Finnish Diabetes Prevention Study (DPS), SYSDIET and HELGA, HEALTHGRAIN, and SYSDIMET carried out within the **national, Nordic and EU-collaborations, and combining the tradition of dietary interventions with molecular and systems biology tools**. The research groups have been organized into three research lines: **Diet and Chronic Disease**, **Food and Health** and **Food Biotechnology and Safety**. Biocenter Finland LC-MS metabolomics facility (located at UEF) applies and offers non-targeted metabolite profiling analytics. The UEF Bioinformatics Centre team consists of 4 bioinformatics professionals, who maintain the Centre's bioinformatics platforms and conduct bioinformatics research.

- ***Aims of the Research Group***

Most chronic diseases have been shown to be preventable via lifestyle changes, but controlled diet interventions have failed to reveal the mechanisms underlying the health beneficial effects of plant foods, i.e. whole grain cereals and berries, e.g. on glucose metabolism and inflammation. It is possible that populations with differing metabolic phenotypes may respond differently to dietary advice. ***The main aim is to reveal phenotype based differences in metabolic responses to plant foods and to investigate their metabolic impact on organ level using animal feeding trials to understand biochemical mechanisms related to health. The goal is to develop personalized dietary approaches to promote and maintain the health status.***

- ***Methodologies & Approaches***

Clinical postprandial studies and dietary interventions, animal feeding trials, anthropometry, biochemistry, metabolomics, transcriptomics.

Participation in the most relevant European and National projects

Definition of the metabolic biomarkers of whole grain consumption (Academy of Finland)
Nordic Centre of Excellence in Systems biology in carefully controlled dietary interventions and cohort studies (SYSDIET)
Nordforsk Nordic Centre of Excellence in whole grains and health (HELGA)
Grain fibre modification for gut-mediated health effects (FibrEfects)
Salwe Ltd, strategic research centre for health and well-being –program: Body and Mind
EU Fp6 project HEALTHGRAIN
Systems biology approach to understand dietary modulation of gene expression in the metabolic syndrome (SYSDIMET)
Finnish Diabetes Prevention Study (Finnish Diabetes Prevention Study)

Description of the principal personnel involved with their relevant experience

Dr. Marjukka Kolehmainen is a senior scientist at the University of Eastern Finland. She has 20 years' experience on conducting clinical dietary interventions from postprandial studies to long term interventions with a main interest in metabolic responses to foods/diets from the level of gene function (adipose tissue) to circulating markers and profiles in humans. She is a member of the Executive committee of the European Nutrigenomics Organisation (NuGO), and has been collaborating as scientific manager In Nordic Centre of Excellence SYSDIET and as a work package leader in various national consortia, for example in the Body and Mind program of the strategic research centre of health and well being, Salwe Ltd.
Contact: marjukka.kolehmainen@uef.fi

Major contribution to POSITIVe: WG2
Additional contribution to POSITIVe: WG1
Role in POSITIVe: Substitute MC Member

Dr Kati Hanhineva is Academy Research Fellow at the Department of Clinical Nutrition, University of Eastern Finland. Her main research interests include to study the impact of plant-rich diets, in particular whole grain foods in metabolic health, by examining the bioavailability, metabolism and accumulation of the phytochemicals in *in vitro* assays, animal models, as well as human intervention samples. She is also the coordinator of the LC-MS metabolomics unit at Biocenter Kuopio and is responsible for supervising the non-targeted metabolite profiling analytics for collaborative projects in addition to own research projects.
Contact: kati.hanhineva@uef.fi

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2

Ville Koistinen is PhD student at the Department of Clinical Nutrition. He focuses on analyzing the effect of food processing and in vitro digestion on the phytochemical composition of whole grain wheat and rye breads. His main analytical focus is on the non-targeted metabolite profiling with LC-qTOF-MS approach.
Contact: ville.m.koistinen@uef.fi

Major contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

University of Helsinki belongs to the League of European Research Universities (LERU). The Viikki Campus of Life Sciences is one of the largest multidisciplinary research and education centres in Europe affiliating over 2000 scientists and 6000 young scientists. Food Chemistry is one of the five divisions of the Department of Food and Environmental Sciences at the Faculty of Agriculture and Forestry. The Department employs more than 220 persons of which ca. 2/3 is funded through external sources. In Food chemistry our current interests focus in bioprocessing in order to enrich the content and bioavailability of nutrients, various reactions leading to diminished food quality and safety, and bioactivities/functional properties of food ingredients including plant phenolics with relevance to human health.

- ***Aims of the Research Group***

The Functional phenolics group has experience in screening for potentially bioactive plant phenolics and their functional properties. The aims include isolation, characterization and identification of phenolic compounds and investigations on their functional properties.

- ***Methodologies & Approaches***

- isolation, characterisation, and identification of phenolic compounds in various matrices including food, plasma, urine, and fecal samples
- antioxidant and interaction studies with other food components
- stability investigations regarding development of food structures

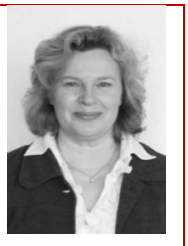
Our analytical tools include ten UPLC/HPLC units with various modes of detection, such as FLD, UV/Vis, MS, MS-Q-TOF and MS/MS and a preparative HPLC, SPME-GC-MS and GC-MS. Also pilot plant processes (e.g., extrusion and spray drying), emulsification processes, and tools to characterize physical properties are available.

Participation in the most relevant European and National projects

We have experience from participating in EU-funded projects including BACCHUS (FP7-312090), EuroFIR NEXUS (FP7-265967), DEVELONUTRI (FOOD-CT-2006-36296), HEALTHGRAIN (FOOD-CT-2005-514008), NoEEuroFIR (FP6-513944), Folate Func Health (QLK1-1999-00576), and Anthocyanin bioactivities (QLK1-1999-00576, UHEL as coordinator). The Group has been involved in organizing congresses on Pigments in Foods, Anthocyanins, and Polyphenols and Health.

Description of the principal personnel involved with their relevant experience

Marina Heinonen is a Professor (Food Safety) at the University of Helsinki. Previously she has held a position as Professor of Functional Foods for a 5-year term (2002-2007). Her international activates include scientific expert membership since 2004 at the European Food Safety Authority (EFSA) NDA Panel and its working groups on health claims and novel foods. Since 1992 she has been working on functional plant phenolics. She has authored 95 peer-reviewed papers in addition to contributions to >350 scientific opinions by EFSA.



Major contribution to POSITIVe: WG3

Additional contribution to POSITIVe: WG2

Role in POSITIVe: MC Member, Steering Committee, Working Group Leader

Brief description of the Research Group

- ***Organisation & Facilities***

VTT Technical Research Centre of Finland Ltd is the leading research and technology company in the Nordic countries. We use our research and knowledge to provide expert services for our domestic and international customers and partners, and for both private and public sectors. We use 4,000,000 hours of brainpower a year to develop new technological solutions.

- ***Aims of the Research Group***

Food Solutions team develops technologies for producing healthy food products, especially high protein and high fibre foods appealing to consumers. Team research strategy is to use more unrefined ingredients and plant-based ingredients for foods with reduced energy density and increased bioactivity. We target at minimal and integrated food processing concepts for efficient and sustainable food chain.

- ***Methodologies & Approaches***

Oral processing of cereal foods deals with release of nutrients and phytochemicals (VTT): Analysis of bolus samples: early release of nutrients and impact on post-prandial insulin responses and satiety.
Upperintestinal models and interaction with enzymes: Release of phytochemicals and digestion rate of nutrients; Interactions between food ingredientsand enzymes
Microbial metabolism of dietary phytochemicals and food ingredients (VTT): The main tools in this work are in vitro digestion models for upper intestine and colon, and analytical platforms (GC-MS and GCxGCTOFMS) for identification of the potentially circulating metabolites.

Participation in the most relevant European and National projects

Anna-Marja Aura participated in EU-funded projects as a partner (POLYBIND, FLAVO), WP leader (IP-Healthgrain, FP7-EtherPaths) and as a scientific officer (FP7-Etherpaths). She is also a deputy MC member in COST-InfoGest (FA1005). Marjukka Kolehmainen has been a partner in IP-Healthgrain and currently works in EU-Pathways.

Description of the principal personnel involved with their relevant experience

Dr Anna-Marja Aura (D.Sc. (Tech)) works at VTT Ltd as a Principal Scientist and has a title of docent in University of Helsinki in Food Biochemistry. She works in the field of food biochemistry describing release and conversion of plant-derived components from the diet. The main tools in this work are in vitro digestion models for upper intestine and colon, and analytical platforms (GC-MS and GCxGCTOFMS) for identification of the potentially circulating metabolites. Food biochemistrylinks food chemistry and processing with nutrition and health. Her main interest has been in the identification of microbial metabolites from plant foods and their analysis from urine and plasma.
Contact: anna-marja.aura@vtt.fi

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Saara Pentikäinen, is a nutritionist and works as a Research Scientist at VTT Ltd. Her special interests are in the characterization of bolus samples, early release of food components from cereals and their effect on satiety and insulin responses.
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Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

EREN is a research unit on nutritional epidemiology which conducted some of the most important observational and interventional cohort studies focusing on the relationship between food exposure and the occurrence of disease in France. They developed epidemiological cohort studies on large groups from the general population (e.g. SU.VI.MAX, NutriNet-Santé) or persons at risk or with diseases (ex. SU.FOL.OM 3). The databases owned by EREN contain a wealth of detailed epidemiological information on dietary intake, physical activity, determinants of dietary behaviour (social, economic, cultural, knowledge, attitudes, perceptions, etc.), biological samples (Biobank) and a prospective follow-up of incident health events. In 2009, the team launched a large web-based prospective study, Nutrinet-Santé, to explore the relationships between nutrition and health, based on internet questionnaires (participant portal: https://www.etude-nutrinet-sante.fr/ Information web-site for professionals: http://info.etude-nutrinet-sante.fr/): more than 157 000 participants already included, among which 20 000 provided blood and urine samples.
Pr Serge Hercberg, head of the research team, was nominated by the French government as chairman of the French Nutrition and Health Program (PNNS, since 2001). He played a key role in the establishment of the 1st, the 2nd and 3rd PNNS (PNNS-1 2001-2005, PNNS-2 2006-2010, PNNS3-2011-2015).
EREN has been evaluated very favourably by the French Evaluation Agency for Research and Education (AERES) in 2013 and its level of excellence has been acknowledged by 5 A+ (maximal score) and 1 A. It has also been ranked “essential” (“incontournable”) by INSERM in 2013. The work carried out by the team since 2006has yielded more than 450 international publications in peer-reviewed journals.
EREN is responsible for the Master “Nutrition and Public Health” at Paris 13 University.

- ***Aims of the Research Group***

- To study the nutrition-health relationships: identifying nutrition-related risk or protective factors involved in the etiology of various health outcomes, in particular chronic diseases (cancer, cardiovascular diseases, diabetes, hypertension, obesity, neurological diseases, etc.), important bodily processes (aging, cognition, fertility, etc.), and quality of life.
- To achieve a better understanding of the determinants of dietary behaviours and nutritional status (eg., social, economic, psychological, cultural, sensory, cognitive, etc.)
- To shed light on the underlying mechanisms (biomarkers, intermediate endpoints, etc.)

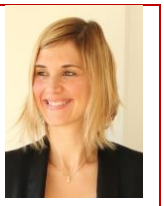
- ***Methodologies & Approaches***

The team is structured around the following 4 complementary axes: 1) Development of methods in nutritional epidemiology, 2) Study of nutrition-chronic disease relationships, 3) Study of nutrition-physiopathological function relationships, 4) Determinants of dietary behaviours and nutritional status.
EREN develops and applies diverse epidemiological approaches: prospective studies, intervention studies, repeated cross-sectional studies, meta-analyses, etc.

- ***Participation in the most relevant European and National projects***

During the 5 last years, EREN has been involved as coordinators or partners in various National (e.g. French National Cancer Institute INCa SHSESP 2014, INCaDeprev 2014, Research Prize 2013 of the French Nutrition Society, Canceropole Ile de France2013 and 2014, IRESP 2011, ANR-PhenoMeNEp, ANR-BioNutriNet, ANR-Epipref, ANR-Ocad, ANR-Eliane), European (e.g., FP7-Metacardis, FP7-Spotlight, FP7-Eurodish) and international (e.g., Prostate Cancer Collaborative Group – Oxford Coord) large collaborative projects.

Description of the principal personnel involved with their relevant experience



Dr Mathilde Touvier, is a senior nutritional epidemiologist at INSERM, co-investigator of the NutriNet-Santé cohort. She has a 14 year experience in coordinating several researches on associations between nutrition and cancer risk in primary prevention as well as researches on the determinants of dietary behaviour, physical activity and dietary supplement use. She is an author (/co-author) of more than 90 publications in peer-reviewed international journals. She is expert in several workshops at the French National Cancer Institute (INCa) and French Agency for Food, Environmental and Occupational Health & Safety (ANSES). She has been leader of too tasks in the ANR-PhenoMeNEp project on metabolomics for nutritional epidemiology. She is the PI of several projects in epidemiology and nutrition, among which the ongoing INCaMetabo-ks project which aims at discovering new predictive biomarkers of breast cancer risk associated with nutrition, by untargeted metabolomics.

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Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2, FG

Brief description of the Research Group

- ***Organisation & Facilities***

Ranked the number one agricultural institute in Europe and number two in the world, INRA carries out mission-oriented research for high-quality and healthy foods, competitive and sustainable agriculture and a preserved and valorised environment. More than 8500 people work at INRA in one of 18 public research centres throughout France: scientists in more than 50 scientific fields as well as engineers, administrative staff and technicians in more than 90 professions (http://www.inra.fr/en).
The Micalis institute is a "joint research unit" (UMR) associating INRA and AgroParisTech with the aims of developing innovative research in the field of "Food and Gut Microbiology for human Health". It aims to provide fundamental insights into the phylogenetic and functional diversity of the human intestinal microbiota and its bio based potentials towards health and environmental applications. It brings together over 350 persons including 125 researchers, engineers and professors, and more than 120 post-docs, PhD students, master students, and trainees. The Micalis institute is composed of 23 research teams organized in 3 thematic departments and hosts 4 technological platforms and 1 pre-industrial demonstrator, MetaGenoPolis, which integrates the technology and the expertise to explore the impact of the gut microbiota on Human health through nutrition and medical intervention. It relies on 4 platforms with cutting edge technologies, SAMBO, for sample biobanking and DNA extraction, METAQUANT for high throughput quantitative sequencing, IBS for bioinformatics and statistical analyses, and METAFUN, for functional metagenomics to discover bioactive metagenomic clones.
The FInE team was created 10 years ago by Joël Doré and focused till today on the structure and function of the human gut microbiota in relation to nutrition and health. The team is now managed by Hervé Blottière who introduced functional metagenomics 10 years ago as a powerful tool to examine deeply the crosstalk between microbial cells or metabolites and intestinal epithelial cells. This lead the team to enlarge functional studies from diet/microbiota interactions to microbiota/innate intestinal immune response interrelations, especially with the development of high throughput platforms now established in the MetaGenoPolis unit.

- ***Aims of the Research Group***

The aim of the overall project is to enlarge the actual view of the fundamental role of the gut microbiota on Human Health, through the understanding of the mechanisms of interactions between Food-microbiota and the host to better understand the intestinal ecosystem and to define strategies of modulation of the ecosystem.
The team comprises 7 scientists, and 3 technicians and is organized in 4 themes: 1) Deciphering the enzymatic mechanisms of fibres and food degradation by gut microbiota and impact on health; 2) Identification of genes/molecules involved in the cross-talk with host cells and impact on health; 3) Identification of bacterial proteins signatures (metaproteomics) of an healthy or dysbiotic microbial ecosystem; 4) ecological engineering of the human intestinal microbiota towards preservation of man microbe symbiosis.

- ***Methodologies & Approaches***

- Functional metagenomics,
- Quantitative metagenomics,
- Animal models
- Clinical studies,
- Cell biology and Microbiology

Participation in the most relevant European and National projects

- EU FP7 MetaCardis (2012-2017) Coordinator : K Clément (ICAN)
- EU FP7 IHMS (2011-2015) Coordinator : SD Ehrlich (MGP)
- EU FP7 METAHIT (2008-2012) Coordinator : SD Ehrlich (MetaGenoPolis)
- EU FP7 Cross-Talk (2008-2012) Coordinators : E Maguin (Micalis) & HM Blottière (Micalis) ANR FunMetaGen (2012-2014) Coordinator : HM Blottière (FInE - Micalis)
- ANR MicroObes (2008-2012) Coordinator : J Doré (FInE - Micalis)

Description of the principal personnel involved with their relevant experience

Research Director at INRA FInE team and leader of the microbiota ecological engineering thematic, **Joël DORE** is also scientific director of the MetaGenoPolis unit. He's scientific board member of Microbiology Pole of the Doctoral School "Therapeutic Innovations" at Paris-Saclay University.
Joël joined INRA in 1983 and received his PhD from the University of Illinois at Urbana-Champaign, USA, in 1988. First a gut microbial ecologist, he developed expertise in intestinal phylogenomics and metagenomics.
His overall goal is to contribute to a better understanding of man-microbe symbiosis towards therapeutic choices in the medical area, as well as science-based recommendations in health nutrition.
He chairs the expert group of the scientific web platform www.gut microbiota for health.com.
Finally Joël Doré is scientific advisor for MaaT Pharma (www.maatpharma.com), a StartUp founded in december 2014, developing safe and standardized innovative microbiotherapy solutions designed to restore man-microbe symbiosis in treatment-related dysbiosis.
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Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG1

Christel Béra-Maillet (PhD) is microbiologist at the FInE team since 6 years.
She obtained a PhD in 1998 in microbial ecology at the university of Lyon (France), and joined INRA in 2000.
Scientific supervisor of academic and agri-business firm projects, she is member of the Microbiology Pole of the Doctoral School "Therapeutic Innovations" at Paris-Saclay University.
During 9 years, she contributed to a better understanding of a major function of human and ruminal complex microbiota, the degradation of dietary fibers. She focused on main bacterial fibrolytic species as models and deciphered enzymatic systems dedicated to the degradation of complex carbohydrates.
Recently in the team FInE, she developed functional metagenomics screenings to explore the fibrolytic function of microbiota from human ileum mucosa and highlighted genes and species bearing a large broad range of glycoside hydrolases targeting diverse polysaccharides from food. In collaboration with MetaGenoPolis sequencing and bio-informatic platforms, this work revisited our knowledge regarding the role of small intestine microbiota.
She also associated, more recently, functional metagenomics tools to the study of carbohydrate metabolism in dysbiosic individuals with obesity, to deeply explore their energy harvest capacities.
This project is supported by a PhD grant from the French government.
Keywords :
Functional metagenomic
Plant Cell wall Polysaccharides
Intestinal (gut and ileum) microbiota
Glycoside hydrolases
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Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3

Hervé Blottière has obtained a PhD in Tumor Immunology from the University of Nantes (France) in 1989. He is presently Director of Research at INRA, the French National Research Institute for Agricultural and Food Research. Within the Micalis Research department, he heads a research laboratory studying the Human Intestinal Ecosystem. He developed a Functional Metagenomics approach to study host-microbiota cross-talk. He has set up a robotic platform to allow high throughput screenings, now part of the MetaGenoPolis initiative in which he is Scientific Director.

His areas of research are the Physiology of the digestive Tract and the prevention of intestinal pathologies (colorectal cancer and inflammatory bowel diseases). His main research interests are the intestinal ecosystem and the cross-talk between gut microbiota and the intestinal mucosa at the molecular level. His goals are to provide a better understanding of the physiology of the digestive tract and to allow strategies preventing gut and metabolic pathologies including obesity.

He is Coordinator of the French National Research Agency (ANR) funded FunMetaGen project, task leader in the EU funded project MetaCardis, and was co-coordinator of the European funded Marie-Curie Initial Training Network Cross-Talk (www.cross-talk.eu). He participated as partner or task leader in several projects including the European funded MetaHIT and the ANR-funded MicroObese, SFBIMPRO and Surfing. He was the Vice-President of the French Club d'Etude des Cellules Epithéliales Digestives (CECED) until 2014. He is Member of the French GastroEnterology Society (SNFGE) and of the Society for Mucosal Immunology (SMI). He authored 87 peer-reviewed publications and 26 Reviews. (h-index = 30). He is inventor or co-inventor of 8 patents.

Contact: herve.blottiere@jouy.inra.fr

Major contribution to POSITIVe: WG1

Brief description of the Research Group

Organisation & Facilities

INRA is one of the foremost institutes in the world for agriculture, food and the environment. It is also the second largestpublic research institute in France. The INRA Institute at Jouy en Josas research center offers state of the art research facilities such as high-throughputplatforms for sequencing and screening, ahigh-performance calculation cluster, an axenic animal facility. The MICALIS institute now gathers 23 teams, representing more than 300 people (120 scientists with permanent positions) focusing on Food and Microbiology for Human Health.
The PhylHom team was launched by former members of Joel Doré's group, who have been working on the human gut for more than 10y and took part in the EU-MetaHit project. Our laboratory is located in the brand new building 442 opened on July 2014.

Aims of the Research Group

Our aim is to understand the functional role of the gut microbiota in human health and disease.
Among our questions, are:
- how to understand and correct the underneath mechanisms of a dysbiosis or unbalance of the gut ecosystem?
- how are food components or drugs metabolized by the gut bacteria?

Methodologies & Approaches

We use a set of different methods, depending on the scientific question asked.

- We characterize the **presence and functions** of the gut bacteria by molecular approaches, using respectively their phylogenetic marker (16S rDNA gene) and untargeted "omics" methods such as metagenomics (whole DNA) and metabolomics.
- We **grow specific species of gut bacteria** by using anaerobic chambers and specific hungate techniques.
- Our approaches include **in vitro assays, human cohorts and germ free animal models,** for either discovery or validation.
- We integrate heterogeneous datasets and work in silico
- We built a dynamic mathematical model to describe and better understand one of the trophic chains taking place in the human gut, that goes from fiberhydrolysis to short chain fatty acid and methane production.

Participation in the most relevant European and National projects

Former projects.
EU-Metahit: metagenomic survey, ANR-PNRA-AlimIntest : impact of fiber on the human gut microbiota of healthy adults.
Ongoing projects.
ANR-NeoMAIT: microbiota and immunity; ANR-CorioFunc: Coriobacteriaceae function in human health;
ANR-PigBiota, pig microbiota; Idex Alias: food and gut microbiota; INCa: chemotherapy and gut microbiota.

Description of the principal personnel involved with their relevant experience

Dr Leclerc Marion
Anaerobic microbiology, bacterial physiology - Metagenomics, metabolomics - Human gut ecology
Mathematical modelling

Major contribution to POSITIVe: WG1, TTG
Additional contribution to POSITIVe: WG3

Dr. Lepage Patricia
Gut microbiota in human diseases: Inflammatory bowel disease and cancer - Host microbiota interaction
Metagenomics - Phylogeny, Bioinformatics

Major contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

INRA is one of the foremost institutes in the world for agriculture, food and environmental research. It is also the second largest public research institute in France. **INSERM** is the French institute for Health and Medical Research. As the only French public research institute to focus exclusively on human health, Inserm took on in 2008 the responsibility for the strategic, scientific and operational coordination of French biomedical research. Aix-Marseille University (**AMU**) is the largest French-speaking university. It gathers 72,000 students and 8,000 employees. All disciplines of knowledge are taught: art, literature, languages and social science; law and political sciences; economics and management; health; sciences and technology. Bachelor's, Master's and PhD degrees are issued as well as university degrees in technology, engineering, medicine, and other academic fields. **The Nutrition Obesity & Risk of Thrombosis Unit (NORT)** is a joint research unit between INRA, INSERM and AMU. It gathers 62 permanent persons from the two institutes and the University as well as 20 PhD students and post-doc. The NORT research unit clusters the majority of expertise in the field of nutrition, metabolic syndrome and thrombosis at the faculty of Medicine of la Timone.Four research axes are developed: (1) To identify the main factors that are involved in bioavailability of fat-soluble vitamins and phytochemicals (**the Bioavailability of fat-soluble vitamins and phytochemicals Research Group**). (2) To understand how dietary or pharmacological molecules can improve adipose tissue metabolism via their effects on GLUT4 translocation and the insulin receptor maturation during obesity (TEAM 2). (3) To identify new genetic, metabolic and environmental factors implicated in thrombotic disease in relation with metabolic syndrome and nutrition (TEAM 3). (4) To enforce dietary guidelines and diet modeling to assure food safety (EMERGING TEAM). NORT is associated with several hospital laboratories and clinical services (metabolic and nutritional pathology, cardiology) favoring translational research in all NORT objectives.NORT research is supported by public funding, private foundations and industrial partners (pharmaceutical, food, reagents).Several members of NORT are involved in the Master's degree teaching program "Human pathology", "Nutrition and vascular pathophysiology" specialty.

- ***Aims of the Research Group***

The team aims to identify the main factors that are involved in bioavailability of fat-soluble vitamins and phytochemicals. These factors are listed in the mnemonic "SLAMENGHI".Each letter stands for a factor: Species (molecular forms of these compounds), molecular Linkage of these compounds (e.g. esterification), Amount of these compounds consumed in a meal, Matrix in which these compounds are incorporated, Effectors of absorption and bioconversion, Nutrient status of the host (i.e. status of the host in these compounds), Genetic factors (e.g. genetic polymorphisms), Host-related factors (e.g. gender, age, disease), and mathematical Interactions between the above-mentioned factors. To study the factors that affect the bioavailability of a compound, it is essential to decipher the molecular mechanisms involved in the absorption of this compound. Thus, the team aims to identify transporters involved in the uptake of these compounds by the intestinal cell as well as the physico-chemical and enzymatic factors that affect their bioaccessibility (i.e. incorporation into micelles). Finally, the team aims to better understand the postprandial metabolism of these compounds because it is a good marker of their bioavailability.

- ***Methodologies & Approaches***

- Clinical trials.
- Animal models to assess micronutrient bioavailability (mainly rodents and pigs).
- Cell culture: mainly Caco-2 to study proteins involved in micronutrients absorption.
- Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot).
- Multivariate statistics (partial least squares regression) to identify combinations of genetic polymorphisms that are associated with phenotypes (markers of status and bioavailability of fat-soluble vitamins and phytochemicals).

Participation in the most relevant European and National projects

During the previous 5 years, the Research group has been involved as a partner in various National (ANR-PolyvD3, ANR-Compalimage, ANR-Absinte) and European (FP6-Lycocard, FP6-Colorspore) collaborative projects. It is also involved in the nutrigenomics framework network of excellence (NuGO).

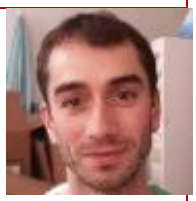
Description of the principal personnel involved with their relevant experience

Dr Patrick Borel is Research Director –Senior Research Scientist (nutritionist, physiologist andgeneticist) at INRA. He is the leader of the research group. The group is composed of 14members(9 scientists, 3 technicians, 1 post-doc and 1 PhD student). It associates experts invitamins and phytochemicals, as well as experts incellular/molecular biology and ingenetics. Dr Borel is a member of the scientificcouncil of the Human Nutrition department at INRA. He has been working for more than 20 years on molecular mechanisms and factors involved in bioavailability of fat-soluble vitamins and phytochemicals. In the last 10 years, he worked on the identification of proteins involved in intestinal absorption of fat-soluble vitamins and phytochemicals. More recently, hehas focusedon the identification of genetic polymorphisms that are involved in interindividual variability in bioavailability of these compounds. His researches include clinical trials, animal models (mainly rodents and pigs) and cell experiments (mainly Caco-2 as a model of human enterocyte).

Contact: patrick.borel@univ-amu.fr

Major contribution to POSITIVe: WG1

Role in POSITIVe: MC Member



Dr. Charles Desmarchelier is a post-doc in the research group headed by Dr. Borel. He received an engineering degree at Agroparistech (Paris) and completed his PhD at the Molecular Nutrition Unit at the Technical University of Munich (TUM). His research initially focused on nutrigenomics with an emphasis on the effects of high fat diets on the small intestine in animal models.

The aim of his research is now to identify genetic variations that are involved in the interindividual variability in the bioavailability of fat-soluble micronutrients and phytochemicals. His research is based on multivariate statistical analysis of clinical trials using whole-genome genotyping.

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Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

INRA is one of the foremost institutes in the world for agriculture, food and the environment. It is also the second largest public research institute in France. At INRA, the **Human Nutrition Unit** (UNH, INRA, Clermont-Ferrand) gathers 120 persons, including a permanent staff of 37 scientists, all sharing as a common goal the understanding the relationship between foods/nutrients and health and the elucidation of key mechanisms involved. The impact of macro- and micronutrients on muscle, bone, adipose tissue and vessels are studied at the level of cells, tissues or whole organisms. The excellence of the research carried out at the UNH is well recognized internationally. Over 200 original publications were published in the period 2010-2014. During the 10 last years, the UNH has been involved as coordinators or partners in European research projects (FP6, FP7) and has organized several international conferences and workshops. The UNH is divided into 8 research teams with specific expertise, including the **"Micronutrient and Cardiovascular Health Group"** (**MicroCard**). The UNH also comprises experimental units to whom the research teams have free access: one devoted to omics (technical staff and state-of-the-art equipments for fluxomic, metabolomic, transcriptomic and proteomic studies) and asecond one for animal experiments (rodents, mini-pigs). The UNH has also access to facilities for human intervention studies on healthy subjects and on patients with a specific platform for non-invasive assessment of vascular function.

- ***Aims of the Research Group***

The **NUTRIVASC Group** has a well-recognized experience on plant food bioactives, their metabolism and health effects. Through an integrated research approach combining classicand omics methodologies, this group aims: (1) to determine the role of plant foods and particularly that of their bioactive compounds in the prevention or reduction of cardiovascular diseases, (2) to produce knowledge on the cellular and molecular mechanisms involved, and (3) to study the complexity of phytochemical exposure of individuals after plant food intakes for a better understanding of determinants of plant food health effects.

- ***Methodologies & Approaches***

Randomized clinical trials; animal models of atherosclerosis and metabolic diseases; cell culture experiments (endothelial cells, monocytes); Vascular function assessment (endothelial function in macro and micro-circulation, arterial stiffness); Transcriptomic analysis in biological samples (cells, tissues); Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot, proteomics), cell interaction assessment (chemotaxis, cell adhesion, transendothelial migration); Metabolomics (high resolution mass spectrometryto characterize the food metabolome in biofluids)

Participation in the most relevant European and National projects

During the 5 last years, MicroCard has been involved as coordinators or partners in various National (ANR-AGRUVASC; ANR-PhenoMeNEp; Métap rogramme INRA-DID'IT-Nutrend), European (FP7-FLAVIOLA) or International (Florida Department of Citrus, JPI HDHL Foodball) large collaborative projects. This group organizes the 7th International Conference on Polyphenols and Health, Tours, October 2015.

Description of the principal personnel involved with their relevant experience

Dr Christine Morand, is Research Director - Research Scientist (Nutritionist, Biochemist) at INRA. She is the co-leader of the MicroCard research group and she is member of Scientific Council of the Food Research Department at INRA. Presently, she chairs the COST-Action POSITIVe.
She is working for 10 years in the field of Nutrition & Health to study the role of dietary polyphenols in the prevention of cardiovascular diseases through a translational approach.
This research includes human intervention studies with non-invasive assessment of vascular function, supplementation studies in animal models of atherosclerosis and cell experiments on vascular and immune cells. Previously she worked on the absorption and metabolism of polyphenols.
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Major contribution to POSITIVe: WG2, WG3
Additional contribution to POSITIVe: WG1, FG
Role in POSITIVe: Steering Committee

Dr Dragan Milenkovic is Senior Research Scientist at INRA. He received his PhD from University of Versailles (France) in molecular genetics. The aim of his research is identification of molecular and cellular mechanisms underlying cardiovascular protective effect of dietary polyphenols. This research is based on studying nutrigenomic effects of polyphenols in animal models of atherosclerosis as well in clinical trials in humans. Recently he has been studying the role of polyphenol metabolites on endothelial cell function, particularly interactions with immune cells, and identification of epigenetics, miRNA and cell signalling effects of polyphenols.
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Major contribution to POSITIVe: WG2, WG3
Role in POSITIVe: Substitute MC Member

Dr Claudine Manach is Senior Research Scientist at INRA. Her research initially focused on polyphenol bioavailability. She has invested early in nutritional metabolomics. Her main current interests are to better describe the individual exposure to plant food bioactives, depending on dietary habits and intrinsic factors, and to identify food intake biomarkers. She coordinated a proof-of-principle project (ANR PhenoMeNEp) to identify new biomarkers of plant food intake using a metabolomics approach on cohort samples, and is now WP leader in the Foodball project (23 partners) aiming at identifying and validating a large range of new nutritional biomarkers. She leads the development of PhytoHub,an online database dedicated to dietary phytochemicals and their human metabolites.
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Major contribution to POSITIVe: WG1, WG3
Role in POSITIVe: Substitute MC Member

Dr Laurent-Emmanuel Monfoulet is an Early Stage Researcher. He received his PhD in Cellular Biology and Physiopathology (University of Bordeaux, France). His research initially focused on impact of nutraceuticals on bone and cartilage diseases using *in vitro* approaches and animal models.
Newly recruited in the research group, the aim of his research is to characterize the mechanisms by which polyphenols may regulate the cellular interactions betweenvascular endotheliumand circulating immune cells (monocytes). This research is based on primary human endothelial cells in static and shear-stress conditions. The major cell processes studied are adhesion and transendothelial migration.
Contact: laurent-emmanuel.monfoulet@clermont.inra.fr

Major contribution to POSITIVe: WG2, TTG
Additional contribution to POSITIVe: FG

Brief description of the Research Group

- ***Organisation & Facilities***

The French National Institute of Health and Medical Research (INSERM) is a public scientific and technological institute which operates under the joint authority of the French Ministry of Health and French Ministry of Research, and develops research activities entirely focused on human health. Research is conducted on 10 thematic departments comprising the department of Physiopathology, Metabolism and Nutrition which is a multidisciplinary centre that brings together scientists from a wide range of research fields (nutrition, endocrinology, gastroenterology, hepatology, nephrology, cardiology) to work to understand the development of metabolic and nutritional diseases including diabetes, obesity and cardiovascular diseases. Technological facilities are based on genomic, proteomic and metabolomics platforms located on academic and hospital laboratories which develop cellular, animal and clinical studies for the identification of biological targets.

- ***Aims of the Research Group***

DeTROI Unit is based at the University of Reunion Island and includes a permanent staff of 21 scientists. The group aims to determine the role of hyperglycemia and insulin resistance on the development of diabetes and related vascular disorders. Research activities are conducted: 1/ to identify biomarkers of vascular risks on diabetic patients (from biological fluids); 2/ to describe the molecular mechanisms involved in the dysfunction of endothelial and adipose cells exposed to hyperglycemia and pro-inflammatory conditions (through animal and cellular models); 3/ to develop new therapeutic strategies based on the use of polyphenols extracted from medicinal and aromatic plants from Reunion island and Indian Ocean area. Scientific and technological skills of the group are mainly based on the elucidation of signaling pathways involved in oxidative stress and inflammation.

- ***Methodologies & Approaches***

- Adipose and endothelial cells function assessment through in vitro models.
- Animal models of obesity and diabetes (db/db mice).
- Clinical trials on obese and/or diabetic patients to investigate metabolic health and inflammatory status after nutritional intervention.
- Molecular analysis: gene expression (RT-QPCR), protein expression (Western blot, ELISA).
- Polyphenol extraction from plant matrix and metabolomic analysis (UPLC-ESI-MS-MS).

Participation in the most relevant European and National projects

1/ POLYBIND Project QLK1-1999-00505 – European Union (2000-2003)
2/ GRII Project I – European Union/French Ministry of Research/Region Reunion (2007-2009)
3/ GRII Project II– European Union/French Ministry of Research/Region Reunion (2010-2012)
4/ REDOx Project – European Union/French Ministry of Research/Region Reunion (2013-2015)

Description of the principal personnel involved with their relevant experience

Dr. Marie-Paule Gonthier is a permanent Professor of Nutrition at the Medicine School of the University of Reunion. Her current interests relate to how dietary polyphenols may promote insulin sensitivity and improve type 2 diabetes and related vascular disorders. In particular, the focus is on the ability of polyphenol-rich plant extracts from tropical fruits and medicinal plants to modulate specific signaling pathways in adipose and endothelial cells exposed to oxidative stress and a pro-inflammatory environment related to hyperglycemia and endotoxins from intestinal microbiota.
Contact: marie-paule.gonthier@univ-reunion.fr
Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

Our laboratory, named UMR 1167, is a Inserm – Lille 2 University – Lille Pasteur Institute joint research unit. The UMR 1167 is a 50-person research unit that has been established at the Institut Pasteur de Lille (Northern France) for 15 years and is dedicated to the identification and analysis of the impact of the main aging-related vascular and neurodegenerative diseases using epidemiological, molecular and cellular biology-based methods. The UMR 1167 is organized in 3 transversal teams with complementary scientific and technical competencies. Team 1 (Public Health and Molecular Epidemiology of Cardiovascular Diseases), headed by Professor Philippe Amouyel, includes a permanent scientific staff of 15 persons and published 180 original articles during the 2008-2013 period.

- ***Aims of the Research Group***

The primary objective of team 1 is to increase our level of knowledge of cardiovascular disease (i.e. trends in these conditions and their environmental and genetic determinants) and to better understand the molecular impact of some of its determinants. We focus our efforts on two major diseases: acute coronary syndromes (with more than 25 years' experience) and (more recently) cerebrovascular diseases. For both diseases, descriptive and analytical epidemiological studies have been performed or are ongoing. These include (i) local recruitment in northern France and (ii) collaboration and management involvement in national, European and international consortia. We are also interested in the search for dietary and genetic determinants of metabolic diseases such as obesity and type 2 diabetes (T2D), two main known risk factors for cardiovascular diseases. Finally for some of these genetic determinants we develop functional studies to decipher the pathophysiological processes.

- ***Methodologies & Approaches***

- Epidemiological studies of metabolic and cardiovascular diseases (Observational studies)
- Statistical analyses
- Genotyping of single nucleotide polymorphisms
- Cell culture experiments (Hepatic and pancreatic cell lines)
- Molecular and cellular analysis: Cloning of cDNA in plasmids, Site-directed mutagenesis, Cell transfection, RNA interference, Gene reporter luciferase assays, Electrophoretic Mobility Shift Assays, Microarrays, qPCR, Western blot, Measurements of enzymatic activities (HPLC, fluorimetry, GC-FID).

- ***Participation in the most relevant European and National projects***

We are involved in national (Coronary artery disease and stroke registries, 3 City study, Population surveys, PRIME study) and international research projects (Emerging Risk Factors Collaboration, MORGAM, the CARDIoGRAMplusC4D Consortium, Genetic Investigation of Anthropometric Traits (GIANT), BiomarCaRE, EXOME+, ENGAGE, EGG, Global Burden of Disease, CADomics, Euroaspire, CRESCENDO, HELENA and CADISP).

Description of the principal personnel involved with their relevant experience

Julie Dumont (PharmD, PhD) is an assistant professor of molecular genetics and cell biology at the Lille 2 University (Faculty of Pharmaceutical Sciences and biology). Her research activity is devoted to study the influence of environmental and genetic factors on metabolic (dyslipidemia and obesity) and cardiovascular diseases. This research includes genetic epidemiology based on observational studies in humans as well as *in vitro* approaches. Recently, she has been studying the impact of diets with a high ?6/?3 polyunsaturated fatty acid (PUFA) ratio and genetic factors involved in PUFA metabolism on the development of overweight and dyslipidemia.

Contact : julie.dumont@pasteur-lille.fr

Major contribution to POSITIVe: WG2, TTG
Additional contribution to POSITIVe: FG

Aline Meirhaeghe (PhD) is a geneticist and biologist. She is a INSERM Research Associate 1st class (CR1) since 2001. She is leading a group of molecular genetics inside the team 1 of UMR 1167. Her research activities focus on the characterization of the mechanisms of genetic determinants of obesity and type 2 diabetes.
Her group has two objectives:
- The identification of novel genetic determinants of metabolic diseases (obesity and type 2 diabetes) that could explain the current missing heritability of these diseases. This is achieved through specific genetic studies on feeding behaviour and genome-wide genetic studies as part of international consortia.
- The understanding of the biological functions of these genetic determinants thanks to a recognized expertise in molecular and cellular biology, including the study of the functionality of genetic variants of interest and the study of physio-pathological processes.
Contact: aline.meirhaeghe@pasteur-lille.fr

Major contribution to POSITIVe: WG2

Louisa Goumidi (PhD) is a geneticist. She is a Research Engineer at INSERM UMR 1167. Her main interests are to study the interaction between environmental and genetic factors on multifactorial diseases (particularly metabolic, cardiovascular and chronic obstructive pulmonary diseases). She develops epidemiological studies in population and statistical analyses to better understand the relative impact of genetic and environmental factors on these diseases.
Contact: louisa.goumidi@pasteur-lille.fr

Major contribution to POSITIVe: WG2, TTG

Jean Dallongeville (MD, PhD) is epidemiologist and nutritionist at Lille Pasteur Institute. A significant proportion of his work is dedicated to : (i) understand changes in the rates and characteristics of coronary artery diseases over the coming years, particularly with regard to classification, management and prevention, (ii) identify new environmental and genetic factors for cardiovascular risk and (iii) the descriptive and analytical epidemiology of stroke. Jean Dallongeville has been appointed as Head of the French National Institute for Agricultural Research's (INRA) Human Nutrition Division (ALIM-H). He is involved in the SAB of the French Society of Atherosclerosis as well as in the scientific committees of the French Society of Nutrition, the Department of Social Science, Agriculture and Food science, Ecology (INRA), and the Cardiovascular Department of National Institute of Epidemiological Surveillance.
Contact : jean.dallongeville@pasteur-lille.fr

Major contribution to POSITIVe: WG2

Philippe Amouyel (MD, PhD) is Professor of Epidemiology and Public Health at the University Hospital of Lille in the North of France. He is the leader of UMR 1167.
His research activity is devoted to cardiovascular diseases and neurodegenerative diseases (Alzheimer's disease, in particular). He develops large epidemiological studies in population to attempt to decode the individual susceptibility to ageing diseases, using molecular techniques (high throughput genomics, transcriptomics, proteomics and bioinformatics). He headed the Lille Pasteur Institute between 2002 and 2011. Since 2008 he is the CEO of the French National Research Foundation on Alzheimer's disease and related disorders and chairs the Joint Programming Research Initiative on neurodegeneration and Alzheimer's disease (JPND).
Contact : philippe.amouyel@pasteur-lille.fr

Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

DIfE (German Institute of Human Nutrition) is an independent foundation and member of the Leibniz Association, a national alliance of scientific institutions in Germany. Scientists at the DIfE conduct experimental and clinical research in the field of nutrition and health, with the aim of understanding the molecular basis of nutrition-dependent diseases, and of developing new strategies for prevention, treatment, and nutritional recommendations. These objectivesare to be reached by interdisciplinary collaboration comprising a broad spectrum of experimental and epidemiological methods. Three topics are in thefocus of research at DIfE:
Causes and consequences of the metabolic syndrome, a combination of obesity, hypertension (high blood pressure), insulin resistance, and dyslipoproteinemia
Role of nutrition in healthy aging
Biological basis of food choice and nutritional behavior.
DIfE is organized in seven departments (Clinical Nutrition, Epidemiology, Experimental Diabetology, Gastrointestinal Microbiology, Molecular Genetics, Molecular Epidemiology, and Molecular Toxicology) and four groups doing research on cardiovasculardiseases, the physiology of energy metabolism, adipocyte differentiation, and the psycho-physiological basis of taste perception. Scientists of the DIfE published approximately 500 original papers since 2012.DIfE is involved in 11 research projects funded by the EU within the seventh framework program.

- ***Aims of the Research Group***

The Department of Gastrointestinal Microbiology is studying the interactions betweennutrition and intestinal bacteria in relation to their impacton the development of diseases such as obesity, or chronic inflammatory diseases of the intestine. Anotherresearch topic relates to the degradation of dietaryconstituents by intestinal bacteria and the effect of theresulting metabolites on the host. Specific research questions include the role of commensal bacteria in intestinal inflammation and in obesity development and the importance of folatesproduced by intestinal bacteria.

- ***Methodologies & Approaches***

- Use of gnotobiotic and knockout animal models
- Isolation and characterization of previously undescribed intestinal bacteria
- Characterization of bacterial activities using biochemical and molecular biological methods
- Analysis of bacterial and host metabolites using gas chromatography, HPLC and mass spectrometry
- Molecular and cellular analyses such as gene expression by qPCR, protein expression (Western blotting and proteomics) in bacteria and host tissues

Participation in the most relevant European and National projects

The group has been involved in The European Network for Gastrointestinal Health Research (ENGIHR), in the national Center Collaborative Research Group (SFB) 852 “Nutrition and intestinal microbiota - host interactions in the pig” and in the DFG Priority Program (SPP1656) “Intestinal Microbiota – a Microbial Ecosystem at the Edge between Immune Homeostasis and Inflammation”.

Description of the principal personnel involved with their relevant experience

Professor Michael Blaut serves as Head of the Department of Gastrointestinal Microbiology at DIfE and teaches Gastrointestinal Microbiology at the Institute of Nutrition Sciences, University of Potsdam. He served as a coordinator of EU-funded projects in the fourth and fifth framework program. He has been working in the field of nutrition-microbiota-host interactions for more than 20 years with emphasis on the role of intestinal microbiota in intestinal inflammation and obesity development and in bioactivation of secondary plant metabolites.
Contact: blaut@dife.de

Major contribution to POSITIVe: WG1
Role in POSITIVe: Substitute MC Member

Dr Annett Braune is Senior Research Scientist inthe Department of Gastrointestinal Microbiology at DIfE. She received her doctoral degree in Microbiology from the University of Marburg, Germany. Her research interest focuses on the role of human gut bacteria in activation and inactivation of polyphenolic plant compounds that have been implicated in prevention of chronic diseases.This research include the analysis of bacterial metabolites formed from bioactivepolyphenols, the identification of bacteria involved in conversion of polyphenols and the characterization of key enzymes catalysing these reactions.Major goals are to unravel the impact of intestinal microbiota on the bioavailability of dietary plant polyphenols and to elucidate interindividual differences in their bacterial metabolism.
Contact: braune@dife.de

Major contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

The Heinrich-Heine-University Düsseldorf and its University Hospital integrate state-of-the-art patient care, outstanding scientific achievements, and teaching activities and encompass clinics and institutes embedded in the highly specialised technical environment of the UDUS. The cardiovascular research unit within the Division of Cardiology, Pulmonology, and Vascular Medicine provides excellent research in clinical medicine and experimental cardiovascular biology.The Division provides a state-of-the-art, cardiovascular research environment that aims to advance integrative and translational research in the field of cardiovascular disease prevention, diagnosis, and treatment. Research objectives are recognised by regional, national and international partners from academia, regulatory authorities and industry including the 6th EU framework programme (EU project "My Heart") and the 7th EU framework programme (EU project "Flaviola"). All state of the art techniques in cardiovascular research are covered, ranging from molecular analysis to patient studies.

- ***Aims of the Research Group***

- To elucidate the role of dietary polyphenols on cardiovascular health
- To investigate the factors affecting the bioavailability and bioactivity of dietary polyphenols
- To investigate their mechanisms of action in the vascular system.

- ***Methodologies & Approaches***

- Human dietary intervention studies (Randomized Controlled Trials, ADME studies…)
- In vivo assessment of vascular function (Flow-mediated dilation, Pulse Wave Velocity, Blood Pressure..)
- Analytical platform for the analysis of polyphenols and metabolites in foods and biological samples (UPLC-qTOF, UPLC-DAD-FLD)
- In vivo assessment of vascular function in animal models
- Cell culture, flow-cytometry, molecular and cellular analysis

Participation in the most relevant European and National projects

EU FP7 Flaviola:Targeted delivery of dietary flavanols for optimal human cell function: effects on cardiovascular health

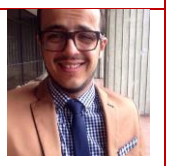
Description of the principal personnel involved with their relevant experience

Dr. Rodriguez-Mateos is a Research Group Leader at the Division of Cardiology, Pulmunology and Vascular Medicine of the University of Dusseldorf, Germany. She received her PhD and conducted her postdoctoral studies at the Department of Food and Nutritional Sciences of the University of Reading, UK, where she began to investigate the bioavailability of dietary phytochemicals and their impact on vascular function in Professor Jeremy Spencer's research group. She has been a visiting researcher at universities in Brazil, Spain, Japan, Germany and the US. Her research included development and validation of analytical methods for the identification and quantification of polyphenol metabolites in biological fluids using liquid-chromatography and mass spectrometry; performance of human feeding studies investigating the bioavailability of dietary polyphenols, design and undertaking of randomized controlled trials investigating the effects of polyphenol-rich foods on cardiovascular function using non invasive techniques such as flow-mediated dilation, pulse wave velocity or blood pressure, and investigations on mechanisms of action using animal and cell models. Currently, at the Division of Cardiology, Pulmonology and Vascular Functionof the University of Duesseldorf she leads a team consisting on 1 postdoctoral researcher, 2 PhD students, 1 visiting PhD student and 7 medical doctoral students. Her main research interests include investigating the factors affecting the bioavailability and bioactivity of dietary polyphenols, such as food matrix, processing, age or sex, and their mechanisms of action in the vascular system.
Contact: ana.rodriguez-mateos@med.uni-duesseldorf.de

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1

Role in POSITIVe: MC Member, Steering Committee Member



Dr. Rodrigo Feliciano is an Early Stage Researcher. He received his PhD in Food Science (University of Wisconsin-Madison, USA). His research initially focused on the chemical characterization of proanthocyanidins from different sources, with focus on cranberries. His research led to novel chemical and biological methods to better define the structure-activity relationships between cranberry proanthocyanidins and urinary tract infections prophylaxis. Recently incorporated in the research group, the aim of his research is to implement, optimize and validate high-throughput high-resolution mass spectrometry methods to detect and quantify (poly)phenols in plasma and urine after human intake of (poly)phenolic rich sources, such as as cranberries and blueberries, and to correlate cardiovascular outcomes with physiological concentrations of (poly)phenols and their metabolites.
Contact: feliciano@med.uni-duesseldorf.de

Major contribution to POSITIVe: WG1, TTG

Additional contribution to POSITIVe: WG2

Geoffrey Istas graduated In July 2014 as a Master student in Biochemistry & Biotechnology at the University of Antwerp (Belgium). He performed his master thesis at the German Cancer Research Center (DKFZ) in Heidelberg. There he investigated the epigenetic effects of cocoa flavanols on cardiovascular function in humans. His PhD research started in December 2014 and he aims to unravel the molecular mechanisms of dietary polyphenols in humans in the context of cardiovascular prevention using metabolomic, transcriptomic and epigenetic approaches.
Contact: Geoffrey.Istas@med.uni-duesseldorf.de

Major contribution to POSITIVe: WG2, TTG

Additional contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

The Heinrich-Heine-University Düsseldorf and its University Hospital integrate state-of-the-art patient care, outstanding scientific achievements, and teaching activities and encompass clinics and institutes embedded in the highly specialised technical environment of the UDUS. The cardiovascular research unit within the Division of Cardiology, Pulmonology, and Vascular Medicine provides excellent research in clinical medicine and experimental cardiovascular biology. The Division provides a state-of-the-art, cardiovascular research environment that aims to advance integrative and translational research in the field of cardiovascular disease prevention, diagnosis, and treatment. Research objectives are recognised by regional, national and international partners from academia, regulatory authorities and industry including the 6th EU framework programme (EU project "My Heart") and the 7th EU framework programme (EU project "Flaviola"). All state of the art techniques in cardiovascular research are covered, ranging from molecular analysis to patient studies.

- ***Aims of the Research Group***

- To investigate the (Patho)physiology of endothelial dysfunction
- To investigate therapeutic approaches with dietary bioactives in the context of primary and secondary prevention.
- To study endovascular approaches for the treatment of peripheral artery disease

- ***Methodologies & Approaches***

- Human(dietary) intervention studies (healthy subjects and CVD patients)
- In vivo non-invasive and invasive assessment of vascular function and structure (incl. Flow-mediated dilation, Pulse Wave Analysis, VOP, FFR, IVUS, OCT)
- In vivo and ex vivo assessment of cardiovascular function in animal models
- Cell culture, flow-cytometry, molecular, and cellular analysis

Participation in the most relevant European and National projects

EU FP7 Flaviola:Targeted delivery of dietary flavanols for optimal human cell function: effects on cardiovascular health

Description of the principal personnel involved with their relevant experience

Dr. Christian Heiss is an attending physician, interventional cardiovascular specialist, and heads the Vascular Medicine section of the Division of Cardiology, Pulmonology and Vascular Medicine, University Duesseldorf. His expertise is based on vascular medicine, physiology, and vascular biology, which defines the following major research interests: endothelial dysfunction, vascular aging, vascular regeneration, nutrition, and endovascular procedures. Christian Heiss has received his doctorate at the University of Duesseldorf (Supervisor Prof. M. Kelm), was a post-doc in the Institute for Biochemistry and Molecular Biology, University Duesseldorf (Prof. H. Sies), had an affiliated faculty appointment at the University of California Davis (Nutrition Department) and was awarded a Fellowship grant by the American Heart Association (2005-2007) at the Division of Cardiology, University of California San Francisco where he worked withProf. William Grossman and Prof. Matt Springer. Dr. Heiss received the Flavanol-Research-Award at the 4th International Conference on Polyphenols and Health (ICPH 2009, Harrowgate, UK) and the Edens Award of the Heinrich-Heine University. He has (co)authored numerous relevant and highly cited (h-index: 28) articles in respective "high-impact"-journals (JAMA, JACC, EHJ, ATVB, PNAS, Circulationetc). Furthermore, Dr. Heiss contributed to the formulation of several national and international research projects and is a frequent reviewer for >30 internationally recognized journals.
Contact: christian.heiss@med.uni-duesseldorf.de

Major contribution to POSITIVe: WG2
Additional contribution to POSITIVe: WG1
Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The Heinrich Heine University (HHU) is divided up into five faculties which are all located on one campus. The oldest one and core of the university is the Faculty of Medicine, followed by the Faculty of Mathematics and Natural Sciences and the Faculty of Arts and Humanities. The open structure of the university creates an excellent basis for knowledge transfer and cluster development. Life sciences incorporating the interdisciplinary interaction of medicine and natural sciences are a core research area. The Institute of Biochemistry and Molecular Biology I belongs to the Faculty of Medicine. Major research areas are mitochondrial dynamics and quality control of mitochondria as well as oxidative stress in context of physiological and pathophysiological processes.

- ***Aims of the Research Group***

A major goal of the Research Group on antioxidants/oxidative stress is to elucidate and understand the molecular mechanisms underlying a biochemical or pathobiochemical state related to oxidative stress. Applying antioxidant ingredients of plants ingested with the food may be a strategy in prevention of several diseases. In this context information on the bioavailability of secondary plant constituents is of outmost importance. Interindividual differences in bioavailability have impact on their effects. Thus, it is also relevant to understand basic mechanisms which influence bioavailability of a compound in an individual.

- ***Methodologies & Approaches***

To investigate antioxidant mechanisms and bioavailability of antioxidants, analytical, biochemical, and molecular biological methods are used. Studies on cells, in-vitro 3D-models, animals, and humans are performed and deal with both the modulation of endogenous enzymatic and non-enzymatic antioxidants (including absorption and metabolism) and the use of effective antioxidant substances such as vitamin C and E, carotenoids, polyphenols, and selenium compounds, to prevent or to counteract the pathological molecular processes.

Participation in the most relevant European and National projects

Member of the SFB 663: molecular response following electronic excitation
Member of the EFSA sub working group on health claims related cardiovascular health and oxidative stres

Description of the principal personnel involved with their relevant experience

Dr. Wilhelm Stahl is professor of biochemistry at the Heinrich-Heine University of Düsseldorf and at present vice-director of the Institute of Biochemistry and Molecular Biology I. He studied chemistry at the University of Heidelberg and received his PhD from the University of Kaiserslautern., Institute of Toxicology. From 1987-1990 he was working in the pharmaceutical industry as a research scientist for E. Merck in the field of Pharmacokinetics and Metabolism. He joined the Institute of Biochemistry and Molecular Biology I at the Heinrich-Heine-University Düsseldorf in 1990 and received his venia legendi in 1995. Dr. Stahl has over 25 years of experience in the field of antioxidant research related to preventive effects of dietary antioxidants against degenerative diseases. His research addresses the biological effects and biokinetics of micronutrients including carotenoids, polyphenols and tocopherols. Recent focus is on coetaneous effects of micronutrients.

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG3

Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

Democritus University of Thrace is an over 30-years old University. Our Laboratory is situated in Alexadnroupolis and belongs to the Medical School of Democritus University. The Laboratory of Hygiene and Environmental Protection has been established in 1987. Since then, it presents a long history of research projects focused on Public Health and Environmental Protection, especially working on water analysis etc.
Nowadays, the Lab is consisted of Professor Constantinides Th, Lecturers: Dr Nena Evaggelia and Dr Kontogiorgis Christos and a member of Laboratorial and Educational Stuff Tselemponis Athanasios, MSc.
Laboratory of Hygiene presents a course of postgraduate studies named "Hygiene and Work Safety, with 30 students every 2 years. The members of the lab are also implicated in other postgraduate courses. There are also five PhD Students and three researchers, working on various projects. water analysis
The quality of the research carried out at the Laboratory of Hygiene is well recognized internationally. Over 100 original publications have been published over the last few years, from the member of the Lab. During the 10 last years, the Laboratory of Hygiene has been involved as coordinators or partners in many European and National Research Projects, international conferences and workshops.
The Laboratory of Hygiene UNH also comprises experimental units focused on: Hygiene and Work safety matters, Water analysis, Evaluation of Antioxidant and Cardiovascular activity of natural Products.

- ***Aims of the Research Group***

The **Laboratory of Hygiene and Environmental Protection** has a well-recognized experience on Hygiene and Work Safety as well as on subjects of Public. Through an integrated research approach combining classic and methodologies, this group aims: (1) to determine the impact of various natural products on Public Health, (2) to study the antioxidant and cardiovascular protective activity of various natural products and 3) to evaluate the environmental pollution, which influences the plants and the whole ecosystem.

- ***Methodologies & Approaches***

- Studies of Public Health with Questionnaires
- Molecular and cellular analysis
- UV and LC-MC Analysis of Natural Products and Biological Activity

Participation in the most relevant European and National projects

During the 5 last years, the Laboratory of Hygiene and Environmental Protection MicroCard has been involved as coordinators or partners in various European and National Projects.

Description of the principal personnel involved with their relevant experience

Dr Theodoros C Constantinidis is a Medical Doctor, specialized in Occupational and Environmental Medicine. He is a Professor of Hygiene at the Medical School of Democritus University of Thrace in Alexandroupolis, Greece and President of the Hellenic Institution of Health and Safety at Work (ELINYAE). His fields of expertise include: Epidemiology, Public health, Hygiene, Occupational and Environmental Health. He was Principle Investigator in Interreg III, Phare CBC Greece – Bulgaria for the development of a Research and Education Cross-boarder Network for Public Health. He was also PI of the following studies: *Epidemiological non-interventional study of epilepsy in Greece* (Janssen - Cilag) & *Epidemiological non-interventional study of migrane in Greece* (Janssen - Cilag). He organized Post-Graduate Seminars in Medical Epidemiology and Biostatistics (Boehringer Ingelheim). He is member of national and international Scientific Societies and Member of the Editorial Board of Scientific Journals.
Contact: tconstan@med.duth.gr

Major contribution to POSITIVe: WG3, FG

Dr Evangelia Nena is a Medical Doctor, specialized in Occupational and Environmental Medicine. She is a Lecturer of Public Hygiene and Social Medicine at the Medical School of Democritus University of Thrace in Alexandroupolis, Greece. Her previous appointment was Assistant Professor (external associate) of Epidemiology and Occupational Health and Safety at the Technological and Educational Institute of Eastern Macedonia - Thrace. Her fields of expertise include: Epidemiology, Public health, Hygiene, Occupational and Environmental Health. She teaches Medical School students both at undergraduate and at post-graduate level. She is a co-author in 30 PubMed-indexed articles and of >100 studies presented in Medical Conferences.
Contact: enena@med.duth.gr

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: FG

Dr Christos Kontogiorgis is a Pharmacist, with PhD on Natural Occuring Products with anti-inflammatory and cardiovascular activity. He is lecturer of Hygiene at the Medical School of Democritus University of Thrace in Alexandroupolis, Greece. He has been working on Natural Products and the investigation of their possible impact on Public Health, searching for their antioxidant and cardiovascular activity. He has many scientific collaborators on different fields of natural products. His fields of expertise include: Epidemiology, Public health, Hygiene, Natural occurring Products & Compounds and biological studies (antioxidant and cardioprotective). He has been involved in many research projects as Researcher. He teaches Medical School students both at undergraduate and at post-graduate level. He is a co-author in over 40 PubMed-indexed articles.
Contact: ckontogi@med.duth.gr

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG2, FG
Role in POSITIVe: MC Member

Mr Athanasios Tselempon is MSc, is a Laboratorial and Educational stuff. He has graduated from the Department of Medical Laboratories, Technological and Educational Institute of Thessaly, Greece. He is doing his PhD studies entitled: “Colonization of multidrug resistant strain in hospital settings and the role of hospital personnel in horizontal transmission”. He is responsible for microbiological analyses of water and food and biochemical identifications of microbes.
Contact: atselemp@med.duth.gr

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

The Department of Physical Education and Sport Science of the University of Thessaly has been ranked as the best Sport Science department in the country.
The Live Indented Via Exercise laboratory (LIVE LAB) at the Clinical Exercise Physiology Research Group specializes in conducting clinical trials using exercise training as a means for improving survival and quality of life in patients with chronic diseases.
The LIVE Lab uses therapeutic exercise as "medicine" in counteracting modern society's disease.

- ***Aims of the Research Group***

Our research group aims at:
Promoting "exercise as medicine" in chronic conditions
Promoting research on the effects of exercise and nutrition in maintaining health and improving quality of life in chronic diseases patients
Establishing therapeutic exercise as part of standard care in various disease conditions
Making exercise training a "life-long" practice for counteracting modern life-style diseases (e.g. obesity, metabolic syndrome, hypertension, etc)
Customizing exercise prescription for patients with special needs
Conducting and managing randomized clinical trials for various organizations and companies

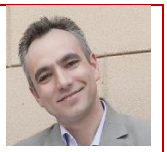
- ***Methodologies & Approaches***

- muscle pathology, molecular biology, exercise training in chronic disease patients
- MRI and MRS techniques
- sleep disturbances
- randomized clinical trials
-

Participation in the most relevant European and National projects

GI-Neu: Impact of colostrum-based neutraceuticals on functional gastrointestinal disorders. EU FP7 People; Marie Curie Industry-Academia Partnership and Pathways (IAPP) call: FP7-PEOPLE-2012-IAP

Description of the principal personnel involved with their relevant experience



George Sakkas is employed as a Assistant Professor at the School of PE and Sport Science at the University of Thessaly, Greece. He is a Lab Director at the LIVE Laboratory at the Institute of for Research and Technology, Thessaly one of the five institutes in Center for Research & Technology Hellas (CERTH). His lab is specialized in the design and implementation of clinical trials to investigate the efficacy of exercise and other life changing approaches (nutrition, counselling, alternative medicine) as the means for improving survival and quality of life in patients with chronic diseases. The Clinical Studies Laboratory uses therapeutic exercise as "medicine" in counteracting modern society's diseases and improving morbidity and mortality
Contact: gskkas@uth.gr

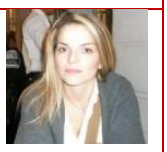
Major contribution to POSITIVe: WG2
Additional contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Andreas Flouris is an environmental physiologist and the founder of FAME Lab. He is an Assistant Professor in Human Physiology at the University of Thessaly and an Adjunct Professor in Environmental Medicine at the University of Ottawa.Our aim is to increase knowledge about the ways the environment affects the human organism. We do this by conducting innovative research on the physiological and molecular mechanisms that regulate mammalian adaptations to environmental influences**.**
Contact: andreasflouris@gmail.com

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1

Antonia Kaltsatou is a Post-Doctoral Researcher in Clinical Exercise Physiology & Biochemistry at the University of Thessaly, Clinical Exercise Physiology Research Group
Contact: kaltsatou@yahoo.com



Major contribution to POSITIVe: WG2, TTG

Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

The NARIC was established on 1st January 2014 with a Gödöllő based centre by reorganization of 13 research institutes and 4 Ltd. associated to food economy. The new public body is became an integrated agricultural research network to be qualified on the development and realization of research and innovation programs for promoting the improvement of the competitiveness and sustainable development of the Hungarian agrarian economy. By employing 165 researchers from the 626 persons, the new research centre by now became an internationally measured institutional body what is capable to step in the scientific circulation of the world. The Food Science Research Institute of NARIC (NARIC FSRI) is specialized in food science and technology, consumer science. Structure of the institute consists of Department of Biology, Department of Food Analytics, Department of Nutritional Physiology, Department of Technology and Food Chain Analysis, and Innovation Project Centre.

- ***Aims of the Research Group***

The aim of the Department of Biology is to research - with modern bio-analytical methods - the genetic information and protein characteristics which determine the quality of food, and may have negative effects to the human health as well.

- Different separation methods (1D/2D ELFO, 1D/2D-IEF, ZCE, IEX, FPLC, HPLC) for detection of peptide/protein (including antinutritive and allergenic proteins) and purification of bioactive compounds (mainly from cereals and legumes);
- DNA-based PCR methods for identification of meat origin, potential allergens and GMO screening;
- Antibody-based methods for detection of proteins from GM derived material, potential allergens and antinutritive compounds;
- In vivo models of gastrointestinal digestion for application to food to improve the current scientific knowledge on food degradation process in the human tract during digestion;
- Animal (rat/mice) models for monitoring the digestion and gut transport; biological evaluation of proteins and modulating of immune responses using oral adjuvant (probiotics, plant lectins);
- Selection, characterisation of probiotic *Lactobacillus* (LAB) strains by biochemical, bioanalytical and culture techniques ; development of probiotics (LAB) based plant products

POSITIVe focus on analysing the impact of the plant food bioactive compounds, through the bioavailability and physiological responses referring to the cardiometabolic syndromes. Additionally, POSITIVe broaden the knowledge on less studied subjects such as antioxidant capacity of the polyphenols-proteins complexes, and how these complexes affect the function of digestive enzymes. That is the topic how our group would like to connect to the POSITIVE studies.

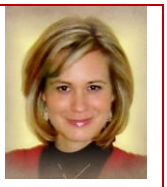
- ***Methodologies & Approaches***

Protein separation methods, ELISA, immunblot, PCR, in vitro digestion, in vivo digestion in rat feeding studies to evaluate the true digestibility/biological value/ net protein utilization

Participation in the most relevant European and National projects

GMSAFOOD EU7 „Biomarkers for post market monitoring of short and long-term effects of genetically modified organisms on animal and human health" (2008-2011);
DREAM Design and development of realistic food, models with well-characteristic micro- and macro-structure and composition (2009-2013);
COST FA1005 „Cooperation in the field of scientific and technical research, Food and Agriculture. Improving health properties of food by sharing our knowledge on the digestive process (INFOGEST)" (2011-2014)

Description of the principal personnel involved with their relevant experience



Dr. Krisztina Takács works as a research fellow at NARIC FSRI at the Department of Biology. She got her PhD degree in 2009 at the Doctoral School of Food Science, Corvinus University of Budapest. Her personal scientific interest is focused on the examinations of the structure-function relationship of food antigens/allergen proteins. Her main topic was about analyzing the major cereal protein allergens in raw materials (such as wheat and its cross-reactive cereals in the respect of food allergy and celiac disease, legumes, fruits) and processed food matrices (such as bread, pasta). She has experiences in studying the effect of food matrices and technologies (such as heat treatment, enzymatic modification, transgenic technology) on the allergenic potential of proteins characterized according to the IgE-reactivity by immunoblot techniques using allergenic human sera. She also applies i*n vitro* digestion model to study the effect of digestion on the release of bioactive peptides (including the potential food allergens). Her technical routine comes from the protein-based methods by the means of applied immunological techniques such as ELISA and SDS-polyacrylamide gelelectrophoretical analyses combined with immunoblot.
Contact: k.takacs@cfri.hu

Major contribution to POSITIVe: WG1, TTG
Additional contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Anita Maczó is a junior researcher (PhD student) at NARIC FSRI at the Department of Biology. The aim of her research is identification of bioactive plant proteins, mainly from legume seeds. The research is based on protein purification, identification by electrophoretic methods (1-DE, 2-DE, lab-on-a-chip), immunanalytical methods (western blott) and investigation of digestibility.
Contact: a.maczo@cfri.hu

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: Substitute MC Member

Dr. András Nagy works as a research fellow at NARIC FSRI at the Department of Biology. He got his PhD degree in 2009 at the Doctoral School of Food Science, Corvinus University of Budapest. His activities are the followings: study the in vivo digestibility of different proteins, establish an in vivo animal model for demonstrating beneficial effect of preselected lactic acid bacteria in the modulation of immune responses, elaborate methods for the nutritional and food safety assessment of a genetically modified bread wheat line, adapt and develop immune analytical methods (ELISA, etc.)
Contact: a.nagy@cfri.hu

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Aims of the Research Group***

- Nutrition and Bioactivation
- Bioanalytics
    - Retinoids,
    - PUFAs and PUFA-metabolites and
    - carotenoid metabolites)
- Effects of nutritional relevant lipids and in allergy and cardio-vascular diseases

Participation in the most relevant European and National projects

- EU-RTN project "NUTRICEPTORS" participant (Role: Co-Principal Investigator) from September 2003 - September 2006.
- EU-IP FP6 project "LYCOCARD" participant: from April 2006 – March 2011. Role: Principal Investigator
- EU FP7 project "NUTRITECH" participant (via the spin off company Paprika Bioanalytics BT) from January 2012-December 2015. Role: Principal Investigator

Description of the principal personnel involved with their relevant experience

Dr. Ralph Rühl, senior research at the RCMM of the University of Debrecen and head of the SME Paprika Bioanalytics BT.
Currently participating at 2 COST actions in the area food and nutrition as well as allergy.
Contact: ralphruehl@web.de

Major contribution to POSITIVe: WG1, WG2
Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

Teagasc is a public agency for the Irish Department of Agriculture, Food and Marine that provides research, advisory and training for the agri-food sector (www.teagasc.ie). Teagasc Food Research Centre Ashtown (TFRCA) is one of locations that undertake Teagasc Food Program Research. The mission of Teagasc Food Program is to provide leadership in research, consultancy and training in the food sector thereby encouraging product innovation and enhanced food safety and quality. It currently has just over 100 scientists and technicians that provide world-class research, training and technical services for the Irish food sector. The Nutraceutical research facility based in TFRCA is well-equipped with the state of the art instruments for pilot scale extraction, purification and identification of bio-actives as well as a high resolution time-of-flight mass spectrometer and a high magnetic field NMR (500 MHz) spectrometer.

- ***Aims of the Research Group***

The Nutraceutical unit in TFRCA has been officially launched in 2010 and presently consists of 14 research staff and students whose remit is to develop innovative products and technologies for the isolation, extraction and protection of bio-functional molecules from food plants and other natural sources. The focus of the research activities includes polyphenols, polyacetylenes, glucosinolates, sugar-polymers and peptides from plant/meat food and marine sources and their associated bioactivities, i.e. anti-hypertensive, anti-diabetic and anti-thrombotic activities.

- ***Methodologies & Approaches***

Conventional solid-liquid extraction and pressurised liquid extraction with appropriate choice of solvents are used to extract the bioactive-enriched fractions. Subsequent fractions are generated either by liquid-liquid partitioning and/or flash chromatography A primary screening test of antioxidant activities is carried out with the a array of in-vitro antioxidant assays such DPPH, FRAP, ORAC, etc. Additional in-vitro bioactivity assays for anti-hypertensive, anti-diabetic, anti-inflammatory, etc. are being performed to establish the bioactivity of the fractions generated. The chemical structural elucidations of the compounds responsible for the bioactivity are then carried out using mass spectrometry and NMR spectroscopy. Where applicable, the bioactive compounds are quantified with LC-MS/MS and GC-MS techniques

Participation in the most relevant European and National projects

Teagaschas participated in European projects including Dietary fibers supporting gut and immune function from polysaccharide compound to health claim (FibeBiotics), Novel Processing approaches for the development of food products Low in fAt, Salt and sUgar(PLeASURe). Currently, Teagasc Ashtown leads following national projects: Irish Phytochemical Food Network, Marine Functional Food Research Initiative, Novel Technologies for the enrichment and recovery of novel bioactives, Exploitation of the nutritive properties of Irish-grown oat and barley varieties as functional ingredients, and is a participant in beneficial effects of blackberry polyphenols on cardiovascular &metabolic health.

Description of the principal personnel involved with their relevant experience

Dr. Dilip Rai is a Senior Researcher at Teagasc Food Research Centre Ashtown. He obtained his PhD in Medical Biochemistry from Karolinska Institute, Sweden. He has been working in the field of nutraceuticals for the past 6 years mining and characterising food bioactives with health-promoting effects. He leads the research group focusing on valorisation of food-processing by-products to generate sustainable source of functional food ingredients and bio-fuels in addition to assessing the effect of various processing factors on the levels of plant bioactives. He is currently the coordinator of Novel Technologies for the enrichment and recovery of novel bioactive ingredients, and the work package leader in Irish Phytochemical Food Network, blackberry polyphenols and cardiovascular & metabolic health, and NutriCereal projects. He is the member of the COST-Action POSITIVe (2014-2018).
Contact: dilip.rai@teagasc.ie

Major contribution to POSITIVe: WG2

Role in POSITIVe: MC Member

Dr. Mohammad Hossain is currently working in Teagasc Food Research Centre, Ashtown as a Food Chemist. Prior to this, he was appointed as a Natural Product Chemist in the same organisation. In both the roles he was involved in extraction, purification and characterisation of bioactive molecules such as polyphenols, glycoalkaloids, beta-glucan, chitin and chitosan from plant sources particularly from waste generated in food processing industries. He has extensive experience in various antioxidant, anti-inflammatory assays, analytical method development and validation of the aforementioned compounds.
Contact: mohammad.hossain@teagasc.ie

Major contribution to POSITIVe: WG2

Dr Ciarán Fitzgerald is an early stage researcher. He received a PhD in pharmacognosy from University College London in early 2014 after completing an MSc in Biotechnology at Queens University Belfast in 2010. His PhD research focused on mining seaweed for bioactive peptides and incorporating them in to a functional food.
Currently employed on the CardioRubus project where his work focuses on quantifying polyphenolic compounds in an antioxidant enriched blackberry beverage. His research mainly employs the use of UPLC MS/MS to identify these compounds and *in vitro* assays to assess the antioxidant capacity of the fruit drink.
Contact: ciaran.fitzgerald@teagasc.ie

Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

University College Dublin (UCD) is one of Europe's leading research-intensive universities. It is the largest University in Ireland, with 1,600 academic staff across a range of disciplines, and over 1,750 PhD students and 3,400 Masters students. UCD is ranked 161st in the Times Higher Education World University Ranking; ranking in the top 200 universities worldwide, and ranked 65th in Europe. Food and Health is a significant research theme within UCD and is supported by the UCD Institute of Food and Health. The UCD Institute of Food and Health brings together UCD staff with active research programmes in the area of Food and Health into one centre of excellence. It is a multi-disciplinary, campus wide initiative, comprising 34 Principal Investigators (faculty) and their teams with multidisciplinary expertise in food and health research with major projects spread across four research thematic areas; Food Quality and Processing, Food Safety, Personalized Nutrition and Health and Food Chain Sustainability. Since its inception in 2008, the Institute has firmly established itself as a leading player on the national and international food and health research landscape obtaining over €60 million in research income. The institute is ranked 1st globally in terms of citations per paper and 5th on impact in the subject of Food Science and Technology. Central to the Institute's philosophy is the translation of its research for commercial, economic and societal impact. Utilizing its scientific evidence as the basis for food and health policy is also a key objective.

- ***Aims of the Research Group***

The focus of the Personalized Nutrition and Health theme is to understand the significant variability in an individual's susceptibility to diet related disease and/or response to dietary interventions, as well as conduct national nutrition surveys, with an understanding to promote health.

- ***Methodologies & Approaches***

Research is conducted in purpose-built state-of-the-art laboratories and facilities based in the UCD O'Brien Science Centre and at other locations including pilot plant facilities in the UCD Agriculture and Food Science Centre and at at the UCD Lyons Research Farm, and supported by a team of highly trained and dedicated research support staff.By interacting across the four key research themes of the Institute, Food Quality and Processing; Food Safety; Personalised Nutrition and Health; and Food Chain Sustainability and by linking in with campus, national and international initiatives, Institute researchers can ensure that their contributions are relevant to a broad spectrum of scientific, health, legal and social arenas. Researchers in the Personalised Nutrition and Health theme work across a spectrum of approaches, utilising cell, animal and human studies within the research. In addition we house several large and expansive phenotypic databases for continue use in molecular and public health research.

Participation in the most relevant European and National projects

UCD is a key partner in Irish Universities Nutritional Alliance, who leads the collection of Food Consumption Databases in Ireland, and has access to detailed dietary intake databases across all lifestages – infants, children, teens and adults (www.iuna.net). We are also a partner in the National Nutrition Phenotype Database, under the Joint Irish Nutrigenomic Organisation (JINGO), which has three key areas of research National Intakes, Metabolic Challenge and Elderly. Finally as the coordinating partner in Food4me, anEUFP7 project examining the opportunities and barriers to Personalised Nutrition and one of the centres involved in the Food4me PoP study, UCD has considerable experience in the development and implementation of personalised nutrition.

Description of the principal personnel involved with their relevant experience

Eileen Gibney (BSc, PhD, MSc) is a Lecturer in Nutrition and Genetics in University College Dublin. She is currently researching many aspects of Food and Health and is a key member of the Institute of Food and Health. Eileen is Head of Subject Nutrition and Programme Coordinator for the BSc Human Nutrition. She is a member of the School of Agriculture and Food Science Executive Committee and Chair of the UCD Institute of Food and Health Executive Committee. Her current research interests lie in the area of Personalized Nutrition, involved in several research projects including: Examination of the effect of genotype (PTC/PROP) on fruit and vegetable intake in children: Food for Health Ireland (Enterprise Ireland; HRB National Research Centre for Diet, Obesity and Diabetes, Consumer Understanding of Portion Size and Diet Ireland: development of an online dietary assessment tool. Eileen is a PI on the Food4me project, a €9M project involving an international consortium of researchers focused on personalized nutrition. She is also a collaborator in several other research projects such as Joint Irish Nutrigenomic Organisation (JINGO) and Irish Universities Nutritional Alliance (IUNA).

Major contribution to POSITIVe: WG2, WG3

Additional contribution to POSITIVe: TTG

Role in POSITIVe: MC Member, WG Leader, Steering Committee Member

Brief description of the Research Group

- ***Organisation & Facilities***

The Hebrew University of Jerusalem, Israel (HUJI), founded in 1918 and opened officially in 1925, is Israel's premier university as well as its leading research institution. The Hebrew University is ranked internationally among the 100 leading universities in the world and first among Israeli universities. HUJI in numbers: Founded in 1918; Opened in 1925; 6 campuses ; 7 faculties; 14 schools; 23,000 students; 1,000 senior faculty members; More than 7,000 patents registered; 8 Nobel Prize winners; 1 Fields Medal winner in mathematics. One-third of all competitive research grants awarded in Israel are won by Hebrew University scholars. At HUJI, the Research Centre for Nutrigenomics and Functional foods (RCNF) of the R.H. Smith Faculty of Agriculture, Food and Environment gathers 52 permanent team leaders that focus on topics relating agriculture, food and environment to human nutrition, to prevention of disease through nutrition, and to nutrigenomics and functional foods.

- ***Aims of the Research Group***

The RCNF Group has a well-recognized experience on edible and dietary bioactive phytochemicals, their metabolism and health effects, and their inclusion into health beneficial novel foods. Using integrated research approaches and combining classic and computational tools they study the potential of bioactive phytochemicals in the prevention or reduction of obesity, combating malnutrition, disseminating knowledge on the cellular and molecular mechanisms involved, and study using a multiple disciplinary collaboration to study the many interactions of phytochemical in the gut in individuals and populations.

Nutrigenomics & Functional Food Research Center is based on the interdisciplinary expertise in human nutrition with special emphasis on children, the aging and those with special health requirements; food chemistry and technology; and consumer research. The ultimate aim of research at the center is to promote health by tailoring nutritional requirements to the individual; by understanding nutrient-gene interaction, functional foods can be developed which can provide specific, beneficial, physiological effects on health, performance and/or well-being, beyond the provision of simple nutrients

- ***Methodologies & Approaches***

- Clinical trials associated with malnutrition in search for epigenetic changes, effect of pregnancy outcome in relation to the microbiome and more; animal models of inflammation in the GI bone and metabolic diseases; cell culture experiments (endothelial cells, microsomes)
- Computational modeling and simulation softwares looking at phrmacophores in phytochemicals, docking and three dimensional imaging (Discovery Studio, Chemdraw Ultra 8.0)
- Transcriptomic analysis in biological samples (cells, tissues).
- Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot, proteomics).
- Metabolomics (High Resolution Mass Spectrometry and NMR to determine dietary related phytochemicals in blood, plasma and urine).

Participation in the most relevant European and National projects

During the last 5 years members of the group participated in various national programs including enhancement of nutritional qualities of i.e. legumes to expand their uses feed and food, herbals in the service of man: Isolation at lab scale and pilot, and identification of antibacterial, anti-virulent and anti-inflammatory phytochemicals with therapeutic potential.
The center is organizing the next meeting of the international society of nutrigenomics and nutrigenetics in Tel Aviv, May 2016.

Description of the principal personnel involved with their relevant experience

Dr Zohar Kerem, is a Team Leader - Research Scientist (Food chemist, Biochemist), and chairs the Academics Committee at RCNF.
Kerem research team is leading and involved in projects focusing on polyphenolics and saponins, their interactions and fate in the body, e.g. their interactions with CYP 3A4. The research team is using classical biochemical methodologies, analytics (NMR & LC-MS), and computational modeling and simulation softwares such as Discovery Studio. The team has participated in several EU projects, during FP5, FP6, and FP7 and Binational Projects with various European Countries.
Contact: zohar.kerem@mail.huji.ac.il

Major contribution to POSITIVe: WG3

Additional contribution to POSITIVe: WG1

Prof. Ram Reifen is a pediatric gastroenterologist and a professor of Human Nutrition, head of the RCNF. Ram has been working over the last 20 years on vitamin A which encompasses three spheres: nutrition, inflammation and growth, and their inter-relationships The second major aim of the lab is to contribute to alleviating malnutrition this involves leverage of agriculture in the service of nutrition, for example enhancement of the nutritional quality of chickpea to be used widely in the developing world 2. Identification of the relevant epitopes and reduction of potential allergenicity and production of foodstuffs. Reifen participated in several EU projects including bioavailability of carotenoids, bioavailability of folate, food allergy, and chickfood (FP4, FP5, FP6).
Contact: ram.reifen@mail.huji.ac.il

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG3

Dr Shimrit Bar-El Dadon is an Early Stage researcher, who received her PhD in Biochemistry (The Hebrew University of Jerusalem, Israel). Her research focused on food allergy and involved immunology-related *in vitro* approaches and computational biology.
The aim of Shimrit's research is to identify and characterize food allergens, locate specific epitopes within allergens, evaluate cross-reactivity between food sources, and develop methodologies to eliminate the allergenic potential of major and minor allergens, leading to development of hypo- and non-allergenic foods. The research is based on a well-established methodology in our lab, using a large collection of sera samples of allergic patients worldwide.
Contact: shimrit.bar-el@mail.huji.ac.il

Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

The Southern Arava Research and Development (SAR&D) comprises the centre of desert agriculture research in the Israeli SA for the last 50 years, in tight collaboration with leading scientists from the Agriculture Research Organization (ARO) and the Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem. The activities of the SA R&D cover aspects of overall agricultural management, water use efficiency, exploitation of the advantageous effects of the limiting abiotic conditions (e.g., early harvest season, phytochemical enrichment), introduction and breeding of salinity and drought tolerant crops, postharvest handling and health quality of local produce.
The professional staff of the SA R&D consists of 20 experienced personnel, including 6 scientists and engineers. Among our facilities are first-rate experimental farm, infrastructure for experiments in irrigation regime and/or water quality modifications, postharvest amenities, and chemistry, biochemistry and microbiology laboratories.

- ***Aims of the Research Group***

A major goal of the Postharvest Research group is to establish the health value of the local produce. The group has pioneered the work on the anti–atherogenic benefits of date and marula fruit in humans, in collaboration with the Faculty of Medicine and the Institute for Research in the Medical Sciences, Technion-Israel Institute of Technology, and Rambam Medical Center. The aims of the group, in concert with our collaborators, are: 1) Evaluate the anti-atherogenic properties of locally grown horticultural crops; 2) Identify potentially anti-atherogenic phytochemicals in local produce; 3) Enhance the content of anti-atherogenic bioactives in local produce; 4) Develop functional bioactives enriched products.

- ***Methodologies & Approaches***

- *In vitro* assays and animal model *in vivo* assessment ofanti-atherogenic properties of whole and processed produce.
- Isolation of bioactives through differential solvent extraction, SPE and size-exclusion chromatography.
- Tentative bioactive identification by HPLC.
- Pre- and postharvest manipulation of bioactives content and composition, including, variety selection, irrigation water quantity and quality, climate conditions (growth season), postharvest UV irradiation, *etc*.

Participation in the most relevant European and National projects

The SA R&D participates in several national projects funded by the Chief Scientist of the Israeli Ministry of Agriculture, including “The introduction of pomegranates to different regions of Israel” and “Development of a new date product - ‘fresh’ Medjool.”

Description of the principal personnel involved with their relevant experience

Dr. Hamutal Borochov is a senior research scientist (chemist, biophysicist) at the SA R&D. She is leading the postharvest research in the SA R&D for the last 20 years. During the last 10 years she has focused on health promoting phytochemicals in the locally grown produce, including characterization of their composition and health capacities. She is collaborating in these studies with the Faculty of Medicine and the Institute for Research in the Medical Sciences, Technion-Israel Institute of Technology, and Rambam Medical Centre.
Her previous experience includes cell membrane biophysics, membrane signal transduction, and plant cell membrane response to abiotic conditions (temperature, salinity)
Contact: hamutalborochov@rd.ardom.co.il

Major contribution to POSITIVe: WG2
Additional contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

Technion – Israel Institute of Technology consistently ranked among the world's top science and technology research universities. The faculty of Biotechnology and Food Engineering in the Technion is one of few in the world that combines the areas of biotechnology and food under one roof. The research in the faculty is located in a wide field, ranging from synthetic biologyto food processing and bioavailability of nutrients. The group of novel food & bioprocessing is a starting research group interested in maximizing health-promoting attributes of foods by a more rational utilization of novel and traditional food processing and storage techniques. The students and co-workers of the research group has access to state of the art analytic and processing equipment in the department and in the whole campus

- ***Aims of the Research Group***

The aims of the forming research group is to study the effects of various processing techniques on food bio-actives, macromolecules (polysaccharides, proteins, and enzymes), micro and nano-structures, and how interactions between them upon processing affect the bioactive compounds in terms of stability and bioaccessibility

- ***Methodologies & Approaches***

- Novel non-thermal and thermal processing technologies
- Micro and nanostructure characterization
- Stability of polyphenols (from "farm to fork" and during simulated digestion)

Participation in the most relevant European and National projects

As the lab formed only at 11/2014 the lab was not involved previously in any projects.
The head of the lab during the postdoctoral fellowship was partially involved in EU FP7 ITN HST-FOODTRAIN project.

Description of the principal personnel involved with their relevant experience

Dr. Avi Shpigelman is the head of the lab of novel food and bioprocessing in the Technion, Israel. He started the group after gaining an extensive experience with novel methods to stabilize polyphenols in solution followed by post-doctoral training with novel processing technologies in the lab of Prof. Marc Hendrickx from KULeuven, Belgium.
Contact: avis@bfe.technion.ac.il

Major contribution to POSITIVe: WG1, WG3

Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The INSTITUTE OF CLINICAL PHYSIOLOGY (IFC), is the largest institute of the Italian National Research Council (CNR) in the biomedical area. Its research activity is mainly focused on the pathophysiology and therapy (both medical and surgical) of cardiovascular and metabolic diseases, including the study of systemic, neuroendocrine and metabolic factors involved in heart disease.

The IFC-CNR is comprised of two Strategic Operating Units of Clinical Research (located in Pisa and Massa) and four Satellite Operating Units of Experimental Research (located in Milan, Lecce, Siena and Rome).

For more than two decades the Laboratory of Nutritional Research of the Lecce Unit, in collaboration with theUnit of Experimental Cardiology of the "G. d'Annunzio" University in Chieti, has been active investigating the functional role of dietary components (antioxidants, lipids, phytonutrients) in the pathophysiology of cardiovascular disease, obesity and related vascular sequel, including mechanisms such as endothelial dysfunction and angiogenesis. The overallaim of its research is to identify bioactive food components and food patterns that, through modulation of gene expression may inhibit vascular and metabolic disease using cell culture, animal models, human subjects (nutrigenomics).

- ***Aims of the Research Group***

The team appliesmultidisciplinary approaches to link nutritional elements (through dietary supplementation or mild deficiency approaches) with modulation of gene expression. This includes challenge studies, consisting in applying inflammatory stimulito nutritionally conditioned cells to reveal underlying mechanisms, not necessarilyphenotypically evident following nutritional challenges alone.

- ***Methodologies & Approaches***

The following experimental models are used in nutrient-gene interaction studies:

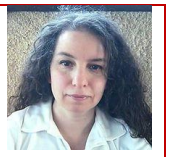
- Human primary endothelial cell culture models, such as human umbilical vein endothelial cells (HUVEC), used to study the effects of micronutrients on vascular inflammation;
- Human primary adipocyte cell culture models, employed to study the effects of micronutrients on adipocyte metabolism and function;
- Direct and indirect co-culture models, to evaluate the effects of micronutrients on endothelial cell/adipocyte or adipocyte/monocytes cross talks;
- Adipose tissue organ cultures, used to study the effects of micronutrients on adipose tissue metabolism;
- Human models, set up to overcome the problem of testing complex food matrices: healthy volunteers supplemented with specific whole foods are used as donors of blood serum, containing metabolites produced *in vivo* following absorption of specific nutrients. Plasma orsera are then used to feed cultured cells (mainly endothelial cells and adipocytes), to test the effects of circulating food metabolites on phenotypic expression, and identify regulatory pathways involved;
- Human peripheral blood mononuclear cells (PBMCs) from healthy or diseased subjects supplemented with specific food bioactive molecules and usedas both *in vivo* and *ex-vivo* models.

Participation in the most relevant European and National projects

In the last five years, the Laboratory of Nutritional Research of the IFC-UOS has been involved as partners in various National (*PON0101958: Innovative process for the exploitation of the extra-virgin olive from the Bari and Foggia provinces in south in South Italy (PIVOLIO;, Strategic project PS_008, POR Puglia: "Innovative biotechnological approaches to improve quality and safety of typical Apulian wines –INNOWINE*) and European (*ENPADASI, the European Nutrition Phenotype Assessment and Data Sharing Initiative*) collaborative projects.

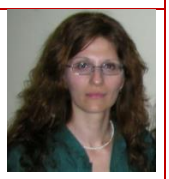
The Laboratory Scientific Supervisor, prof. Raffaele De Caterina, has been Director of Operating Units in National Grants from the Italian Ministry of Education and Research (PRIN Projects 2009-2010 and 2013), the CARIPLO Foundation, and private grants from pharmaceutical companies including Boehringer-Ingelheim, Bayer, BMS/Pfizer, Daiichi-Sankyo, AstraZeneca, Roche.

Description of the principal personnel involved with their relevant experience



Dr. Marika Massaro is Research Scientist at IFC-CNR- Lecce unit, in Italy. She received his PhD in Cellular and Molecular Pathology from the University of Perugia and the Specialization in Food Science and Nutrition from the Marche Polytechnic University (Italy). Her research interests consist, among the other, in the characterization of the molecular and cellular mechanisms underlying cardiovascular protective effect of animal- and -plant derived nutritional fatty acids with particular interest to the evaluation of their anti-inflammatory, anti-angiogenic and plaque-stabilizing effects. To this aim she uses endothelial, monocyte and adipose cellular models and more recently organ-culture models.
Contact: marika@ifc.cnr.it

Major contribution to POSITIVe: WG2, TTG
Role in POSITIVe: Substitute MC Member



Dr Egeria Scoditti is a Research Scientist at the IFC-CNR. She received her PhD in "Innovative strategies in Biomedical Research" at the Sant'Anna School of Advanced Studies (SSUP), Pisa (Italy), followed by a specialization in "Clinical Biochemistry" at the University of Bari (Italy). Her main research activities relate to the role of nutrition in the prevention and treatment of chronic degenerative diseases, including atherosclerotic cardiovascular disease, obesity and respiratory diseases. In particular, she focuses on the role of Mediterranean diet nutraceuticals, including polyphenols, in modulating gene expression and cell signalling in endothelial cells, monocytes/macropahges and adipocytes, as well as cell interaction.
Contact: egeria.scoditti@ifc.cnr.it

Major contribution to POSITIVe: WG2, TTG

Dr Maria Annunziata Carluccio is Senior Research Scientist at IFC-CNR at the Nutrigenomic Lab of IFC-CNR, Lecce unit. She is leader of the CNR-IFC working unit of three Italian research projects.
She has been working for 20 years in the field of Nutrigenomics and Vascular Biology to study the role of Mediterranean diet polyphenols in the prevention of atherosclerotic diseases. Her main current interests are to determine the biological effects of polyphenols on endothelial cells, endothelial progenitor cells, and immune cells, and to understand the underlying molecular mechanisms through single gene and omic approaches.
Contact: maria.carluccio@ifc.cnr.it

Major contribution to POSITIVe: WG2

Raffaele De Caterina is the Director of the Cardiology Division at the G. d'Annunzio University – Chieti, and Consultant for the G. Monasterio Foundation, Pisa, Italy. He is also the Director of the Experimental Cardiology Laboratory at the Center of Excellence on Aging at the G. d'Annunzio University in Chieti. He is Past-President of the International Society on Nutrigenetics and Nutrigenomics and Editor-in-Chief of Vascular Pharmacology. He has extensive experience in vascular biology, with an H-index of 60 and over 400 peer-reviewed publications. He will act as Scientific Supervisor and Advisor for the research conducted in the Lecce Laboratory.
Contact: rdecater@unich.it

Major contribution to POSITIVe: WG2
Additional contribution to POSITIVe: WG1
Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

Our Research Group comprises 8 staff, of whom 5 are researchers, 2 junior researchers and 1 technician. Our work is inter-disciplinary. The staff have a wide range of skills and expertise (informatics, biology, economics, communication and social science) and external collaborators include academics, Local Health Authorities and private sectors.
We are engaged in the following research areas:

- Health Technology Assessment (HTA)
- Health Informatics and Bioinformatics
- Clinical Epidemiology and Biomarkers
- Health Communication and Knowledge Management

Activities within the HTA area are performed recurring to software and tools for systematic literature search and analysis and economic modelling.
Activities in the Health Informatics and Bioinformatics are performed in the Onto-Bio Lab, a ubiquitous research laboratory led by our group which focuses on the integration, management and usability of data by exploiting the ubiquitous paradigm. Hardware (server and storage) is physically distributed on the different units of our Institute, while software and databases (big or linked data) are managed locally, or dynamically queried and retrieved from Internet.
Determination of biological parameters and biostatistics analysis, whitin the Clinical Epidemiology and Biomarkers area, is performed at, and in collaboration with, the Laboratory of Hygiene, DiSteBa, University of Salento (Lecce, Italy).

- ***Aims of the Research Group***

Our aims, often pursued through cross-disciplinary activities referable to the above mentioned research fields, are mainly:

- Integration of care pathways, principally in chronic diseases, economic evaluation of alternative health programs and modelling of different scenarios to provide a technical support for transparent decision making.
- In silico analysis of genetic factors contributing to the expression of the pathological phenotype.
- Population-based research (observational and interventional studies) on disease aetiology, risk factors, surveillance, survivorship and prevention of chronic and infectious diseases.
- Doctor-patient communication, risk communication, informed consent, health literacy and numeracy.

- ***Methodologies & Approaches***

Healthcare process analysis consisting in a modelling phase – by using different methodological approaches with an emphasis on qualitative research methods (interviews and group discussions with stakeholders or key informants) – and a representation and optimization phase – by using standardised notation / language suited also for healthcare process modelling (Business Process Model and Notation and Unified Modeling Language) the healthcare process can be compared and optimized with best practices.
Carrying out of clinical trials, single-centre or multicentre studies, conduced at, and in collaboration with clinicians of Local Health Authorities, approved by their relative Local Ethics Committees and performed in compliance with Good Clinical Practice.
Participatory methodologies and approaches (i.e. Open Space Technology and others) to allow motivated health community members to examine their collective needs and assets, as well as to propose sustainable solutions.

Participation in the most relevant European and National projects

- Identifying a possible correlation between the number of CD4+ T cells and viral load in HIV infected naïve patients and its association with different miRNA expression in order to determine a personalized starting point of the therapy. A National project awarded by the Gilead Fellowship Program 2015, PI: db7cd503560.
- *RARE-Bestpractices: a platform for sharing best practices for the management of rare diseases*. A projet funded under European 7th Framework Programme, Grant Agreement: FP7-HEALTH-2012-Innovation-1-305690.
- *A new process with a low environmental impact and reduced workers' exposure for recovering and recycling lead battery components*. A National project funded by the Italian Ministry of Education, PON Ricerca e Competitività 2007-2013, PI: PON01_01366.
- *A model of territorial assistance for patients with chronic respiratory insufficiency*. A National project funded by the Italian Health Ministry, CCM 2010, PI: J99H10000770001.
- A multicentre approach for the management of adults with congenital heart disease. A National project funded by Italian Ministry of Health, Art. 12 bis, comma 6, d.lgs. 229/99.
- *MATCH: Automated Diagnosis System for the treatment of Colon Cancer by discovering mutations on tumor suppressor genes*. A project funded under European 6th Framework Programme, IC: IST-2005-027266.

Description of the principal personnel involved with their relevant experience

(MSc) **Saverio Sabina** is a Computer Scientist with a background in Bioinformatics, Health Informatics (HI), and Health Technology Assessment (HTA).
From 1995 to 2006 he was employed in many companies dealing with health related sodtware. From 2006 he is a researcher at CNR–IFC.
His research interests are focused on in silico pipelines for bioinformatics analysis, clinical registries, medical ontologies, modeling of diagnostic and therapeutic pathways.
5 relevant papers:

- Pulignani S, Vecoli C, Sabina S, Foffa I, Ait-Ali L, Andreassi MG. 3'UTR SNPs and haplotypes in GATA4 gene contribute to the genetic risk for congenital heart disease. Rev Esp Cardiol. 2016 (in press)
- Sabina S, Vecoli C, Borghini A, Guarino R, Andreassi MG. Analysis of miRNAs Targeting 3'UTR of H2AFX Gene: a General in Silico Approach. Microrna. 2015;4(1):41-9
- Panesi P, Foffa I, Sabina S, Ait Ali L, Andreassi MG. Novel TGFBR2 and known missense SMAD3 mutations: two case reports of thoracic aortic aneurysms. Ann Thorac Surg. 2015 Jan;99(1):303-5
- Sabina S, Pulignani S, Rizzo M, Cresci M, Vecoli C, Foffa I, Ait-Ali L, Pitto L, Andreassi MG. Germline hereditary, somatic mutations and microRNAs targeting-SNPs in congenital heart defects. J Mol Cell Cardiol. 2013 Jul;60:84-9
- Gianicolo EA, Bruni A, Rosati E, Sabina S, Guarino R, Padolecchia G, Leo C, Vigotti MA, Andreassi MG, Latini G. Congenital anomalies among live births in a polluted area. A ten-year retrospective study. BMC Pregnancy Childbirth. 2012 Dec 27;12:165

Major contribution to POSITIVe: WG2
Additional contribution to POSITIVe: WG1, WG3

(PhD) **Carlo Giacomo Leo** is an Economist with a background in health economics (HE) and health technology assessment (HTA).
From 09/2013 he is Lecturer at the School of Medicine, Tufts University, Boston. From 06/2012 to 07/2013 he was research fellow at Tufts Medical Center, Division of Clinical Decision Making, Boston. From 2005 he is Researcher at the Institute of Clinical Physiology of the Italian National Research Council (CNR-IFC) and from 02/2014 he is the Head of the Lecce section of CNR-IFC. His interests in the fields of HE and HTA are focused on the economic evaluation of health care programmes, analysis, modelling, representation and implementation of healthcare pathways, evidence synthesis.
5 relevant papers:

- Mincarone P, Leo CG, Sabina S, Costantini D, Cozzolino F, Wong JB, Latini G. Evaluating reporting and process quality of publications on UNHS: a systematic review of programmes. BMC Pediatrics. 2015 Jul 22;15:86
- Pai M, Iorio A, Meerpohl J, Taruscio D, Laricchiuta P, Mincarone P, Morciano C, Leo CG, Sabina S, Akl E, Treweek S, Djulbegovic B, Schunemann H. Developing methodology for the creation of clinical practice guidelines for rare diseases: A report from RARE-Bestpractices. Rare Dis. 2015 Jul 15;3(1)
- Braga L, Vinci B, Leo CG, Picano E. The true cost of cardiovascular imaging: focusing on downstream, indirect, and environmental costs. Cardiovasc Ultrasound. 2013 Apr 17;11:10
- Leo CG, Carpeggiani C, Picano E. Cost and benefit in cardiovascular imaging: the quest for economic sustainability. Int J Cardiovasc Imaging. 2010 Aug;26(6):613-6
- Sabato E, Leo CG, Sabina S. Continuity of healthcare in patients with chronic respiratory insufficiency: a macro-model of care integration between hospital and home. Multidisciplinary Respiratory Medicine 2009; 4(2):112-120

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

COSBI is a public-private partnership between Microsoft Research and the University of Trento. It has access to the large scientific facilities of the University. The team at COSBI is made up of 25 researchers coming from more than 10 countries and with many different backgrounds including molecular biology, nutrition, neuroscience, engineer, computer science, statistics, bioinformatics.

- ***Aims of the Research Group***

develop innovative computational methods to enhance research in systems biology and systems pharmacology. Application of the methods to real-world problems to produce new biological knowledge and ease translational medicine.

- ***Methodologies & Approaches***

systems approach for multiomics data analysis, network analysis and simulation, stochastic algorithms, graphical languages and visualization of multidimensional data-sets. Management of intervention studies and clinical trials. Application of these methods in systems nutrition and systems pharmacology.

Participation in the most relevant European and National projects

COSBI is leading the design and implementation of an European infrastructure for nutrition research in the JPI initiative ENPADASI. COSBI also develops computational methods to analyse multisource, hierarchical, omics data sets for many companies in the fields of systems nutrition and systems pharmacology.

Description of the principal personnel involved with their relevant experience

Corrado Priami is professor of Computer Science at the University of Trento. The results of his PhD thesis on stochastic pi-calculus were the basis for the foundation of the Microsoft Research - University of Trento Centre for Computational and Systems Biology (COSBI), of which he is the President and CEO. Those same results are recognized as fundamental in the field of systems biology by an expanding international community, which is using them to model the behavior of biological systems (the CMSB conference is a milestone of this). He was member of the expert group on the EU 7th FP of the CRUI and has participated in many EU projects (also as coordinator) for the advancement of emerging areas of research. He serves on evaluation committees for EU projects as well as for many international funding agencies. He is a member of the Scientific committee of Fondazione Veronesi. His research covers computational methods for the modeling, analysis, and simulation of biological systems and programming languages. He published over 180 scientific papers, gave more than 50 invited talks and lectures at conferences and universities around the world, participated in many program committees for international conferences (also as chair). He founded the international conferences “Computational Methods in Systems Biology (CMSB)” and “Converging Sciences”. He was a member of ISTAG-FET (Information Society Technologies Advisory Group - Future and Emerging Technologies) of the EU Commission.
Contact: priami@cosbi.eu

Major contribution to POSITIVe: WG2, WG3
Additional contribution to POSITIVe: WG1

Marie-Pier Scott-Boyer obtained a BSc, an MSc and a PhD in bioinformatics from the Université de Montréal, Canada. Her master’s degree was conducted at the Institute for Research in Immunology and Cancer (IRIC) where she worked on machine learning and annotation of non-coding RNAs in Candida albicans. Her PhD research project was conducted at the Institut de Recherches Cliniques de Montréal (IRCM) where she worked on the development of a software to integrate high-dimensional genetic and genomic data. Moreover, she conducted analyses on the genetic control of gene co-expression network to understand the genetic architecture of cardiac phenotypes.

Major contribution to POSITIVe: WG1, TTG
Additional contribution to POSITIVe: WG3

Sébastien Lacroix obtained a BSc in biochemistry, an MSc in clinical research and drug development and a PhD in nutrition from the Université de Montreal, Canada. His PhD research project was conducted at the Cardiovascular prevention and rehabilitation center of the Montreal Heart Institute. The main focus of his project was the evaluation of the postprandial endothelial response to a Mediterranean-type meal in comparison to a saturated fatty acid-rich meal in healthy young subjects. The influence of fasting triglyceridemia, background dietary habits and fatty acid profiles on postprandial endothelial and metabolic functions was also evaluated.

Major contribution to POSITIVe: WG2, TTG
Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

The host group is an inter-departmental research team that comprises researchers from three different departments (Food Science, Pharmacy, and Clinical and Experimental Medicine) and is run by Prof. Daniele Del Rio in collaboration with other staff researchers, all working within the University of Parma. The group boasts a long history in the fields of bioactive metabolites, dietary interventions, and *in vitro* and clinical research on chronic diseases, as witnessed by publications in top journals –more than 150 over the last decade- and a plethora of world-wide conference lecture invitations. Group members have also been involved in various European food and biomedical research programs (FP6, FP7) and are presently involved in several competitive projects. They alsoactively collaborate with some of the most relevant Italian food companies, as well as with nutraceutical and pharmaceutical ones.
The different units are spread between the University Scientific Campus (Parco Area delle Scienze) and the Joint Biotechnology Campus (Complesso Biotecnologico Integrato), which also comprises the Medical Clinical and Therapy Area of the Parma University Hospital. The facilities of the host group include UHPLC-Linear ion trap and UHPLC-LQT-FT-Orbitrap mass spectrometer systems for metabolite identification and an UHPLC-triple quadrupole mass spectrophotometer for quantification purposes. It possesses a lab for the synthesis of (conjugated) metabolites fully equipped (purification by HPLC or crystallisation, 1D and 2D NMR, FT-IR, and high-resolution mass analysis). The host group also counts on all the facilities/infrastructures needed to accomplish the study of the bioactivity of phytochemicals, mainly of (poly)phenolic compounds, in cell and animal models linked to the onset and progression of different pathologies.

- ***Aims of the Research Group***

The common goal of the ***Laboratory of Phytochemicals in Physiology*** is the elucidation of key mechanisms involved in the prevention of diseases by the compounds present in plant foods. The group has major strengths in food component metabolism and bioactivity in both lab and clinical settings.

- ***Methodologies & Approaches***

To study the effects of phytochemical compounds in human physiology, we 1) use UHPLC separations and tandem mass spectrometry to identify human and microbial metabolites of polyphenolic substances and 2) investigate the mechanisms of action underlying their putatively beneficial effects (in cardiovascular diseases, diabetes, and neurodegeneration) by applying several *in vitro* and *in vivo* experimental models.

Participation in the most relevant European and National projects

During the 10 last years, the ***Laboratory of Phytochemicals in Physiology*** has been involved as partner in European research projects (FP6& FP7). Itis presently involved in different competitive projects funded by the European Food Safety Authority (EFSA), AGER (Bank Foundations), and the National Processed Raspberry Council (U.S.A.).

Description of the principal personnel involved with their relevant experience

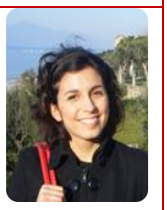
Dr. Daniele Del Rio is Associate Professorof Human Nutrition at the U. of Parma. He has focused his research on studying the bioavailability and metabolism of dietary polyphenols and determining the capacity of these compounds to prevent diseases. Del Rio has been recently named among the most influential Agricultural Sciences researchers worldwide by Thomson Reuters.
He is also a Visiting Scholar & Honorary Senior Scientific Advisor at the Volunteer Studies and Clinical Services of the UK Medical Research Council (MRC) Human Nutrition Research Unit (HNR) in Cambridge and a Visiting Fellow of the Wolfson College at the University of Cambridge.
Contact: daniele.delrio@unipr.it

Major contribution to POSITIVe: WG2, TTG

Role in POSITIVe: MC Member

Dr. Pedro Mena Parreño is an Agronomical Engineer and holds a Ph.D. in Molecular and Cell Biology (2013). He developed his predoctoral work at the Dept. of Food Science and Technology of CEBAS-CSIC (Spanish National Research Council) (Murcia, Spain). Pedro is presently working as post-doctoral fellow at the Laboratory of Phytochemicals in Physiology. He has worked actively on the effect of processing and storage on the quality of plant-derived products, with a particular focus on their phenolic composition. His present line of research is focused on the identification of phytochemicalmetabolites in biological fluids, the bioactivity of phenolic compounds in animal and cell studies, and the peripheral metabolism of phenolic metabolites.
Contact: pedromiguel.menaparreno@unipr.it

Major contribution to POSITIVe: WG2, TTG



Dr. Margherita Dall'Asta has a Master degree in Food Science and Technology and received is Ph.D. in Food Science at the University of Parma and a Ph.D in Fundamental and Therapeutic Pharmacology atthe University of Montpellier 1 (France), after attending the Laboratory of Pharmacology and Experimental Physiopathology at the Institut des Biomolécules Max Mousseron (IBMM) (Montpellier).
She is working as a post-doctoral fellow at the Laboratory of Phytochemicals in Physiology. Her research is based on polyphenolic compounds. In particular, she works both on the modification induced *in vitro* by the intestinal microflora on polyphenolic compounds present in foods, and on the evaluation of the bioactivity of polyphenolic metabolites produced in humans in different models of *in vitro* cellular cultures.
Contact: margherita.dallasta@unipr.it

Major contribution to POSITIVe: WG2, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

University of Teramo was established in 1993, and hosts 16 Degree Programmes, more than 20 Masters, 6 Specialisation Schoolsand is involved in 10 research areas (http://www.unite.it/UniTE/Engine/RAServePG.php/P/35941UTE2833).
The Faculty of Bioscience and Technology for Food, Agriculture and Environment (http://www.unite.it/UniTE/Engine/RAServePG.php/P/25671UTE2851) of the University of Teramo (UNITE), was founded in 2013 as joint institution of the Faculty of Agriculture (born in 1998) and the Department of Food Science. It encompasses degree programmes related to the agro-food area: Food Science and Technology (1st and 2nd level Degree), Oenology and Viticulture (1st level) and Biotechnology (1st level).

UNITE is promoter of training initiatives in a Lifelong learning perspective and post-graduated master courses (e.g. Valorisation of the Protected geographical areas and Agro-food quality, GESLOPAN). UNITE hosts the Ph.D. degree programme on Food Science.
Research activities are carried out on various aspects of agro-food supply chain in 8 Research Units and properly equipped laboratories (Food Technology; Chemical Methodologies and Food Analysis; Agricultural economics; Food and environmental microbiology, Food safety, Agronomy and Crop Sciences; Energy and Environment; Biochemistry). It was/is involved in various projects supported by national and international, public and private entities also in collaboration with food industries.

UNITE was/is involved in several EU projects (IDEAS, COOPERATION, PEOPLE, Marie-Curie programmes). In the agro-food field since 2005 UNITE was/is involved in Erasmus Academic Thematic Networks (ISEKI_Food2; ISEKI_Mundus; ISEKI_Food 3, and ISEKI_Mundus 2; I.S.L.E.) and in the FP7 KBBETrack_Fast. It has been the coordinator of the Erasmus Thematic network ISEKI_Food 4 (www.iseki-food4.eu) and currently is partner of the Erasmus+, KA European FoodSTA project (http://www.food-sta.eu/).

- ***Aims of the Research Group***

Study of:

- effect ofprocessing and/orstabilization, conventional and innovativetechnologieson quality characteristicsof raw materials, ingredientsand processed foods;
- technological functionalityoffood componentsand design offormulatedfoods;
- chemical factors, physicaland structural propertiescaninfluence the quality andstabilityof food;
- enhancement ofbiodiversity inagro-food production;
- wine processing and quality

- ***Methodologies & Approaches***

The Food Technology Research Unit comprises scientists with a long experience on food processing by conventional (heat treatments, freezing, drying, osmotic dehydration) and innovative (high pressure, vacuum impregnation) technologies as well as quality properties including the sensory and health ones.
Current studies are aimed to understand process-structure relationship and how process and composition could affect bioactivity and bioavailability as well as technological functionality of key components.
Studies are carried out in laboratories equipped with the main analytical instruments including (GC-Ms, GC- FID, HPLCs, Electronic Noses, Ion Exchange Chromatography, FTIR-Spectrophotometer, DSC, Instron dynamometer, Laser Granulometer, Light Microscopes, Image Analysis system, tensiometer and interfacial rheology equipment, spectrophotocolorimeters, rheometer, LC-MS-MS, MALDI-TOF-TOF); HP Homogenizer; air-vapour combined oven; freeze-dryer; atmosphere packaging facilities; vacuum Impregnation; freezers.

Participation in the most relevant European and National projects

National projects:
CIPE project- Italian Ministry of Industry: "Enhanced value of traditional food products from Abruzzo region by quality improvement" Italian Ministry of Agriculture (MIPAF + INRAN)(2010-2013)
AGER**Ager - Agroalimentare e ricerca (2011-2014):** Novel strategies meeting the needs of the fresh-cut vegetable sector - STAYFRESH, Research Unit of University of Teramo: Vacuum Impregnation of vegetables (P. Pittia, R.U. coordinator).
Project POR FESR Abruzzo 2007-2013 (2012-2014): Industrial research for the improvement of the colour and flavour stability in foods" (R.I.S.C.A.) (P. Pittia: Scientific committee coordinator and R.U. Coordinator).

EU projects
ISEKI_Food 4 (Erasmus Thematic Academic network) (2011-2014) (P.Pittia Coordinator)
SUSORGANIC (ERANET PLUS CORE ORGANIC PLUS 2013) – Development of quality standards and optimised processing methods for organic produce (2015-2017) (P. Pittia, R.U. coordinator).

Description of the principal personnel involved with their relevant experience

Paola Pittia is associate professor in Food Science and Technology and Deputy rector of the University of Teramo for internationalisation and joint degrees.
Her research activity is focused on physical, chemico-physical and rheological properties of foods and flavour release in food matrice. Main recent interest is on the technological functionality of food components and bioactive compounds and structure-processing relationship in colloidal systems.
She was/is scientificcoordinator of researchescarried out in national and international projects and in collaboration with food industries.
Paola Pittiawas vice-chairperson and the Italianrepresentative of the COST Action n. 921. Sheisco-editor of two international journals (Italian J. Food Science, Int. J. Food Studies).
She was the coordinator of the Erasmus Thematic Network ISEKI_Food 4 (www.iseki-food4.eu, 2011-2014).
Sheis the President of the ISEKI Food Association (IFA) and member of the Italian Food Technology Association (SISTAL); she is registered as Food Technology professional at the Italian Order of Food Technologists.
http://www.unite.it/UniTE/Engine/RAServePG.php/P/58511UTE0413?&VRIC_IDOC=308
Email: ppittia@unite.it, paola.pittia@gmail.com

Major contribution to POSITIVe: WG1, WG3, FG

Role in POSITIVe: Substitute MC Member

Carla Daniela Di Mattia is junior Researcher of Food Technology at the Department of Food Science and Assistant Professor at the Faculty of Agriculture of the University of Teramo, Italy. Main research topics: 1. Antioxidant activity of food products; 2. Effect of processing on the antioxidant activity of food products 3. Antioxidantactivity of bioactivecompounds in emulsions. 4. Food colloids
http://www.unite.it/UniTE/Engine/RAServePG.php/P/58511UTE0413?&VRIC_IDOC=666
Email: cdimattia@unite.it

Major contribution to POSITIVe: WG1, WG3, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

Basic direction of Latvian Rigas Stradins University is Medicine and our 12 –years research experience focuses on changes in metabolism as free radicals and food related pathologies on cell and whole organism level, methods of prevention and correction.

- ***Aims of the Research Group***

Study of various plants extract –lignins, diarylheptanoids /oregonin/,terpens, stilbenoids influence on intermetabolits-piruvate, lactate ,glucose in cross-sectional patients groups with dysmetabolism :diabetes mellitus-2, obesity, metabolic myocardiodystrophy. Detection of ROS changes under plants substances in blood, gastrointestinal juices. Action of these extracts on digestion processes and blood coagulation systems.

- ***Methodologies & Approaches***

Standard biochemical tests: OSMOMAT 030-D, DO 6+,CEC-77-,HALO-SB 10,CA-04C,FORM OX , osmotic pressure testing in biological human fluids, degree of oxygenation, time of platelets aggregation, fibrinolysis included; Blood-bank from patients with dysmetabolism /Dietological Centre, Jurmala/;Models of digestion –oral, gasrtric, duodenal with normal bile activity and without / Human Physiology and Biochemistry dpt./,active bio-extracts produced by Latvian State Institute of Wood Chemistry

Participation in the most relevant European and National projects

COST Action FA 1005 INFOGEST, European Project OSMOZE /Latvia-France/ , Bi-lateral resaerchand lecturesproject : RSU/Latvia/-Limoge University /France/ , National collaboration with Latvian State Institute of Wood Chemistry

Description of the principal personnel involved with their relevant experience

Prof.Jelena Krasilnikova,Dr.Med.,Ph.D.Head of project, Speciality :Cardiology and Medical Biochemistry, author of 12 Patents-LV, related to metabolism and new active plants form; MC member of COST Action FA 1005 INFOGEST.
Contact: Jelena.krasilnikova@rsu.lv

Major contribution to POSITIVe: WG2

Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

Kaunas University of Technology (KTU) is a leading technological university in Lithuania and a founder of 2 integrated Science, Studies and Business Centres (Valleys). For more than 60 years, Department of Food Science and Technology (KTU) is the main university level department in Lithuania, providing BSc, MSc, PhD in the areas of Food Science and Technology. This unit initiated the establishment of Competence Centre of Food Science and Technology (KTU), hosting laboratories of Food Technology and Engineering, Food Quality, Food Biochemistry, Cereal Science and Technology, Food Structure and Rheology, and Bioactive Compounds and Functional Food Ingredients. The department actively collaborates with a number of European universities and research centres, leading to the joint research projects and publications in peer-reviewed journals. The academic and scientific personnel of the department act as leading experts in scientific advisory boards of national governmental bodies, as Lithuanian representatives in a number of international scientific associations and societies (e.g. IUFoST, EFFoST, ISEKI, EHEDH, IFT, SCI, PSNA, COST Actions) and editorial board members of several scientific journals. The unit, together with Tallinn University of Technology and Latvia University of Agriculture, organizes an annual Baltic Conference on Food Science and Technology FOODBALT.

- ***Aims of the Research Group***

Investigations of plant bioactive compounds and chemical reactions in foods, development and evaluation of functional ingredients for functional foods, nutraceutical and other applications.

- ***Methodologies & Approaches***

(1)Optimization of the biorefining-based isolation and fractionation methods of bioactive constituents from various plant sources and related food industry by-products, using conventional and modern (supercritical fluids, high pressure liquids, enzyme-assisted extractions) techniques; (2) Characterization of antioxidant, antimicrobial, flavour and other functional properties of plant extracts, fractions and purified compounds and assessment of possible applications thereof as functional ingredients for improving food quality and biological/nutritional value; (3) Identification and quantification of plant bioactives by means of comprehensive chromatographic separation/mass spectrometry techniques; (4) Impact of various endogenous food ingredients on the course of chemical reactions in foods and food-related model systems. Investigations of the possibilities to use plant extracts for controlling heat-induced (e.g. non-enzymatic browning reactions) and oxidation (lipid oxidation) reactions in foods.

Participation in the most relevant European and National projects

Research group has been involved as partners in European and international projects (FP4, FP5, FP6, FP7, EUREKA, NorFA, French-Lithuanian Programme of Integrated Activities “Gilbert”), also as coordinators of National Research Programme “Healthy and safe food” (BIOFITKOMPONENTAI, UOGBIOGENA, NANOKRAKMOLAS, UOGBIORAF) and market-orientated research projects with business partners.

Description of the principal personnel involved with their relevant experience

Dr.Vaida Kitrytė is Lecturer and Early Stage Researcher at KTU. She received her joint PhD in the field of Physical Sciences: Chemistry (KTU, Lithuania) and Applied Biological Sciences: Chemistry (Ghent University, Belgium). Her research initially was focused on the interaction of the Maillard reaction, lipid oxidation and phenolic compounds in food-related model systems and its influence on the antioxidant properties of melanoidins. Currently she is involved in the bio refinery of food industry by-products (berry pomaces and brewer's spent grain) into high-value functional ingredients applying supercritical CO_2, enzyme-assisted and accelerated solvent extraction techniques, followed by identification, quantification and the *in vitro* antioxidant activity assessment of isolated bioactive plant constituents.

Contact: vaida.kitryte@ktu.lt; vaida.kitryte@ktu.edu

Major contribution to POSITIVe: WG1, TTG

Role in POSITIVe: MC Member

Dr. Rimantė Vinauskienė is Associated Professor at KTU and Head of Meat and Fish Product Technology laboratory at the Competence Centre of Food Science and Technology (KTU). She received her PhD in the field of Technological Sciences: Chemical Engineering (KTU, Lithuania). Her research work is mainly focussed on the investigations and possible applications of natural endogenous food constituents for improving meat product quality and biological/nutritional value in order to minimize the usage of synthetic food additives in food industry.

Contact: rimante.vinauskiene@ktu.lt; rimante.vinauskiene@ktu.edu

Major contribution to POSITIVe: WG1

Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

Organisation & Facilities

The LIH is a public research institute with over 300 employees, created in January 2015, from the former public research centre CRP-Santé and the Integrated Bio-Bank of Luxembourg (IBBL). The LIH is structured into 3 science and 1 support oriented Department, encompassing the Oncology Department, the Infection & Immunity Department, and the Department of Population Health, with the latter employing around 90 persons.
Within the DOPH several groups are working around the domains of life-style factors and health. Facilities include a Human Biomonitoring platform with e.g. LC-MS-MS (triple-quad), GC-MS-MS, GC-MS, UPLC/HPLC; a cell-culture laboratory with several incubators, laminar flow boxes, and cell lines (Caco-2, HT-29) established in order to study aspects of cellular uptake; zebra-fish facility, and a bio-statistical support unit. Additional facilities outside the Department include a Proteomics and a Transcriptomics platform.

Aims of the Research Group

To address major public health issues relevant for Luxembourg and the international community. We carry out a number of epidemiological studies, clinical trials, and experimental investigations in key areas such as cardio-metabolic and neurodegenerative diseases, behavioral and nutritional aspects of chronic disease prevention, economic evaluations of health interventions.
The department is responsible for a range of public health consultancy activities and services such as disease registries. It relies on expertise from a number of disciplines (epidemiologists, clinicians, basic scientists, statisticians, methodologists, clinical trials, translational researchers). We envisage to foster interdisciplinary and translational research collaborations across the different units of the department, strengthen networks with national and international partners and stakeholders.

Methodologies & Approaches

- Intervention clinical trials of bioavailability of micronutrients and phytochemicals,
- Public Health - studying interrelation of micronutrient & phytochemical intake and health related endpoints based on epidemiological data,
- In vitro digestion studies focusing on interactions between nutrients and micronutrients and their bioaccessibility,
- Proteomic and transcriptomic studies focusing on pathways involved in oxidative stress and inflammation in relation to secondary plant compound interventions.

Participation in the most relevant European and National projects

Several national and EU-projects around plant bioactive compounds and health, e.g. BIOCAR, CAROPOL, PROTHEART, EU- COBRA (core-organic), EU-EUREKA (Eurostars), as well as participation in a number of COST-actions (INFOGEST, MITOFOOD, EUROCAROTEN). Organizing regular local nutrition conference NULUX. Hosting the “International Journal for Vitamin and Nutrition Research”.

Description of the principal personnel involved with their relevant experience

Dr.Torsten Bohn is Project Leader at the Luxembourg Institute of Health. He is also in Editor-in-Chief of the International Journal of Vitamin and Nutrition Research.
He has been active in the domain of micronutrient and phytochemical bioavailability and bioactivity for over 15 years, with a focus on polyphenols and carotenoids. He has been involved in several clinical human trials focussing on absorption of micronutrients/phytochemicals, as well as studying their metabolism and their relation to oxidative stress and inflammation. Additional interests include cellular models of absorption/bioactivity, proteomics, and mass-spectrometry methods (Nano-SIMS, TIMS).
Contact: torsten.bohn@gmx.ch

Major contribution to POSITIVe: WG1

Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

As an agency of the Ministry of Health, Welfare and Sport, the National Institute for Public Health and the Environment (Rijksinstituutvoor Volksgezondheiden Milieu, RIVM) is a governmental research and knowledge institute providing policy support to the Dutch government. RIVM performs tasks to safeguard and promote public health and environmental quality in the Netherlands. In its role as trusted advisor, RIVM provides the government with impartial advise on infectious diseases, vaccination programmes, population screening, life style, nutrition, pharmaceuticals, environment, sustainability, safety and security. The main tasks of RIVM are: 1) to conduct research; 2) to provide policy advice and recommendations; 3) to direct and implement prevention and control response (e.g. national coordination of health and environmental monitoring programmes); 4) to coordinate intervention programs; 5) to provide information to professionals and the general public. Our experts participate in various international networks and are members of many international scientific committees and experts panels of the EU. RIVM also carries out activities for other international organizations such as the World Health Organization (WHO) and OECD.

- ***Aims of the Research Group***

Moreover, RIVM transfers knowledge specifically aimed at capacity and institution building in for instance pre-accession countries and developing countries.
RIVM's commissioning bodies consist of ministries (the Ministry of Health, Welfare and Sport, the Ministry of Infrastructure and Environment, the Ministry of Economic Affairs, Agriculture and Innovation) and various public services such as the inspectorates. The scientific quality of RIVM work is monitored by the Scientific Advisory Board, which includes a number of well-respected scientists. The independent position of RIVM is set down in statutes.

- ***Methodologies & Approaches***

Currently, RIVM has about 1,350 employees (fte). In 2012, it published 225 reports and 900 scientific articles. RIVM has a proven track record regarding the execution of EU funded projects. Currently RIVM participates in around 45 FP7 projects. Our researchers are members of more than 200 international expert committees of the EU, WHO, OECD and other international organizations and provide scientific advice for policy development. RIVM regularly performs research and provides advice to EU agencies such as EFSA, EEA, ECDC and EMA.

Participation in the most relevant European and National projects

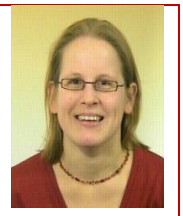
Many employees of the RIVM are involved as PI or WP leaders in various EU programmes and similar activities such as: BRAFO, Qalibra, Efcoval, Bepraribean, DioGenes, InterAct, EPIC, EuroFIR, …

Description of the principal personnel involved with their relevant experience

Prof. Hans Verhagen (1957) is Senior Scientific Advisor 'Nutrition and Food Safety' at the National Institute for Public Health and the Environment (RIVM), The Netherlands. He studied at the Universities of Nijmegen (NL), Paris (FR), and Maastricht (NL). He worked in contract research (TNO, NL) and for industry (Unilever). He is board-certified as nutritionist and as toxicologist. He is member of the EFSA-NDA Panel from 2006. Current interests are health claims, integrated benefit-risk, novel foods, food safety, food additives, food fortification, biomarkers, antioxidants, food reformulation, nutrient profiles, logo's, food security. Since 2009 he is a visiting professor at the University of Ulster (Northern Ireland). Prof. Verhagen has (co-)authored ~150 peer reviewed scientific papers, and many hundreds of scientific reports.
Prof Verhagen can facilitate publishing project outcomes in the European Journal of Nutrition & Food Safety of which he is the chief-editor http://www.sciencedomain.org/issue.php?iid=513&id=30.
Contact: hans.verhagen.rivm.nl

Major contribution to POSITIVe: WG3, TTG

Role in POSITIVe: MC Member



Suzanne Jeurissen (PhD, ERT) is risk assessor human toxicology and project leader at the Centre for Nutrition, Prevention and Health Services of the National Institute for Public Health and the Environment (RIVM) in the Netherlands. She studied Human Nutrition (specializations toxicology and physiology) at Wageningen University. In 2007, she obtained her PhD at the Division of Toxicology and the Laboratory of Organic Chemistry of Wageningen University with a thesis entitled "Bioactivation and genotoxicity of the herbal constituentssafrole, estragole and methyleugenol". She is registered as a European Registered Toxicologist. From 2007 onwards, she works at RIVM. Her main activities include risk assessment and policy advice on chemical substances in food, in particular botanicals, food additives and food flavourings. She also coordinates the 'RIVM-RIKILT front office food and consumer product safety' for urgent ('*ad hoc*') risk assessments and contributes to the Joint FAO/WHO Expert Committee on Food Additives (JECFA) as WHO Expert on food additives .

Major contribution to POSITIVe: WG3

Eugene Jansen (PhD) finished his Masters study in chemistry at the Technical University of Eindhoven and his thesis at the Universities of Utrecht and Groningen. After a post-doc period at the Chemical Endocrinology Department at the Erasmus University in Rotterdam he was employed at the National Institute of Public Health and the Environment where he worked in different laboratories (Endocrinology, Clinical Chemistry, Analytical Chemistry and Toxicology).
He is currently working in the Centre of Health Protection on several projects on biomarkers of nutrition, oxidative stress and aging for the Dutch Food Inspection. He has participated in two project on aging (MARK-AGE and CHANCES), funded by the EC (7th framework).
He runs a bio-analytical laboratory which is specialized in measurements of a broad spectrum of physiological and nutritional biomarkers, such as markers of lipid and fatty acid metabolism, vitamins, minerals, carotenoids, oxidative stress, iron metabolism, inflammation, etc. He is (co)author of about 190 peer reviewed scientific international publications.

Major contribution to POSITIVe: WG2
Additional contribution to POSITIVe: WG3

Dr.Henk van Kranen (PhD) was trained as a molecular biologist in Leiden University (prof. dr van der Eb) and earned his PhD at the Medical Faculty of Utrecht University (prof. dr. J.L. Bos) with a thesis entitled 'Genetic alterations in chemically induced gastro-intestinal tumors and UVB-induced skin tumors of rodents'. In particular causality of anti-carcinogenic compounds as suggested from epidemiological studies, was tested in a variety of chemically induced as well as genetically modified murine models. In the postdoctoral years, amongst others, he expanded his activities in cancer research from experimental animal work to genetic epidemiology and contributed to WCRF's 2007 report as a cancer biologist. More recently he became involved as an editor and advisor in genomics, with special emphasis on public health genomics, nutrigenomics and diagnosis of rare diseases, affiliated with the Institute of Public Health Genomics (IPHG) at Maastricht University.

Major contribution to POSITIVe: WG3

Prof. Monique Verschuren studied Human Nutrion (Wageningen University), specializing in Epidemiology. She is Head of the Department 'Determinants of Chronic Diseases' at the National Institute for Public Health and the Environment and holds a Chair at Utrecht University (Division Julius Center) focussed on 'Healthy Vascular Ageing'. Main focus is vascular diseases and healthy ageing. She is the principal investigator of the Doetinchem Cohort Study, an ongoing longitudinal study that started in 1987, PI of the Dutch EPIC-cohort and member of the international Steering Committee of the EPIC-Study (European Prospective Study into Nutrition and Cancer). She has been involved as work package leader in a number of EU funded projects: EURALIM (2001-2003), EUROCISS-I (2001-2003), EUROCISS-II (2004-2007), FEHES (2006-2009), EHES (2009-2011).She was responsible for the chapter on diet, smoking and physical activity in the 2012 ''European Guidelines on Cardiovascular Disease Prevention in Clinical Practice". At present she is involved in preparation of the 2016 European Guidelines on CVD Prevention, as well as the Guidelines on Lipid Management. She is co-author of over 200 international peer-reviewed papers (H-index=37).

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

Unilever is one of the major Food, Home & Personal Care product companies world-wide, employing roughly 160.000 people. The turnover is approximately 43,000 M€, and about 2.4 % is invested in Research and Development (globally ~6,000 fte staff). Unilever Vlaardingen hosts 900 fte R&D staff and has strengths in food processing and characterisation and design and characterisation of Home and Personal Care products and materials. The Microbiology & Analytical group at Vlaardingen hosts 40 experts in microscopy, spectroscopy and chromatography. The Nutrition & Health group hosts 40 experts across vascular function, epidemiology, bioavailability, micronutrient, lipid & glucose metabolism and data modelling specialities.

- ***Aims of the Research Group***

The aim of Nutrition &Health is to get understandingof the relation between nutrition and health,i.e. the impact of ingredients, foods and dietary patterns on physical and mental health, and to gain expertise in nutrition and health research to identify (and demonstrate) new ingredients and benefits. The aim of Microbiology & Analytical is to use advanced analysis and modeling of compositional and structural datato improve understanding of the product, product/human interactions or production process. Metabolomics is a science area usedto understand the effects of foods on human metabolic regulation.

- ***Methodologies & Approaches***

- Human nutritional intervention studies
- Epidemiology & data modeling
- Metabolomics (nuclear magnetic resonance, high resolution mass spectrometry to characterize foods, and exogenous and endogenous metabolites in biofluids)
- Noninvasive assessment of endothelial function in various vascular beds
- In-silico, in-vitro and in-vivo models to predict and study the bioavailability and ADME profile bio-actives.

Participation in the most relevant European and National projects

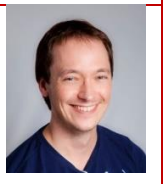
Unilever has been involved as coordinators or partners in various National (Netherlands Metabolomics Center; FND10008 Assessment of Dietary Modulation of Inflammatory Tone, Top Institute Food & Nutrition;CH001 Relevance of vascular function markers)and European (EU ToKGUTSYSTEM, NUTRIMENTHE, LIPGENE) collaborative projects.

Description of the principal personnel involved with their relevant experience

Dr. Doris M. Jacobs is leading the science area of Metabolomics for 8 years at Unilever R&D Vlaardingen. She obtained her PhD in Physical Chemistry at the RWTH Aachen, Germany.Her research is focused on the assessment of the metabolic impact of foods, in particular dietary polyphenols, on humans. As such, she has expertise in analytical profiling methods, advanced statistical analysis and pathway analysis. She has led or participated in several academic-industrial collaborative (National and European) projects.
Contact: doris.jacobs@unilever.com

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1



Arno Greyling is a research scientist in the area of nutrition and health and has been working for Unilever R&D Vlaardingen for the past 8 years. He has a masters degree in human nutrition sciences and his current research focus is on the effects of dietary flavonoids on vascular function and cardiovascular health.
Contact: arno.greyling@unilever.com

Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

Wageningen University is ranked as number two worldwide in the field of Agriculture and Forestry. Human nutrition is one of the key subject areas belonging to the core of Wageningen University. The mission of the **Division of Human Nutrition** is to "*Improve health through better nutrition*". The five chairs of the division (Nutrition and Epidemiology - Nutrition, Metabolism and Genomics – Nutrition and Pharmacology – Sensory Science and Eating Behaviour – Nutrition and Health) have joined their complementary expertise. The added value is an integrated multidisciplinary approach in human nutrition education and research. This approach involves the level of the cell, the individual and the population. Moreover, it covers the full causal chain from determinants of food choice, to intake of foods and nutrients that affects nutritional status and body function, and subsequently health and disease. The **Nutrition and Health** chair group has expertise and facilities to study dietary assessment, food composition, bioavailability, levels of intermediary biomarkers, energy balance, body composition and to carry out controlled human intervention studies.

- ***Aims of the Research Group***

The chair group aims to develop dietary strategies and innovative food-based approaches to optimize nutritional status throughout the human life cycle from infants to the elderly. Topics are e.g. prevention of micronutrient deficiencies in developing countries, slowing down or even reverse ageing related pathologies, optimal nutrition for recovery after medical treatment and sports performance.

- ***Methodologies & Approaches***

- Facilities for randomised controlled trials and human bioavailability studies
- Assessment of vascular function; sensitive electrochemiluminescencemultiple assay methods for biomarkers of endothelial dysfunction and inflammation
- Development and validation of dietary assessment methods
- Epidemiological tools and databases (cohorts) to generate hypotheses on health effects of bioactives

- ***Participation in the most relevant European and National projects***

NU-AGE (nutrition as modulator inflammation); Cardiovascular Health (functional and biochemical markers for CVD); EURRECA (NoE micronutrient recommendations); HarvestPlus (breeding crops for better nutrition); INSTAPA (strategies to improve micronutrition malnutrition); EuroDish (food and health research infrastructure); NutritionAlliance (collaborations with peripheral hospital)

Description of the principal personnel involved with their relevant experience

Peter Hollman is Associate Professor Nutrition and Health at Wageningen University and Senior Scientist at the Top Institute Food & Nutrition (TIFN).
He is working for about 25 years in polyphenol research, and was the first to adapt analytical methods for flavonoids (flavonols) in foods and to create a food table for these compounds. Using these data, his epidemiological evaluation showed an inverse association of dietary flavonol intake with cardiovascular disease. Published in the Lancet, this paper has been cited more than 2600 times and was a major impetus for polyphenol research.His research has a focuson analysis of dietary polyphenols (foods, bio-fluids) and the elucidation of their potential role in disease prevention. Expertise: human bioavailability and metabolism, mechanisms of intestinal transport, cellular uptake, cellular metabolism, identification of functional biomarkers, clinical trials, observational studies.
He is an ISI Highly Cited Scientist, and has published more than 150 papers, mainly on polyphenols and health, which have been cited over 15 000 times. His Hirsch-index is 55.
Contact: peter.hollman@wur.nl

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

Wageningen University (WU) is one of the leading international universities in the domain of agriculture and nutrition, with a position in the top-3 of important international indexes in the domain.Human and Animal physiology (HAP) is one of the front runners in use of nutrigenomics technologies and has optimized this for identification of functional effects of food bioactives and biomarkers for food claim substantiation.

- ***Expertise***

Human and animal Physiology (HAP) at WU offers the expertise for integrated molecular and physiological assessment of dietary intervention studies in humans and rodents. Expertise is in highly controlled, well powered dietary intervention studies combining integrated physiological, molecular, biochemical, immune-histochemical analysis to identify functional targets of bioactives and plant extracts.

- ***Infrastructure***

We are fully and state of the art equipped for rodent dietary intervention and small scale human dietary interventions and to perform molecular biological, cell biological, biochemical and immune-histochemical analysis of samples. We have specific expertise in transcriptome analysis and in indirect calorimetry.
We have a pipeline from experimental design to data analysis for whole genome transcriptome analysis (since 1998). Our expertise is fully focused on analysis of dietary intervention studies, which are characterized by small effect sizes and require control of confounding environmental effects (from background diet to temperature) and relatively small sample sizes. Our infrastructure further consists of parallel indirect calorimetry (InCa) units for analysis of energy metabolism under basic and challenged conditions in rodents. Food and drink intake, locomotor activity, and whole-body energy metabolism as well as other gasses (allowing for monitoring of metabolic fluxes as well as microbial activity) are analysed automatically and in real-time. A variety of challenges can be applied, including the unique option to apply a hypoxic challenge. The InCa is complemented by NMR for non-invasive body composition (fat mass/lean mass) analysis. We have expertise to perform small scale human intervention studies focusing on energy metabolism, with exercise and hypoxic challenges, and transcriptome analysis of various tissues including PBMCs.

- ***Aims of the Research Group***

We are particularly interested in identification of functional effects of food bioactives, functional ingredients (vitamins) and natural extracts as well as in the development of biomarkers for food claim substantiation. Our specific expertise is in the domain of mitochondrial functioning and substrate/energy metabolism related to obesity, reproduction and ageing.

Participation in the most relevant European and National projects

Member of the Management Committee of COST 918: Functional foods and energy expenditure, WP leader in FP-5 DLARFID (Dietary lipids as a risk factor in development), Co-initiator and WP-Leader of FP-6 NUGO (nutrigenomics organization), Coordinator of COST FA0602 (MITOFOOD): Food Bioactives, Mitochondria and Health, Co-initiator and Co-initiator and WP-leader of FP-7 BIOCLAIMS (Biomarkers of Robustness for Claims on Foods). Management committee member of COST action TD1304 (Zinc-net). Management committee member of COST action FA1403 (POSITIVe).

Description of the principal personnel involved with their relevant experience

Dr. Evert van Schothorst is a nutritional physiologist and an expert at the crossroad of the fields of nutrition, substrate metabolism, transcriptomics, and whole body physiology. He is assistant professor at Human and Animal Physiology, Wageningen University, Wageningen, NL, since 2009.Dr. van Schothorst has extensively applied transcriptomics and functional biochemical and molecular assessment in (collaborative national and international, including FP-6 NuGO, FP-7 BIOCLAIMS) projects addressing the physiology of white adipose tissue and the effects of dietary interventions in vivo, especially of food bioactives (polyphenols, flavonoids). He established a physiology unit for rodents in order to use indirect calorimetry and body composition analysis. Moreover, he incorporated additional hypoxia equipment as challenge tests to elucidate subtle changes in metabolic health. He has published more than 45 international peer reviewed publications (H-factor 19). Recent studies focused on dietary retardation of insulin resistance in mice, a human intervention, and physiological responses in mice upon dietary intervention with various polyphenols.

Major contribution to POSITIVe: WG2

Role in POSITIVe: MC Member

Prof. Jaap Keijer (H-factor 33, 140 international peer reviewed publications) is a molecular physiologist. In his research he tries to understand in what manner mitochondrial functions are related to health and how, by modulating mitochondrial functions, health can be improved by functional food components (bioactives, vitamins and other functional ingredients). His chairgroup, Human and Animal Physiology, performs experimental research to study mitochondrial functions, such as energy and substrate metabolism, redox metabolism and mitochondrial dynamics and turnover, in the context of obesity, of aging and age related diseases, and of reproduction. The core expertise consists of dietary intervention studies in rodents, humans and cells coupled to assessment by physiological and in depth molecular and biochemical methods.Prof. Jaap Keijer has experience in working with beta-carotene, b-vitamins and various polyphenols.

Contact: *jaap.keijer@wur.nl*

Major contribution to POSITIVe: WG2

Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

Nofima is one of the largest institutes for applied research within the fields of food, fisheries and aquaculture research in Europe. Nofima supply internationally renowned research and solutions that provide competitive advantages along the complete chain of value.The head office is located in Tromsø, and Nofima has 5 locations in Norway with a total of 355 employeeswhoare currently involved inapprox. 650 projects. Nofima published 175 scientific publications in 2013. Nofima, **Division Food Science** (located in Ås, 35 km south of Oslo)is divided into four departments: (1) Raw materials and Process Optimization, (2) Food Safety and Quality, (3) Food and Health, and(4) Consumer and Sensory Sciences. **Food and Health Department** carries out research in order to gain more knowledge about potential health effects of food products and meals. Food and Health is divided into 3 research groups (Phytochemicals, Carbohydrates and Lipids). We use *in vitro*digestion models, cell culturesand bioassays to study how different foods and different processing methods affect the biological availability and activity of components in a meal.We combine biochemical studies with phytochemical qualitative and quantitative analysis using different LC-UV/Vis-MS/MS systems. Nofima has developed a model of the large intestine, and this allows us to gain knowledge about how food and food ingredients influence the intestinal gut microbiota.We analyse the microbiota in food, humans, farm animals, fish and production environments to study the dynamics of the interplay between bacteria. We also have facilities for pilot food production.Nofima has extensive expertise and experience in the application and development of statistical methods for multivariate- and multi block data analysis for use in large datasets, including biomarker search, modelling of complex relationships and predictions of phenotypes.

- ***Aims of the Research Group***

The main aim is to contribute with knowledge that helps producers to achieve products and meals with optimized health-related quality. We work interdisciplinary to study effects of raw material variability, processing and storage on product quality, bioaccessibility and bioavailability of ingredients and their effects on the digestive system and microbiota.
We aim to increase our knowledge and experience in metabolomics of biofluids (human, animals) in collaboration with others.

- ***Methodologies & Approaches***

Plant food competence and methods for phytochemical quantification (polyphenols, glucosinolates, carotenoids etc); (2) Nofima has established *in vitro* digestion model and in vitro colon model, well suited for screening inter-individual effects of plant substances on human intestinal microbiota; (3) Advanced characterization of gut microbiota with depth sequencing and bioinformatics and statistical tools; (4) Plant food metabolomics (LC-qTOFMS); (5) Multivariate and multi block data analysis of large and complex data sets with focus on selection of discriminating compounds, dimension reduction and prediction of phenotypes and conditions.

Participation in the most relevant European and National projects

Nofima is partner in(1) BACCHUS-Cardiovascular benefits from food bioactives (FP7-KBBE) 2012-2016, coordinated by the Institute of Food Research (UK)http://www.bacchus-fp7.eu(2) FibeBiotics-Dietary Fibres supporting Gut and Immune Function (FP7-KBBE) 2012-2016(3) COST Actions: FA1005-INFOGEST and FA1001-FOODSTRUCTUREDESIGN. National strategic programmes 2013-2016: «Food for Health: Phytochemicals in berries, fruits and vegetables", "Food safety, quality and health benefits – Controlling the microbiota" and "Multi-block methods for prediction and interpretation".

Description of the principal personnel involved with their relevant experience

Dr Grethe Iren Borge is Senior Research Scientist at Nofima, in the Department Food and Health. PhD in Biochemistry, 1998. She is the leader of the strategic research program 'Phytochemicals in fruits and vegetables'. Her research at Nofima since 2002 have been focused on bioactive compounds in plant based foods, antioxidants and lipids with implication for health-related food quality and effects on human health.She has initiated the plant metabolomics LC-MS based platform at Nofima,now used for pre-and postharvest studies of vegetables and berries. The last years she has beenfocusing on Brassica vegetables.Nofima is a partner in the Nordic Centre of Excellence in Food, Nutrition and Health SYSDIET, focusing on systems biology approaches in human intervention studies, where she isa board member.
Contact: grethe.iren.borge@nofima.no

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Dr Ida Rud, Research Scientist at Nofima, in the Department of Food Safety and Quality as well as Dep. of Food and Health. PhD in Biotechnology (2008).Her research field involves studies of beneficial microbes (lactic acid bacteria, probiotics) and how food and food components (e.g. fibre) affects the gut microbiota, formation of metabolites and impact on the gut health. For this purpose, she is using *in vitro* gut models and *in vivo* models and advanced molecular microbiological tools (e.g. omics and microbiota analysis using next generation sequencing), all in close collaboration with chemists and statisticians.
Contact: ida.rud@nofima.no

Major contribution to POSITIVe: WG1, TTG

Dr Kristian Hovde Liland is a Research Scientist at Nofima in the Department of Raw Materials and Process Optimisation. PhD in Applied statistics (2010). His research is mainly related to data pre-processing, variable selection, prediction and classification in single- and multi-block settings. He works with data from spectroscopy and hyperspectral imaging, spectrometry, metabolomics platforms, 16S rRNA, etc. Through projects on plant metabolomics, he has gained experience in metabolite selection with focus on differing metabolite expression due to local environments. In addition, he has published a paper on multivariate methods in metabolomics, describing various possibilities ranging from the processing of raw data to data modelling.
Contact: kristian.liland@nofima.no

Major contribution to POSITIVe: WG1, TTG
Additional contribution to POSITIVe: WG2
Role in POSITIVe: Substitute MC Member

Dr Kjersti Aaby, Research Scientist at Nofima, in the Department of Food and Health. PhD in Food Chemistry 2007. Her research field is on bioactive compounds, primarily polyphenols, in fruits and berries. She is leader of several projects involving berries and how quality and constituents are affected by processing and storage, as well as bioactivity studies involving cell culture studiesand enzyme inhibition (glucosidase, ACE etc.). She is the contact person of the Bacchus project at Nofima.
Contact: kjersti.aaby@nofima.no

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG3
Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

IAR&FR PAS is located in Olsztyn, in Warmia and Mazury province and employs 170staff of which 130 is directly involved in the research. The Institute isranked as the best in Poland in the domain of agricultural research with strong position in life sciences. Institute's mission is to carry out fundamental and applied research in the area of food, biology of reproduction and health. The activities that complement this objective include training young scientists, stimulation of cooperation between science and business to foster socio-economic development and dissemination of research findings to the public at large.
Since 2011, the Institute, through the activities of Research Support Office (RSO), is actively engaged in the development of a network of tailored communication and information exchangeto maximize the transferof Institute's science to its stakeholders, including researchers, policy makers, SMEs, public health and regulatory bodies, and the society at large. Participating in European knowledge dissemination initiatives, RSO is currently implementing Horizon 2020 Marie Curie Actions - European Researchers' Night - aimed at enhancing the public recognition of scientific centresand emphasizing the role of research achievements in elaborating solutions relevant to their end-users.Furthermore, RSO ensures effective communication and translation of scientific findings of other research and supporting action projects realized by Institute's scientists at both national and international level. See: http://www.pan.olsztyn.pl/en/

- ***Aims of the Research Group***

In the field of science dissemination activities Institute's Research Support Office aims to liaise and communicate with various stakeholders, comprising scientists, SMEs and policy making bodies operating in the area of food, health and biology of reproduction to ensure a tailored translation of research results generated in the Instituteinto desired solutions.

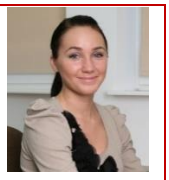
- ***Methodologies & Approaches***

- Elaboration of communication strategy for research and supporting action projects
- Development and dissemination of communication materials: leaflets, posters, webpages, newsletters
- Preparation of press releases, radio and TV broadcasts for different target audiences
- Organization of thematic workshops for SMEs, administration bodies and general public
- Conduct of brokerage meetings
- Participating in Trade Fairs for scientists and SMEs
- Organization of science festivals, popular science workshops and lectures
- Running social media activities: Facebook, Twitter, Youtube channel, Blogs, etc.
- Launching exhibitions depicting science-based information for general public

Participation in the most relevant European and National projects

Protein2Food - Development of high quality food protein through sustainable production and processing
FUSION Night - Find your Passion for Science on European Researchers' Night
TRAFOON - Traditional Food Network to improve the transfer of knowledge for innovation
REFRESH - Unlocking the Potential of the Institute of Animal Reproduction and Food Research for reinforced ERA integration and socio-economic development
Liaison Officer – a network of cooperation and information exchange between science and agri-foodindustries

Description of the principal personnel involved with their relevant experience



Iwona Kieda is working at the Polish Academy of Sciences in Olsztyn as the specialist for knowledge communication. Her professional experience revolves around the dissemination of science-based information for diverse target groups, especially the general public. She has participated in several EU-funded projects, where she was responsible for promotion of project's results and communication of knowledge generated to different end-users. Currently, she is the co-leader of a Horizon 2020 Marie Curie Actions project called European Researchers' Night aimed at enhancing the public recognition of science achievements. In 2014 she was awarded the national title of "Science Popularizer" in the contest organized by the Polish Press Agency and the Ministry of Science and Higher Education. *Contact:*i.kieda@pan.olsztyn.pl

Major contribution to POSITIVe: FG

Role in POSITIVe: MC Member, Steering Committee Member

Brief description of the Research Group

- ***Organisation & Facilities***

IAR&FR PAS is located in Olsztyn, in Warmia and Mazury province and employs 170 staff of which 130 is directly involved in the research. The Institute is ranked as the best in Poland in the domain of agricultural research with strong position in life sciences. Research tasks of the Institute are being accomplished in Division of Food Science and Division of Reproductive Biology. The institute focuses on three fields of research:

- Food quality and safety - mutual interactions between food ingredients and the human body; identification, assessment, and implementation of strategies for improving nutritive and pro-health values of food, identifying harmful reactions in humans to food ingredients, including intolerances, allergies and pathogenicity.
- Reproductive biology. – identification of the reproduction disturbances in animals and humans, introducing new therapeutic techniques and biotechnical methods of infertility prophylaxis and treatment, and designing new tools for protecting biodiversity of animal production and selected species of animals threatened by extinction.
- Human health. - maintaining a comfort life with particular tress put on identifying ethiology of infertility, the influence of food and environment on prophylaxis of diabetes mellitus type 2, allergies, obesity and other diet-related diseases.

- ***Aims of the Research Group***

The research of Department of Chemistry and Biodynamics of Food is focused on qualitative and quantitative changes in biologically-active compounds of plant origin and the total antioxidative capacity of food in technological processes. Investigations cover phenolic compounds, plant biopolymers of different botanic/plant origin, sulphur compounds, inositol phosphates, oligosaccharides, betalain pigments and antioxidative vitamins. Antioxidative properties are studied *in vitro* and *ex vivo* systems, both following their isolation from the food matrix as well as in the presence of other substances naturally co-occurring in food. Studies on animals and in nonclinical medical trials on volunteers that address the bioavailability of biologically-active compounds in respect of changes proceeding in the food matrix upon technological processing are conducted.

- ***Methodologies & Approaches***

- Nonclinical medical research with volunteers
- Animal models (rat, pig, sheep)
- HPLC-MS/MS (QTRAP, TripleTOF)
- *In vitro* and *ex vivo* functional properties
- Modeling food products properties (bakery, fermented products, food additives)

Participation in the most relevant European and National projects

National: “Comparative analysis of the bioavailability of anthocyanins from products obtained from red cabbage and determination of the effect of their intake on the antioxidative capacity of blood serum of consumers” ;
“Flavonoids and their metabolites permeation across the brain barriers in the context of the neurodegenerative changes prevention”.
International: “Application of buckwheat fermented flours for new healthy biscuits development”

Description of the principal personnel involved with their relevant experience

Prof. Mariusz Piskula is a director of the Institute; previously he was leading the Department of Chemistry and Biodynamics of Food. His interest in polyphenols previously focused on their antioxidative potential, than their bioavailability, metabolism and distribution via intervention studies in humans and animals. His research shifted from the impact of food processing on food matrix and polyphenols bioavailability toward their tissues distribution including their transport through biological barriers. His recent work deals with human newborns exposure to flavonoid metabolites via mother's milk and their passage through brain barriers (animal model). Consumer exposure to food components, biomarkers of intake of particular type of foods as well inter-individual variations in bioavailability complete his current interest.

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Major contribution to POSITIVe: WG1

Role in POSITIVe: MC Member

Dr Wieslaw Wiczkowski is assistant professors at IAR&FR PAS and he is responsible for organizing and work of the Laboratory of Metabolomics. His professional interest is focused on the relation between nutrition, metabolism of bioactive compounds, oxidative stress and health. High experience in studies on: qualitative and quantitative analysis of bioactive compounds in food and fodder materials for humans and animals; elaboration methods for phytochemicals isolation from plant materials; measurements of antioxidative properties of phytochemicals in *in vitro* models; testing lipid oxidation in *ex vivo* systems; bioavailability research of bioactive compounds in humans and animals; metabolites of phytochemicals; accumulation of phytochemical metabolites in human and animal tissues (brain, milk, lungs); analysis by means of the HPLC and MS/MS. Specialist in preparing and conducting nonclinical medical research.

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Major contribution to POSITIVe: WG1

Additional contribution to POSITIVE: WG3

Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The Faculty of Pharmacy at the University of Lisbon (FFULisboa) is a highly-regarded research-oriented institution in Pharmaceutical Sciences providing PhD and Master programs aimed at both scientific and professional training of excellence. FFULisboa has an administrative infrastructure offering a vast experience of project management and is the host institution of iMed.ULisboa, a multidisciplinary R&D Unit in Life and Health Sciences, whose mission is to develop novel therapies and approaches to benefit human health through top class research. iMed. ULisboa capabilities are built around a network of 15 research groups organized in 4Program Areas.
The Department of Toxicological and Bromatological Sciences (DCTB) is an Organic Unit of FFULisboa. The DCTB activities are focused in different areasincluding teaching (first, second and third cycles), scientific research and technological development and provision of services to academia and to the general community on different subjects related to quality control of food, water and drugs.The research activities of the Department members are developed at iMed.UL –*Research Institute for Medicines and Pharmaceutical Sciences* mainly in the Chemical Biology and Toxicology group and Pharmacological Sciences group.

- ***Aims of the Research Group***

The members from DCTB have experience in the (1) characterization of bioactives in food plants,(2) evaluation of bioavailability and metabolism of compounds mainly polyphenolics, (3) understanding the regulatory steps and the multiple potential actions of bioactives within the inflammatory cascade is also an expertise field of the group working in straight collaboration with colleagues from the Pharmacological Department and Pharmacological Sciences Group (Pharmacology and Translational Research) from iMED.UL. The (4) design and development of bioactive compounds is also performed in collaboration with the Chemical Biology and Toxicology group at iMed.UL.

- ***Methodologies & Approaches***

- Evaluation of nutritional (*e.g.*Kjeldah, soxhlet) and bioactives content (mass spectrometry, LC-MS/MS)
- Metabolomics (mass spectrometry, LC-MS/MS and access to other mass spectrometry equipment from the National Network Mass Spectrometry)
- In vitro, ex vivo and in vivo bioactivity evaluation (animal models and human studies):a) Cellular studies; (b) Effects on biomarkers on oxidative stress, lipidemia, glycaemia, inflammation; c) Effects on myocardial, renal, brain and hepatic ischemic reperfusion injury;
- Design and development of bioactive compounds (e.g. glycosides, flavonoids, glycolipids, lipoaminoacids) towards biotechnology-derived pharmaceuticals and nutraceuticals and protection against disease, as cancer and neurodegenerative
-

- ***Participation in the most relevant European and National projects***

European Projects: (i) SOLIBAM, Strategies for Organic and Low-input Integrated Breeding and Management, 2010–2014, FP7 KBBE-245058; (ii) LEGATO: "LEGumes for the Agriculture of TOmorrow", 2014–2017, FP7613551; National projects funded by FCT: (i) “Exploiting antioxidants, flavours and aromas diversity on “broa” bread maize breeding”.Ref. PTDC/AGR-ALI/099285/2008). (ii) “BeGeQA-Exploiting BEanGEnetics for food Quality and Attractiveness innovation”, (iii) “Portuguese traditional meat products: strategies to improve safety and quality”Ref. PTDC/AGR-TEC/3555/2012.

Description of the principal personnel involved with their relevant experience

Maria do Rosário Bronze is Associate Professor at Pharmacy Faculty (FFULisboa), University of Lisbon and investigator at IBET/ITQB. She is coordinator of the Toxicological and Bromatological Department (DCTB) at FFULisboa. She received her PhD from Lisbon University in Pharmaceutical Sciences. Her main interests are the evaluation of quality in food products namely the impact of compounds in organoleptic perception, and more recently the study of bioactives in food matrices and its bioavailability and health effects after consumption in a normal diet. As investigator at IBET (Food & Health Unit) she has worked in different projects with industrial partners. At ITQB she collaborates with the Plant Quantitative Genetics Teamfrom the Plant Cell Biotechnology Laboratory and the Nutraceuticals and Delivery Laboratory. International collaboration with University of Glasgow (UK) and University of Cadiz (Spain).
Contact: mrbronze@ff.ul.pt

Major contribution to POSITIVe: WG1, WG3
Additional contribution to POSITIVe: FG
Role in POSITIVe: Substitute MC Member

Maria Eduardo Figueira, PhD in Pharmaceutical Sciences, Professor of Bromatology and Food Quality Control at Pharmacy Faculty, University of Lisbon and investigator at iMed.UL in area of functional foods studying the role of nutrients and no nutrients in prevention of lipidemia, atherosclerose, DCV, inflammation and cancer.
This research includes evaluation *in vitro*, *in vivo* and *ex vivo* of biomarkers of oxidative stress, lipemia, glycemia and inflammation using supplementation studies in animal models of inflammation (colitis and rheumatoid arthritis), human intervention studies and cell experiments on vascular and immune cells.
Contact: efigueira@ff.ul.pt

Major contribution to POSITIVe: WG2, WG3

Maria H Ribeiro leads investigation in the Biotechnology and Bioengineering area, on the design and development of bioactive compounds towards biotechnology-derived pharmaceuticals and nutraceuticals and protection against disease, as cancer and neurodegenerative. The research is based on rational strategies of: i) enzyme and cell-based culture biosystems with process intensification through miniaturization; ii) enzymes performance improvement in non-conventional and high-pressure systems; iii) tailoring (bio)responsive polymeric biomaterials networks with application in cardiovascular diseases; targeting biocompounds with improved bioavailability, enzymatic encapsulation systems are developed; iv) innovative bioconversions; biosurfactants production; activity and stability studies of soluble and immobilized enzymatic systems for the production of glycosides of polyphenolic, with anti-microbial, anti-inflammatory and or anti-cancer properties are optimized using adequate experimental designs.
Contact: mhribeiro@ff.ul.pt

Major contribution to POSITIVe: WG1, WG3

Bruno Sepodes holds a PhD and Habilitation (*'Agregação'*) in Pharmacy (Pharmacology) from the University of Lisbon. Currently a Professor of Pharmacology and Pharmacotherapy at the Faculty of Pharmacy of the University of Lisbon, he develops his research in Pharmacology and Translational Medicine. Presently Prof. Sepodes is the Chair of the Committee for Orphan Medicinal Products (COMP), member of the Committee of Human Medicinal Products (CHMP) and of the Committee of Advanced Therapies (CAT) at the European Medicines Agency in London. Bruno Sepodes is an expert for the National Medicines Authority (INFARMED) and for the Veterinary General Directorate (DGV). Concerning the involvement in research projects, international collaborations include collaboration with the William Harvey Research Institute (UK), King's College (UK) and Harvard Medical School (USA). He is author and co-author of several scientific publications in international peer reviewed journals and scientific communications (on pharmacology, immunopharmacology, toxicology and therapeutics) presented to national and international scientific meetings. Areas of expertise include: orphan medicinal products development and evaluation; pharmacology of inflammation; ischemia-reperfusion injury; transplantation; human medicines evaluation, general and special toxicology and non-clinical drug development.

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Major contribution to POSITIVe: WG2, WG3

Brief description of the Research Group

- ***Organisation & Facilities***

iBET is a private non-profit institution specializing in biology research and drug discovery/bioprocess development services. As a Biotechnology Research Organization iBET acts as an interface between academic and private institutions while also creating and organizing autonomous knowledge and expertise. This allows us to target areas such as biopharmaceuticals and novel therapies including the development of in-vitro models and methodologies for pre-clinical research and cell therapy applications; protein stability, structure and drug design; water, energy and environment; food and wellness and agro-forestry. As part of our infrastructure we comprise a GMP certified Analytical Services Unit, a Pilot Plant and we have privileged access to the GMP manufacturer Genibet (45% owned by iBET) which together allow us to present solutions for the development of Biopharmaceuticals, from R&D all the way up to phase I/II clinical trials.Recently IBET became the coordinator of an Investigation Unit funded by FCT, iNOVA4Health, a translational medicine program organizing the efforts of biomedical researchers involved in biological understanding of disease, lead compounds and biopharmaceuticals “pre-discovery”, technological scientists involved in “preclinical development”, and clinicians involved in “early clinical and first in man clinical trials” from institutions within NOVA University of Lisbon.Food&Healthunit(F&H) develops work in Food and Nutritional sciences, bringing together laboratories comprising multiple areas of expertise including analytical chemistry, microbiologists, biological, environmental and chemical engineers. Our activity includes development, application and study of analytical procedures for food characterisation (in terms of chemical composition, nutrients and bioactive ingredients) and sensory attributes; fractionation of bioactive molecules with health promoting effects and development of functional products; food safety and food authenticity.

- ***Aims of the Research Group***

Strong expertise on bioactive ingredients isolation from natural sources. Green technologies are applied for the production of enriched bioactive natural ingredients and formulation of adequate delivery systems. Work focused on searching for molecular structures present in natural matrices that could be active in age-related and chronic diseases. The effect of isolated entities on different biomarkers are studied in order to get a deeply knowledge of their potential impact on the prevention of diseases related with frailty and aging. Study of the relationships between composition and function, and in the recognition of synergetic effects between the different molecular entities present in food, dietary supplements and phytopharmaceuticals. In vitro methodologies for evaluating bioactive responses using human cell models and studying the impact of bioactive molecules or enriched bioactive natural ingredients on different biomarkers. These novel approaches can be used as potent tools for pre clinical research and to i) support the health promoting value of the new molecular entities produced by chemical and biological approaches, ii) understand the mechanisms of action of compounds in age-related and chronic diseases and iii) support health effects claimed for functional foods.

- ***Methodologies & Approaches***

Chemical Characterization and Metabolism. Analytical characterization:Phytochemicals, Carbohydrates, Proteins, Sensory analysis. Human metabolism: in vitro digestion and in vivo bioavailability; Transcriptomics, proteomics and metabolomics. Process Tecnology-Design and development of green and sustainable processes. Extraction and Fractionation of Bioactive Natural compounds: SL Extraction (biocompatible solvents); Pressurized Liquid Extraction; Supercritical Fluid Technology; Adsorption processes. Design & optimization of Delivery Systems
Formulation and Development of bioactive and bioavailable forms: Solid material processing with ScCO2; Particle formation technologies; Impregnation by adsorption; Molecular Imprinting. Bioactivity Evaluation-pre-clinical studies. In vitro chemical, enzymatic and cell based assays (2D and 3D): Cytoxicity assessment; Pre-clinical evaluation of antioxidant, anti-inflammatory, anti-proliferative, neuroprotection, cardioprotective, anti-diabete; Transport and permeability studies.

Participation in the most relevant European and National projects

BacHBerry-Bacterial Hosts for production of Bioactive phenolics from berry fruits 20132016, FP7-KBBE.2013.3.1-01
WineSense— Research on extraction and formulation intensification processes for natural actives of wine.2013-2017, Industry-Academia Partnerships and Pathways (IAPP) - FP7-PEOPLE-2013
COST ACTION - EUBis: Food Waste Valorisation for Sustainable Chemicals, Materials and Fuels2013-2017
NutraBRASS,2013-2015- PTDC/AGR-TEC/3790/2012, funded by FCT, Portugal

Description of the principal personnel involved with their relevant experience

Catarina Duarte is a senior researcher at Instituto de Biologia experimental e Tecnológica (IBET) and Instituto de tecnologia Química e Biológica (ITQB). Degree in Applied Chemistry (1991, New University of Lisbon) PhD in Physical Chemistry (1997) and a post-doctorate in Chemical Engineering.
Director of the area of Nutraceuticals& Delivery and Coordinator of Food and Health Unit, at iBET. Responsible for the participation of the IBET in several projects funded by the Foundation for Science and Technology, the private sector, by the EU programs, in Chemistry, Chemical Eng or agri-food. Responsible for technology transfer between academia and industry. Regularly provides support for innovation, research and development of new products, particularly for the food industry.Member of the European Innovation Partnership Working-Group Active Healthy Ageing.
Several collaborations with national and international teams. Experience in advanced training supervision (post-doctoral, doctoral and master's degrees). Research interests include the development of clean technologies for the isolation of biologically active natural extracts, evaluation and validation of specific bioactivities, formulation and development of new functional ingredients, with applications in food processing, cosmetic and pharmaceutical. Winning awards in two editions of "Nutrition Awards" (1st prize (2011) and 1st honorable mention (2012)), promoted by the Portuguese Association of Nutritionists in the category of "Innovation and Product and Service Development", and "Research and development. "
Catarina Duarte is the author of over 75 publications in international journals with prior review, several book chapters and patents on natural bioactive extraction area and development of drug delivery systems.
Contact: cduarte@ibet.pt

Major contribution to POSITIVe: WG3

Additional contribution to POSITIVe: WG2, FG

Ana Matias is Experienced Researcher at IBET (Nutraceuticals and Delivery Lab, Food&Health unit) and she has expertise in development of improved bio-products in particular with health-promoting properties for application on nutraceuticals, natural ingredients or functional foods formulation. She holds a Ph.D. in chemical engineering (Food Technology, 2008), made withinin industrial partnership, involving the development of functional bio-products. She participated in several national and international research projects, including EU-Projects (currently: FP7-KBBE.Project – BacHBerry, COST Action - Food Waste Valorisation for Sustainable Chemicals, Materials and Fuels (EUBis) and WineSense— Research on extraction and formulation intensification processes for natural actives of wine.2013-2017, Industry-Academia Partnerships and Pathways (IAPP) - FP7-PEOPLE-2013
Part of her activity is dedicated to industry funded projects as team member responsible for project management and technology transfer. A. Matias is author of several publications in International peer-reviewed journals on the top 25% of the IF distribution for subjects: Chemical, Food Science and Technology, Materials; International Patent and book chapters.
Contact: amatias@ibet.pt

Major contribution to POSITIVe: WG3, TTG

Additional contribution to POSITIVe: WG2

A.T. Serra is graduated in Biological Engineering from the IST-UTL (Portugal) in 2003. She completed a PhD degree in Engineering and Technology Sciences-Biotechnology at ITQB-UNL in 2010, focused on the valorization of traditional Portuguese apples and cherries through their biochemical characterization and development of functional ingredients. Since 2010 she is Experienced Researcher in the Nutraceuticals Laboratory at iBET, Food&Health unit, where she has been participating (as member or project manager) in several research projects. Her research has been focused on the development of functional foods and phytopharmaceuticals for the prevention of cancer, cardiovascular diseases and diabetes using clean technologies, and their evaluation using in vitro and in vivo models for bioactivity validation.

AT Serra published more than 20 papers in international peer review journals within Nutrition, Food Science and Technology fields. AT Serra is also co-author of several book chapters and papers in conference proceedings. She has presented oral communications and posters in scientific conferences. During the last years the work developed by AT Serra has been awarded by national Associations and Aro-food industry-Nutrition Awards 2011, Nutrition Awards 2012 and Aveleda Award2013-White wine and Health.

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Major contribution to POSITIVe: WG2, TTG

Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

Instituto de Biologia Experimental e Tecnológica (iBET) is a private non-profit institution specializing in biology research and drug discovery/bioprocess development services. As a Biotechnology Research Organization iBET acts as an interface between academic and private institutions while also creating and organizing autonomous knowledge and expertise. This allows us to target areas such as biopharmaceuticals and novel therapies including the development of in-vitro models and methodologies for pre-clinical research and cell therapy applications; protein stability, structure and drug design; water, energy and environment; food and wellness and agro-forestry. As part of our infrastructure we comprise a GMP certified Analytical Services Unit, a Pilot Plant and we have privileged access to the GMP manufacturer Genibet (45% owned by iBET) which together allow us to present solutions for the development of Biopharmaceuticals, from R&D all the way up to phase I/II clinical trials.
In the frame of the Associated Laboratory, with ITQB and IGC (www.igc.gulbenkian.pt), a signed contract with the Ministry of Science and Technology, iBET gathers a unique set of conditions, creating a privileged environment for research career development. Researchers benefit from outstanding research facilities and equipment (Analytical, Mass Spectrometry, Imaging, Crystallography and NMR services) and support structures at various levels facilitate researchers' activities (Technological & Administrative Support, Comm. Office, Science Manager, Industrial Liaison Office and Library).
The scientific activities of iBET are to provide advanced training in an interdisciplinary environment through high quality research work in Chemistry, Biology and associated areas with applications to Health/ Pharmaceuticals, Agroindustry, Forestry, Agrochemistry and Environment.
Its Disease and Stress Biology Laboratory (DSBLab), directed by Dr.CláudiaNunes dos Santosresearch activities are focused on the impact of Polyphenols for Human Health. The research group is composed by 3 post-docs, 3 PhD students and 4 post-graduate students.

- ***Aims of the Research Group***

In DSBLab we are mainly interested in disclosing the potential of plant secondary metabolites and their benefits in the early onset and/or progression in age-related diseases. To reach deeper insights on the molecular mechanisms under control of polyphenols metabolites in human physiology, our approach involves studies on polyphenols bioaccessability (in vitro digestion) and bioavailability (human intervention studies and brain permeability) with the aim of using these assets in cell assays. These two types of polyphenol metabolites: (i) in vitro digested and (ii) human bioavailable polyphenols metabolites obtained by synthesis, have been the basis for our physiological approach in cell functional assays. In particular, we have been focused on berries polyphenols effects on neurodegenerative disorders by using different cell models:
(i)Yeast models for specific mechanistic studies; in particular we have been focused in PD model of alpha-synuclein aggregation.
(ii) Human cell models for neuroinflammation (microglia cells stimulated with inflammatory insult), neurodegenaration (neuroblastomas cells submitted to oxidative injury).
(iii)Blood brain barrier transport (endothelial cells) of both type of metabolites to infer about brain permeability to polyphenol metabolites.
(iv) rat primary culture of neurons to validate the identified pathways in cell lines and
(v) stem cells for implementation of superior cell models of Parkinson disease.
More recently, in collaboration with INSERM (Univ Paris-Sud, France) we have initiated studies of berries polyphenols effects on cardiovascular cell and animal models

- ***Methodologies & Approaches***

- Human intervention studies
- *In vitro* digestion of foods
- Human disease cell models (neuroinflammation, neurodegeneration and in specific Parkinson disease)
- Transcriptomic analysis in biological samples (cells).
- Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot, IC, proteomics), flow cytometry

Participation in the most relevant European and National projects

During the 5 last years, DSBLab has been involved as coordinators or partners in various National (FCT-ANR-CARDIOBDP-"Berries driven polyphenols for Cardiovascular diseases", FCT-"Polyphenols for Parkinson" and "Fundo EDP para a Biodiversidade"), European (FP7-EUBerry and FP7-BacHBerry) large collaborative projects. DSBlab members have been involved in INFOGEST and PROTEOSTASIS Costs Action.

Description of the principal personnel involved with their relevant experience

Dr Cláudia Nunes dos Santos is the co-leader of Disease and Stress Biology Laboratory (DSB lab) at Instituto Biologia Experimental e Tecnológica (IBET)/Instituto Tecnologia Química Biológica (ITQB and was also nominated honorary fellow at James Hutton Institute (JHI) in Scotland.
She is working for 10 years in the field of Polyphenols & Health to study the role of dietary polyphenols in the prevention of neuro degenerative and cardiovascular diseases.
This research includes human intervention studieson the absorption and metabolism of polyphenols to identify circulating polyphenols metabolites and study the molecular mechanisms behind their cytoprotection in cell models of human diseases.

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG2

Andreia Gomes has a degree in Biochemistry and a Master degree in Biotechnology. Currently, she is a PhD student at Instituto de Biologia Experimental e Tecnológica. Her major goals are to investigate the potential biomedical applications of plant secondary metabolites in vivo and in vitro cardiovascular models. Investigate the cellular mechanisms involved in Berries-Driven Polyphenols induced cardioprotection, namely the crosstalk of mitochondrial biogenesis, mitophagy and cell metabolism in order to protect against oxidative stress. Also, she is interest in understanding the mechanisms underlying protective effects of digested berry extracts by proteomic analysis, and also evaluate the cellular redox state of biological samples, such as glutathionylation, carbonilation, 4-hydroxynon-2-enal (HNE) and 3-nitrotyrosine (3-NT).

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1

Ines Figueira is currently a PhD Student from Instituto de Tecnologia Quimica e Biologica (ITQB), under supervision of Dr. Claudia Nunes dos Santos. The main aim of her research work is to understand the potential anti-neurodegenerative properties of human bioavailable polyphenol metabolites, focusing into Parkinson's disease (PD). For that she is using a series of in vitro models, namely: a blood-brain barrier (BBB) cell model (immortalized human brain microvascular endothelial cells – HBMEC), and a Parkinson's disease-induced degeneration model with human dopaminergic neurons (differentiated LUHMES cells). In our lab we are mainly interested in disclosing the potential of plant secondary metabolites and their benefits in the early onset and/or progression in age-related diseases.

Major contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

DTABN is one of the two departments of the Agricultural School of Polytechnic Institute of Santarem, located in a region with several food industries. It has several laboratories for microbiological, chemical and physical analysis of foods, and technological facilities for production of wine, cheese and other animal derived food products.

- ***Aims of the Research Group***

The DTABN mission is to promote education, development and transference of knowledge in the areas of food technology, food safety and food quality, from raw material to the processing of food, its nutritive value and health effects.Scientific Area of Chemical and Physical Sciences main aims are: 1) work in collaboration with Scientific Area of Food Technology for the development of new food products, aligned with a perspective of improving consumers health; 2) ensure food safety and quality; 3) nutritional assessment of different populations and education for healthy eating; 4) Promote interconnection with the industry and society through consulting, nutritional, chemical and physical analyses and workshops.

- ***Methodologies & Approaches***

Area of food quality: color, texture, viscosity, brix, proximate (moisture, ash, protein, fat and carbohydrates), pH, acidity, vitamins, minerals, carotenoids and polyphenols. Sensory analysis.
Area of nutrition: anthropometric assessment, evaluation of food intake and nutritional assessment through food frequency questionnaires, 24h recalls and food diaries.

Participation in the most relevant European and National projects

New Anti-diabetic Agents from Genistatenera – Isolation, Structure Characterization, Synthesis and Mechanisms of Action (National Project, FCT, 2008-2011).
PRICE (Practical Implementation of Coexistence in Europe) (European Project, 2011-2014).
Conservation and improvement of cucurbitaceous (watermelon and cucumber) and solanaceous (National Project PRODER 2011-2015).
Implications of uncertain transgene insertion in maize: effect in protein-coding and non-coding regulatory genes. (National Project, FCT, 2012-15).

Description of the principal personnel involved with their relevant experience

Maria Paula Marinho Pinto is an Associate professor in Agricultural School of Polytechnic Institute of Santarem, in the area of Biochemistry and Nutrition. She was President of the Food Technology, Biotechnology and Nutrition Department from 2010 to 2014 and is currently Coordinator of the Food Quality and Human Nutrition Course and member of the Scientific Council of the Agricultural School. She has been working mainly in the area of nutrition: metabolism of nutrients; bioactive compounds; national and international diet recommendations; diet planning; diet and prevention of non-communicable diseases. Nutritional assessment and food education of children, adults and elderly, in cooperation with local health centres; schools and nursing homes.
She is also a member of the team in the Disease and Stress Biology Laboratory in the Institute of Biological and Chemical Technology, collaborating in studies of attenuation of neuro inflammation by polyphenols and studies of food consumption.

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG2
Role in POSITIVe: MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

Goce Delcev University in Stip is a relatively young university (established 2007) and second in the rank of all universities in Republic of Macedonia. Goce Delcev University has an attribute of integrated university and collaboration between Faculties and Departments is essential for its development.
Through its Applied Research Centre and well equipped laboratories our university provides a solid base for research in the fields of agriculture and medicine.

- ***Aims of the Research Group***

Our research group has been working for almost 2 years on the project entitled "Extraction of capsaicin from hot peppers and determination of its antioxidant properties". Through this project we aim to determine the antioxidative properties of *Capsicum* fruits, containing high percentage of capsaicin and other bioactive compounds. This would be a reason to categorise the hot peppers into functional foods, with various beneficial metabolic effects.

- ***Methodologies & Approaches***

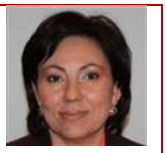
- Spectroscopic and chromatographic analyses of plant extracts
- Electrochemical analyses (cyclic and square wave voltammetry)
- Molecular and cellular analyses: PCR, ELISA, Western blot
- Cell cultures
- Clinical studies

Participation in the most relevant European and National projects

Our research group participate in the national project "Extraction of capsaicin from hot peppers and determination of its antioxidant properties", financed by University Goce Delcev.
The main goal of this project is extraction of capsaicinoids and determination of the content of capsaicin from several different varieties and populations of hot peppers cultivated in Republic of Macedonia. Determination of the anti-oxidative properties of this very important secondary metabolite is also a project activity, which will determine and prove its biological and pharmacological potentials.

Description of the principal personnel involved with their relevant experience

Dr. Liljana Koleva Gudeva is a professor at the Agricultural Faculty, Department for plant biotechnology. She works as a professor more than 10 years and she is specialized in research of different species of Capsicum.The scientific fields of studies of Prof. Gudeva are focused on: Plant Biotechnology; in vitro cultures; androgenesis of vegetable crops; in vivo and in vitro production of secondary metabolites; impact of plant hormones on certain biochemical and physiological processes; plant cells and tissues culture and chemical analysis of secondary metabolites. Contact: liljana.gudeva@ugd.edu.mk



Major contribution to POSITIVe:

Additional contribution to POSITIVe:

Role in POSITIVe:

Dr. Tatjana Ruskovska is Associate Professor of Clinical Chemistry and Biochemistry at the Faculty of Medical Sciences. She has a rich clinical experience as a Clinical Chemist and Head of Central Clinical Laboratory at Military Hospital in Skopje, and 5-year experience as a professor at Goce Delcev University in Stip. She participated in few international collaborative projects. As a Fulbright grantee she spends the Academic 2014/15 year in the U.S. working on her project on dysfunctional adipose tissue in insulin resistance.She has a broad range of expertise: General clinical chemistry, including CBC, general biochemistry, analysis of hormones, tumour markers, markers of inflammation, autoimmunity and allergy; Oxidative stress and oxidative stress biomarkers; Tissue analysis (with focus on white adipose tissue); Cell cultures; Analysis of proteins, post-translation protein modifications, and gene expression; Spectrophotometry, ELISA, PCR, WB. Contact: tatjana.ruskovska@ugd.edu.mk

Major contribution to POSITIVe: WG2

Role in POSITIVe: MC Member

MSci. Viktorija Maksimova is a PhD student working in the field of herbal drugs, especially capsaicin which is giving the pungency of the fruits of hot peppers. By the work on her PhD thesis she is involved in investigating the antioxidative and cytotoxic properties of capsaicin and its analogues. Antioxidative properties are explored by spectrophotometric assays and electrochemical experiments (cyclic and square wave voltammetry).
The cytotoxic properties are investigated by photometric assays on cancer cell lines.
Beside this, she is involved in the practical courses of the students in the fields of pharmacognosy, phytochemistry and phytotherapy.

Brief description of the Research Group

Organisation & Facilities

Research and overall activity are realized in the Institute aims at improving livestock production in the country. It includes the following activities: coordination and implementation of identification, control production and reproductive traits, testing, ranking and selection of breeding material full of all kinds of domestic animals. This activity-based interventions for other zootechnical improvement of livestock production, the continued activity related to the evaluation of feed for all types and categories of animals, quality control and complete ration, introduction of new and unconventional sources of nutrients and their testing practical nutrition, development of technological solutions utilizing feed base, introducing new technologies of breeding animals by defining ambient conditions, nutrition and proper management of animal husbandry with the progress realized through selection and other factors; activities related to processing and finishing of animal products followed by finding the optimal solutions in our conditions; research related to the quality of the water environment as the fish productivity of water and wildlife in it.

Aims of the Research Group

The Institute of Animal Science is divided in 3 research departments, including Department for Nutrition and Foodstuffs Processing. This department research aims with combining classic and modern methodologies are:
1. Chemical determination of nutritional composition of plants, feed, waste products etc.
2. Incorporation of some food and feed supplements and their role in producing of enriching animal products (eggs, milk, meat etc.)
3. Study of benefits of incorporation of some bioactive plants in the animal feed on increasing the quality of the animal products and benefit on human health.

Methodologies & Approaches

- Chemical analysis of food and feed and evaluation of the nutritive value
- Sensory evaluation of food and feed
- Antioxidant capacity of some plant samples
- Evaluation of the enriched animal products with vitamins, minerals or fatty acids.

Participation in the most relevant European and National projects

During the last 5 years, I have activities organizing the V International Symposium of Livestock Production, participating in Mtec Food Safety in Holland (2010), workshop Food Safety For The Region Of South-East Europe in Skopje, Macedonia (2012).

Description of the principal personnel involved with their relevant experience

Dr Natasha Gjorgovska is Head of the Department for Nutrition and Foodstuffs Processing at the research Institute of Animal Science at the University St. Ciril and Methodius in Skopje, Macedonia. She is research scientist working for 10 years in the field of Nutrition with enriching the poultry products especially eggs with vitamins, minerals, omega 3 fatty acids and also with plant bioactive compounds (isoflavones), which are related with human nutrition, consumption and prevention of the cardiometabolic disease.

Major contribution to POSITIVe: WG3, FG

Role in POSITIVe: MC Member

Brief description of the Research Group

The Technical University of Moldova (TUM) was established in 1964. The University is based in Chisinau (Republic of Moldova), it is the only higher technical educational institution in Moldova. TUM is a training, scientific and cultural centre, main purpose of which is offering high level training, perfection and retraining of specialists and scientific staff in various fields, the promotion of scientific research and personality aspirations to deepen and expand their studies. TUM comprises 10 departments and offers courses at about 80 specialties and specializations, preparing engineers for almost all branches of the national economy
The department „Technology and Management in Food Industry" is the biggest higher education school in the field of food industry in the Republic of Moldova.

- ***Fields or research activities***

- Process, technology and product development for the food industry
- Nutrition and health labeling of foodstuffs
- Development of a diet suitable for children and senior
- Development of new products in the interest of a healthy diet
- Improvement of the nutrition value and chemical composition of food products
- Research and practical application of the processes of steeping, oxygenation and purification during the conditioning and making of wine and other alcoholic drinks
- Study of the bio-antioxidant activity in food products
- Quality analysis of critical control points in different fields of food industry
- Improvement quality of meat products for consumers
- Improvement of eating habits and evaluation of food and gastronomic heritage
- Evaluation and proposals to improve meals for school children
- Novel forms of serving to improve dish visual appearance and presentation
- Systemic approach regarding circular economy to optimize food production, processing, commercialization systems
-

- ***Key words***

Health claims of foodstuffs, Food technology, Food quality, Nutrition value
Healthy diet, Food for children, Consumer perception of food additives, Nutrition

Participation in the most relevant European and National projects

FP 7 Project "NUTritional LABeling Study in Black Sea Region Countries (NUTRILAB)". Call indentifier FP7-PEOPLE-2012-IRSES, no.318946 , 2013-2015.

Jean Monnet Project: „EU-compliant methods for youth inclusion into labor market: know-how transfer to Non-EU states ", Call indentifier 2014-2887/553387-EPP-1-2014-1-RO-EPPJMO-SUPPA, 2014-2017.

Description of the principal personnel involved with their relevant experience

Adriana Birca, PhD in economy, professor of Technical University of Moldova. She is engineer-technologist, master in Industrial International Project Management (Technological University of Belfort-Montbeliard (France) and "Transilvania" University of Brasov (Romania). PhD in the Academy of Economic Studies, specialty Science of Food Commodities.

Prof. Adriana Birca was Coordinator of two Moldova-Romania and Ukraine-Romania bilateral Projects and researchers in 7 international projects, Beneficiary of the EU project „Temporary return of representatives of the Moldovan Scientific Diaspora". Member of editorial boards in international journals: Ukrainian Food Journal (Ukraine), Journal of Food and packaging (Bulgaria), Acta Universitatis Sibiensis. Series E - Food Technology (Romania). Member of the Romanian Distribution Association (Scientific Association), affiliated to International Distribution Association AIDA – Brussels; of the Romanian Association of Marketing; Member of the Romanian Society for Information Technology in Agriculture, Food, Environment and Tourism (ROSITA), affiliated to the International Association EFITA.

Major contribution to POSITIVe: FG

Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

Carol Davila University of Medicine and Pharmacy of Bucharest (Carol Davila UMF) (http://www.umf.ro/) is the largest institution of its kind in Romania with over 2.865 employees, 1.654 teachers and over 4.800 students. The **Carol Davila UMF** is using the facilities of 35 clinical hospitals (http://www.umf.ro/index.php/centre-universitare) all over Bucharest such as : N.Malaxa" Hospital, Institutul Clinic Fundeni, Spitalul Clinic de Urgență Militar Central Dr. Carol Davila.

The Carol Davila University of **Medicine and Pharmacy of Bucharest** has 150 lecture theatres and teaching rooms covering 16.980 sqm and a total number of 18 326 places (beds) for treatments and medical teaching in its 35 clinical hospitals

Since November 2010, **Carol Davila UMF is running a new educational system** www.exploremedicinetv.ro . The "Explore Medicine TV" portal , is "A *step forward* in *medical education* " and was developed in partnership with "Sănătatea Media Group" . "Explore Medicine TV" portal is one of the most complex medical education portal in the world being dedicated to students and doctors as well. Recorded and live broadcast of medical interventions can be attended by undergraduate and graduate students as well as physicians. Each year 40 students can participate to exchange programs thank s to the bilateral agreements between the **Carol Davila UMF and universities such as :** University Pierre et Marie Curie (Paris), Oxford University (UK), University of Leipzig, University of Sevilia, University of Bolonia, University of Perugia, Université Libre de Bruxelles.

- ***Methodologies & Approaches***

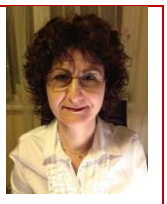
The study (human studies, epidemiology and RCT) of physiological and pathological processes such as carbohydrate and lipid metabolism, adipose tissue dysfunction , atherosclerosis, hypertension, hyperlipidemia, altered insulin sensitivity and weight loss, allergic autoimmune processes in disorders such as metabolic syndrome, cardiovascular diseases, diabetes, obesity and inflammation and allergic disorders.

Participation in the most relevant European and National projects

Relevant International Clinical Studies: RECORD study and ORIGIN study. ORIGIN was a landmark, seven-year clinical trial that randomized over 12,500 participants at high CV risk with impaired fasting glucose, impaired glucose tolerance or early type 2 diabetes mellitus to a once-daily injection of Lantus® versus standard care of their hyperglycemia (treatment limited to none or at most one oral antidiabetic agent).

Description of the principal personnel involved with their relevant experience

Dr Carmen Gabriela Dobjanschi is head of the department of diabetes and metabolic diseases of N.Malaxa" Hospital, and has over 18 years experience in diabetes and related complications, metabolic syndrome and obesity.



Project coordinator in the field of therapeutic education of patients with diabetes mellitus. The prize for excellence in therapeutic education was awarded to Diabetes Centre – "N.Malaxa" Hospital in 2011 by the Romanian Society for Diabetes, Nutrition and Metabolic Diseases.

2006 - to present, teaches courses for medical assistance accredited by EMC

Auditor in the field of quality in 2012.Certificate series G:00295206

Since 2000, main investigator and co-investigator in national and international clinical studies (stage II-IV).

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1, FG

Role in POSITIVe: Partner

Dr. Adriana Mihaela Tudose is working in the area of digestive diseases (oral allergy syndrome, eosinophilic related digestive diseases), autoimmune diseases, drug hypersensitivity, food allergy.She has over 7 years experience in allergology and clinical maynly skin diseases such as atopic dermatitis, all types of urticaria, angioedema, contact dermatitis, phyto/photodermatiti), respiratory diseases (rhinitis, sinusitis, asthma, hypersensitivity pneumonitis, ABP), ocular diseases (conjunctivitis/keratoconjunctivitis), digestive diseases (oral allergy syndrome, eosinophilic related digestive disease), autoimmune diseases, drug hypersensitivity, insect allergy, food allergy. She is specialized on specific techniques for diagnosis and treatment of allergic diseases and has specific allergen immunotherapy experience. Pulmonary functional exploration graduation course "Pathophysiology respiratory and pulmonary functional exploration" (2004). She has received her PhD in Medical Sciences-Magna cum laude in 2011. Her dissertation presented "HLA profile of patients with markers of autoimmunity and hypersensitivity reactions to NSAIDs

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1, FG

Role in POSITIVe: Substitute MC Member

Dr Nicolae Viorel Dumitrescu is working in the area of digestive diseases (oral allergy syndrome, eosinophilic related digestive diseases), autoimmune diseases, drug hypersensitivity and food allergy He also has a secondary training and practice in diabetes and nutrition diseases and over 7 years experience in allergology and clinical Immunology mainly atopic dermatitis, all types of urticaria, angioedema, contact dermatitis, phyto/photodermatitis, respiratory diseases (rhinitis, sinusitis, asthma, hypersensitivity pneumonitis, ABPA), ocular diseases conjunctivitis / keratoconjunctivitis and insect allergy. He also has work experience and training in Advance Life Support at York Hospital, York, (United Kingdom) and training in ICH Good Clinical Practice for Clinical Trial Sites

Major contribution to POSITIVe: WG2, TTG

Dr Petrisor-Eduard ADAMESCU is specialized in diabetes mellitus and metabolic diseases, a member of the Romanian Society of Diabetology. He received his PhD degree in 2011 ans he has competences in specific techniques for diagnosis and treatment of metabolic diseases. Main investigator and co-investigator in national and international clinical studies.

Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

ICSI Rm. Valcea is acknowledged as a reference national institute in the Romanian research field due to the transfer towards the Romanian industry of both technology and know-how. The research activity is orientated to current economic and social demands fulfilment through effort channelling towards a series of research and development alignments, of national and international interest. A special place in our research curricula is taken by the „isotope separation" and „environment and elevating life quality", which have a special significance to the Romanian's alignment to the European standards. The RDTT Department of ICSI has 59 employees, including a permanent staff of 18 scientists, with the main goal to provide highly-specilized knowledge in the food industry and environment protection, using the experience from predilect studies of isotopic exchange processes that take place between abiotic factors and living organisms. The scientific and managerial researcher's experience was built-up and proven by the coordination and participation on many National and European research projects. Over 100 original research articles were published in the 2010-2014 period. The "Environment, Quality and Food Safety Group" is the leading entity of RDTT and uses the human expertise and capability acquired and proven in environmental studies, characterization and authentication of different food matrices (eg. wine, honey, fruit juices, etc.) and has access to proper technical and analytical capability.

- ***Aims of the Research Group***

The **Environment, Quality and Food Safety Group** that brings together the main analytical laboratories aims to provide information / scientific knowledge and instrumental ability to support a number of priority research directions generically grouped as "Environment, Quality of Life and Food Safety". The main research directions are: (1) organic components applications in the investigation of various food, environmental and agricultural processes and (2) stable isotopes studies regarding the relations between abiotic factors and living organism with direct applications in environmental sciences, health and agriculture / food safety and security.

- ***Methodologies & Approaches***

- Application of isotopic investigations in the ecological agriculture for the selection of culture media with positive influences on the evolution of plant organogenetics with direct effect on human and animal health;
- Isotopic investigations regarding plants grown in different ecosystems or treated with water, different mixtures of water and magnetic fluids; Assessing human impact on the environment, by investigating pollutants at trace levels;
- Isotopic investigations on the effects of deuterium depleted water study on the evolution of Trichogramma sp. entomophage collected from polluted ecosystems;
- Establishing optimal methods for detecting products in the wine industry; aromatic wines profile defining as an authentication element of local varieties by chromatographic techniques;
- Application of chromatographic analysis methods to characterize the essential active principles profile (phenolic compounds, sugars, organic acids, amino acids, proteins, micro and macro nutrients, isotopic parameters).

Participation in the most relevant European and National projects

During the last four years, Environment, Quality and Food Safety Group has been involved as coordinators or partners in various National (PNCDII Program 4, 52-158, PNCDII Program 4, 52-162, CEEX – AGRAL, MENER, RELANSIN, CERES) and International (Bilateral project with Rep. Moldova, Ctr. No. 439/23.06.2010, JRC Enlargement & integration action, BSEC). In October 2016 this group will organize the XXI National Conference with international participation (Progress in Cryogenics and Isotope Separation".

Description of the principal personnel involved with their relevant experience

Dr. Roxana Elena Ionete is Senior Research Scientist at the National R&D Institute for Cryogenics and Isotopic Technologies – ICSI Rm. Valcea. She is the leader of the Research-Development & Technological Transfer Department and Vice-president of the Scientific Council of ICSI. Her scientific background is in engineering sciences, with main interest in isotopic data modeling for different applications, including food safety. Her current research is directed toward improving the quality of life, security and environment. Since 2004 she is involved in developing and implementing reliable analytical methods applicable in food characterization, authentication and discrimination by origin.
Contact: Roxana.Ionete@icsi.ro

Major contribution to POSITIVe: WG3, FG

Chemist **Oana-Romina Dinca**, PhD, is a research scientist in the Research-Development & Technological Transfer Department at ICSI Rm. Valcea. She has experience in applying stable isotope techniques for food and beverage authentication, specialized in fingerprinting methods application by NMR and IRMS. The main task during the project is related to fingerprinting by NMR and IRMS including analysis of experimental data. The current research is represented by elemental speciation techniques for organometallics in food samples for a more meaningful risk assessment to better assess the level of corrective action according to toxicity level of the elemental species. She was involved in several national and international projects with the aim to develop analytical methods for quality control and origin authentication of food.
Contact: Oana.Dinca@icsi.ro

Major contribution to POSITIVe: WG3, FG, TTG

Additional contribution to POSITIVe: WG1

PhD physicist *COSTINEL Diana*, is a specialist in stable isotopes determination (deuterium, carbon 13, nitrogen 15 and oxygen 18) from organic and inorganic samples by mass spectrometry (IRMS – Isotope Ratio Mass Spectrometry), with applications in hydro-climatic studies and authentication of raw material from food She is the author of numerous scientific materials within several national projects as coordinator and collaborator. She has experience in introducing new stable isotopes methods for food quality control and is the author of a series of scientific articles concerning the methodology used in studying groundwater movement or freshwater origin, development of analytical methods for origin authentication, food safety confirmation for protection and promotion of inland product identity on the community market. In this project she is the main responsible for application of stable isotopes as origin markers. She has a large experience in development of routine applications for stable isotope methods in food quality control, being also a RENAR technical expert in the field of isotopes for food authentication.
Contact: Diana.Costinel@icsi.ro

Major contribution to POSITIVe: FG

Additional contribution to POSITIVe: WG3

Geana Elisabeta-Irina is a scientific researcher III. Her research initially focused on organic synthesis and chromatographic purification of active principles such as prostaglandins and also physico-chemical characterization of active substances used in pharmaceuticals using various instrumental analytical techniques (HPLC, GC, UV-VIS, IR, NIR, AAS). The main current interests are identification and quantification of essential active principles like phenolic compounds, organic acids, amino acids, terpenes, micro and macronutrients in different food matrices (wine, honey, fruits, plants, organic products, functional foods) by highlighting key biomarkers used in authentication, using the main instrumental analytical (HPLC, UV-VIS, ICP-MS). She was involved in several national projects: CEEX, PN II, sectoral project and Nucleus Programme (2005-2015) with the aim to develop analytical methods for quality control and origin authentication of foods.
Contact: Irina.Geana@icsi.ro

Major contribution to POSITIVe: WG1, WG3, TTG

Popescu Raluca is a scientific researcher III, with hydrological studies using stable isotopes and food authentication using stable isotopes (1H, 2H, 13C, 15N etc.) by NMR (Nuclear Magnetic Resonance) and SNIF-NMR (Site-Specific Natural Isotope Fractionation) as main topics of research. She also is specialized in food and environmental studies using the gas-chromatographic technique. She was involved in national projects that covered food contamination and authenticity studies, environmental contamination studies, hydrological studies using stable isotopes.
Contact: Raluca.Popescu@icsi.ro

Major contribution to POSITIVe: FG

Brief description of the Research Group

- ***Organisation & Facilities***

INSB is a National Institute under the umbrella of National Authority for Scientific Research (ANCS) and it has as core activity the research in life sciences field (fundamental and applied research). INSB research endeavour to further advance the knowledge regarding the basic processes of life, the organisms' development in specific environmental conditions, the biodiversity and the preservation of the national genofund. The evaluation and conservation of biodiversity, the study of aromatic and medicinal plants and derived products, water and soil ecology and methods of phytoremediation and biological pest control are included in the institute's area of interest. The **Centre of Bioanalysis**, formed in 2003, focuses its research activity on four main directions, namely: development of analytical methods for (bio)compounds and (bio)products determination, nano-compositite&biomimetic materials development, plant and plant extracts composition and efficacy assessment and biosensing systems development. It can be observed that interdisciplinary is a key-word of the main activity of the Centre, consequently, the team exists only by functioning interdisciplinary involving several approaches: research, teaching and education and services toward specific stakeholders. Bioanalysis research group gathers 23 persons, 10 senior researchers, 8 early stage researchers, 2 PhD students and 3 technicians. 68 ISI-ranked research papers were published by the Bioanalysis research group in the period 2010-2015 and the Centre has been involved as partner in 3 European Framework Projects (FP6 & FP7) during the last 10 years.

- ***Aims of the Research Group***

The Bioanalysis group has experience in biosensing systems development for the assessment of active principles and determination of contaminants, in the development and validation of analytical methods for bio-compounds and bio-processes characterization, in plant and plant extracts composition and efficacy assessment and bio-mimetic materials design, characterization and application.

- ***Methodologies & Approaches***

- Biosensing field: electrochemical sensors and biosensors;
- Development and validation of analytical methods for bio-compounds and bio-processes characterization: chromatographic, spectrometric (FTIR, Mass-Spectrometry, MALDI, fluorescence) and electrochemical hyphenated techniques;
- Plant and plant extracts composition and efficacy assessment: chromatography; selective membranes; spectrophotometry;
- Bio-mimetic materials design, characterization and application: functionalized nanoparticle supports as potential carriers for active substances.

Participation in the most relevant European and National projects

During 2010-2015 the Bioanalysis research group has been involved as coordinator or partner in 10 National Projects (NEWBIOVECT, SENSWINE, HIVEGRES, IMONBIO, BICLEANBIOS, ANTIOXWIN, PN-II-RU-TE-2011-3-0037), 2 European Framework Projects (EMAP and SENSBIOSYN as FP7) and 2 bilateral projects (ENZYTOX France and COMBIOREM Greece).

Description of the principal personnel involved with their relevant experience

Prof.dr.eng. Gabriel-Lucian RADU
(http://www.researcherid.com/rid/E-8560-2011) is the Bioanalysis Centre's Director and Senior Researcher Scientist at INSB. He is professor at University Politehnica of Bucharest, Romania and the leader of the Bioanalysis research group. Prof. Radu is working for more than 20 years in the field of bioanalysis and its research/teaching activity focuses on the development of new analytical methods for biomaterial and bioprocesses characterisation. Professor G.-L. RADU has published approximately 150 ISI-ranked papers.
Contact: glradu2006@gmail.com

Major contribution to POSITIVe: WG3
Role in POSITIVe: MC Member

Dr. Sandra A.V. EREMIA
(http://www.researcherid.com/rid/B-5647-2011) is a Senior Researcher at INSB and a member of the Bioanalysis Centre. She has received her PhD in Chemistry and her scientific activity focuses on sensors/biosensors development, validation and real samples application; on electrochemical and spectrometrical methods development and validation; on analysis of active principles especially polyphenols.
Contact: sandraeremia@gmail.com

Major contribution to POSITIVe: WG3, TTG
Role in POSITIVe: Subtsitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The **HevMetFood** Interdisciplinary laboratory **(https://sites.google.com/site/hevmetfood/)** started its activity in October 2009 and support advanced researches and training in minerals (including isotopes) in foods and environmental samples by ICP-OES, ICP-MS, LA-ICP-MS and XRF, GC, food rheology (including texture analyses), food sensory analyses and data mining . The HevMetFood group has as permanent staff three senior researchers and one early stage researcher.

- ***Aims of the Research Group***

The aims of the HevMetFood group is to study the interrelationship and concentrations effect of plant bioactives and mineral content and the food nutritional value (including food of animal origin) on the well-being of humans and animals

- ***Methodologies & Approaches***

The ***HevMetFood Group*** has experience in training and the development of advanced researches in food sciences and the science of the total food chain (metals in the food chain, plant polyphenolic extracts and fermented plant juices as food additives) and risk assessment, the development of analytical methods for food and environmental samples, food texture and food rheology analyses, sensory analysis, training in ICP, ICP-MS, LA-ICP-MS, XRF, statistical quality control , data mining and modelling

Participation in the most relevant European and National projects

Contract nr. 149 / 01.07.2014 Natural preservatives for meat products for functional and safe foods and maintaining the consumers' health (NATCONSERV);
FP5-The METAL project IC15-CT97-1003**.**
Contract 285/01.10.2007 (national project)-Assessment of the antioxidant potential, antimicrobial and antifungal properties of sea-buckthorn (Hippophae rhamnoides). Obtaining a sea-buckthorn food additive.

Description of the principal personnel involved with their relevant experience

Dr Liliana Tudoreanu is *associate-professor (Food quality department),* Director of the Interdisciplinary Laboratory for Heavy Metals Transport and Accumulation in the Food Chain and Modeling, deputy of the e-learning platform of the ISEKI-Food Association. Dr. Liliana Tudoreanu holds since 2002 a postgraduate degree from the University of Cambridge and had the position of visiting scholar (1999-research activities) in the department of Clinical Veterinary Medicine of the University of Cambridge.
She has expertise in food physics, effect of polyphenolic extracts on food rheological properties and nutritional value, food quality control (elemental spectrometric analysis), metals transport and accumulation in the food chain and data mining techniques. She won a 600000 Euros grant for the design and set up and put into operation of the Interdisciplinary Laboratory for Heavy Metals Accumulation in the food chain and modelling- HEVMETFOOD(-Lab grant nr 146/CP/I/19.09.2007) which she is now currently running . The HEVMETFOOD-Lab was designed to combine biological material sciences (food and tissues rheology) to elemental concentration and speciation in biological samples (food and plant and animal tissues) as well as plant bioactive compounds and the development of specific models (QSAR) and data mining techniques.
contact:liliana_tudoreanu223@hotmail.co.uk

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG1
Role in POSITIVe: MC Member

Professor Camelia Ppapuc is main research interest: Obtaining and characterization of polyphenolic extracts with antioxidant activity The use of polyphenolic extract in foods as additives and the antimicrobial effect of the polyphenols. The antioxidant effects of polyphenols on foods lipids and proteins.
The use of polyphenolic extract in cancer therapy and toxicology. Oxidative stress.

Major contribution to POSITIVe: FG, TTG

Professor Mario Codreanu is executive president of the Romanian association of veterinarian Physicians, Head of Veterinary Clinics Faculty of Veterinary Medicine Bucharest (2004-2008) and of the Clinical Sciences Department (2004-2011), Specialized in internal medicine and Veterinary therapeutics (University of Kentucky) and Cytoscopy and Urology in Small animas Clinical Medicine (Purdue University, 2009). Research interests: veterinary toxicology and internal medicine and veterinary therapeutics.
Contact: codveterinary@yahoo.com

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: FG

Dr. Gheorghe Valentin Goran is an Early Stage Researcher. He received his PhD in Veterinary Medicine – Pharmacology-Toxicology (University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania). His research initially focused on pharmacotoxicological impact of copper based preparations in sheep, determining the most effective means of early diagnosis, treatment and prevention, in pathology induced by Cu in sheep and rats, and, also, on impact of heavy metals on the Cu status in sheep farmed in polluted areas. He, also, participated in two national projects on polyphenols and their beneficial effects on heavy metals induced oxidative stress. The aim of his research is study of trace minerals that are cofactors of important biomarkers related to CVD/other disorders or of metallic pollutants, which disturb the mineral cofactors of these biomarkers, and how they could contribute to increasing of CVD/other disorders risk. Also, on trace minerals and metallic pollutants influence on the activity of bioactive molecules.
Contact: gvgoran@gmail.com

Major contribution to POSITIVe: WG1, WG2, TTG
Additional contribution to POSITIVe: FG

Brief description of the Research Group

- ***Organisation & Facilities***

The research programme of Institute for Biological Research "Siniša Stanković" (IBISS) covers scientific disciplines in practically all areas of biological science. As an independent research institute it was founded in 1947. Organizational structure of IBISS comprises Departments that dispose of specialized laboratories in which research activities are conducted. A high standard of research and education (IBISS is a member of University of Belgrade) is established and maintained by a qualified staff, by an adequate infrastructure and efficient communication with other scientific institutions at home and abroad. Department of Cytology has existed since the beginnings of the Institute and traditionally it represents one of the most successful research groups in the field of tissue and cell biology in the country. It currently has 11 members engaged in the Project largely focused on the biomedical effects of polyphenols from natural sources, which is funded by the Ministry of Education, Science and Technological Development of Republic of Serbia. The impact of non-nutritive bioactives, soy isoflavones (genistein and daidzein), saponins (diosgenin) and citrus flavanones (naringenin and hesperetin), on pituitary-adrenocortical axis, female reproductive system and mineral homeostasis in different rat models as well as on some malignant clones and erythrocytes in vitro is carefully studied. About 50 publications in international journals, at the level of whole Department, were published in the period 2011-2015.

- ***Aims of the Research Group***

The Research Group joined to COST Action POSITIVe has 4 members from the Department of Cytology, IBISS, who are developing their fundamental knowledge and experimentally working in the field of natural sourced polyphenol mechanisms of action and derived physiological effects, as well as persist in improving their skills in modern investigation techniques. Special attention is devoted to the integration of the Research Group results and elaboration of the overall literature data pull, which resulted in several serious review articles publishing.

- ***Methodologies & Approaches***

- Various aging-based male or female rat models.
- Histology: histomorphometric analyses and design-based stereological analyses (new CAST).
- Microscopy: Light Microscopy, Electron Microscopy research techniques (TEM) and Confocal Laser Scanning Microscopy (CLSM).
- Molecular analyses: gene expression (RT- PCR), protein expression (Western blot) and antioxidant enzyme activity assays.
- Hormonal (ELISA) and biochemical analyses.
- Spin labelling, electron paramagnetic resonance (EPR) measurements and cell membrane fluidity estimation.
- Bone tissue preparation for Induced Coupled Plasma (ICP) mineral content analysis.

Participation in the most relevant European and National projects

During the past five years the Research Group has been involved in realization of the National Project entitled: "The Effect of Selected Plant Extracts, Phytoestrogens, Steroid and Peptide Hormones on the Rat Neuroendocrine System", funded by the Ministry of Education, Science and Technological Development, Republic of Serbia; Grant No. 173009

Description of the principal personnel involved with their relevant experience

Dr Vladimir Ajdžanović is Senior Research Associate at IBISS. He is the leader of the Research Group joined to COST Action POSITIVe. Dr Ajdžanović was a member of Scientific Council at IBISS during the period 2011-2013.

He is working for more than 10 years in the field of biomedical effects of soy isoflavones (genistein and daidzein), and recently he expanded his area of interest to the effects of citrus flavanones (naringenin and hesperetin) in biological systems. The research he performed included rat studies (model of andropause) with the histological and hormonal assessment of pituitary-adrenocortical axis and *in vitro* experiments on metastatic prostate cancer cells and erythrocytes. His guiding principle is reflected in sublimation of the obtained results and knowledge in the field and their potential extrapolation to some practical solutions in molecular pharmacotherapy, concerning the balanced natural sourced polyphenol-based treatment of widespread cardiovascular, metabolic and steroid-related malignant diseases.

Contact: avlada@ibiss.bg.ac.rs

Major contribution to POSITIVe: WG2

Role in POSITIVe: MC Member

Dr. Verica Milošević is Senior Scientist at IBISS, Head of Department of Cytology and the National Project (Grant No. 173009) leader. Also, she is the substitute of leader of the Research Group joined to COST Action POSITIVe.

Dr. Milošević is working more than 30 years in the field of hypothalamo-pituitary-adrenal as well as somatotropic axes morphophysiology, in various rat models and upon different challenges and treatments. During the last 10 years she is actively researching biological effects of soy isoflavones and supervising the scientific efforts made in this respect, in the Department. Besides that, Dr. Milošević is giving the valuable contribution to the academic community by lecturing at the faculties of biomedical orientation at University of Kragujevac and University of Novi Sad. Also, she is well recognized as the scientifically respectable and authoritative PhD thesis mentor in her working environment.

Contact: dimi@ibiss.bg.ac.rs

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG3

Role in POSITIVe: Substitute MC Member

Dr Ivana Jarić is working on a postdoc position as a Research Associate in Department of Cytology at IBISS. Her current research interests consist of : 1) The effects and the mechanisms of action of phytoestrogens on the reproductive system of estrogen-low, acyclic, middle-aged female rats. Of particular interest is to define the potential of phytoestrogens for improvement of reproductive system function in middle aged female rats, and to compare these effects with the effects of estradiol, commonly used in the prevention and treatment of menopausal symptoms; **2)** Assessing estrogenic activity of different phytochemicals and endocrine disruptors and their mechanisms of action by using immature Wistar female rats as animal models in a so called uterotrophic assay, that has been expanded to measure a number of physiological and molecular endpoints.
The most commonly used techniques in her research are immunohistochemistry, design-based stereology, hormonal analyses (ELISA), biochemical analyses (enzyme activity assays), RT- PCR, Western Blot as well as the Confocal Laser Scanning Microscopy and Electron Microscopy research techniques.
Contact:ivana84@ibiss.bg.ac.rs

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG2

Dr Jasmina Živanović is Research Associate in Department of Cytology at IBISS. Her reserch interest refers to the effects of soy isoflavones (genistein and daidzein) on the main regulators of calcium and phosphate homeostasis in a rat model of the andropause. In particular, she investigates the structural and functional changes of parathyroid glands in parallel with expression levels of: sodium phosphate cotransporter type 2a, Klotho protein, parathyroid hormone receptor type 1 and fibroblast growth factor receptor in the kidney, after application of soy isoflavones in mentioned animal model, as well as the possible mechanism of action of these compounds.
In her research she uses immunohistochemistry, design-based stereology, hormonal analyses (ELISA), biochemical analyses, RT- PCR, Western Blot as well as Electron Microscopy research techniques.
Contact:jasminap@ibiss.bg.ac.rs

Major contribution to POSITIVe: WG3
Additional contribution to POSITIVe: WG2

Milica Zrnić Ćirić MSc, is Teaching Assistant at the Department of Bromatology, Faculty of Pharmacy, University of Belgrade.
She is in the final stages of a doctoral dissertation preparation, wherein the effects of dietary factors on the immunoreactivity to food proteins are in her focus of interest. The considerable part of her experimental work, pertinent to the effects of dietary factors on the digestive epithelium function and the connection with the levels of specific immunoglobulins to food proteins, was realised in the Department of Cytology, IBISS.
Contact: milicaz@pharmacy.bg.ac.rs

Major contribution to POSITIVe: WG1, WG2
Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

IMR is the oldest Serbian scientific institute, founded in 1946. as the Institute for Public Nutrition by the Serbian Academy of Sciences. In 1951. it was renamed and restructured into the Institute for Medical Research, with the Department for Nutritional Research as the core unit of the institute. In 2010. Ministry of Science of Serbia acknowledged the status of the Centre of Research Excellence in Nutrition and Metabolism (CENM) to the Department for Nutritional Research based on the scientific achievements over the previous 5 years, successful strategy and innovative approach, and the international and national reputation in relevant scientific field. The CENM's research is focussed on both fundamental and applied food and nutritional research in Serbia and the West Balkan region. The Centre gathers 40 employees and collaborators with various backgrounds making a research team that includes medical doctors, pharmacists, biochemists, biologists and molecular biologists, food technologists, sport scientist, mathematicians. CENM research is multi- and interdisciplinary focused, and it spreads over different disciplines (food chemistry, food and nutrition research, public health, metabolism research, bioinformatics). Transdisciplinary and translational research in food and nutrition are important part of the CENM strategy.

- ***Aims of the Research Group***

During previous 5 years both clinical and preclinical research performed at CENM are mostly targeted to the effects of nutrients and non-nutritive compounds (polyphenols and isothiocyanates) on human health, with the focus on their beneficial effects in the prevention of CVD and their interactions with other physiological and pathophysiological, metabolic and dietary characteristics. It includes the assessment of relevant biomarkers and risk factors and revealing the precise cellular and molecular mechanisms of their action.

- ***Methodologies & Approaches***

Preclinical research includes: *in vitro* research in primary human and animal cells and cells in culture (platelets, monocytes, lymphocytes, macrophages, erythrocytes, leucocytes, endothelial cells); animal models (mice and rats) and pilot studies in humans (safety and efficacy); Clinical research: epidemiological studies and dietary intervention studies (RCT), in healthy subjects, subjects at disease risk and patients. The unique approach is focusing on cellular outcomes within RCT including markers of platelet, monocyte and endothelial cells function by flow cytometry. RCTs are conducted by the scientists and stuff of the Laboratory for dietary intervention studies at the recently established facility, that is build to respond to all demands of well-designed RCTs, regarding staff, organization, instrumentation, expertise. Other methods applied include: biochemical analyses, blood pressure measurements, anthropometry, dietary assessment, lipidomics (gas chromatography and mass spectrometry), gene expression (qPCR), protein expression (Western blot) ect.

Participation in the most relevant European and National projects

During the last 10 years, the CENM Group has been involved in several national and EC funded projects. CENM scientists involved in the POSITIVe network were (or still are) part of research team in a number of international projects including : EuroFIR FP6 (European Food Information Resource Network (NoE)**;** www.eurofir.net, 2006-2010); NCDNCEE (Network for Capacity Development in Nutrition in Central and Eastern Europe; http://www.agrowebcee.net/ncdn; supported by the United Nations University and coordinated by CENM); EURRECCA FP6 (Harmonising nutrient recommendations across Europe with special focus on vulnerable groups and consumer understanding (NoE), www.eurreca.org, 2007-2012); BaSeFood FP7 (Sustainable exploitation of bioactive components from the Black Sea Area traditional foods, www.basefood-fp7.eu/ , 2009-2012): CHANCE *FP7* (Low cost technologies and traditional ingredients for the production of affordable, nutritionally correct, convenient foods enhancing health in population groups at risk of poverty; www.chancefood.eu/ , 2011-2014) and BACCHUSS FP7 (Beneficial effects of dietary bioactive peptides and polyphenols on CVD health in humans, http://www.bacchus-fp7.eu; 2012-2015).

Most recent national projects coordinated by CENM are mostly targeted to the research in the area related to the major nutritional concerns in Serbia: Biological effects, nutritional intake and status of folate and polyunsaturated fatty acids: The improvement of nutrition in Serbia", 2011-2014, III 41030, Ministry of Science, Republic of Serbia:

FOLOMEGA; Development of new therapeutic procedures in prevention and cure of liver disease – the role and mechanism of polyunsaturated fatty acids, 2006-2010, No 145071.

Description of the principal personnel involved with their relevant experience

Dr Aleksandra Konić Ristić is a Research Fellow at the CENM. She received her MSc and PhD at the Faculty of Pharmacy, University of Belgrade– in Food Research and Dietetics. The focus of her research is the investigation of beneficial effects of plant bioactives on cardiovascular health and the prevention of CVD within both in vitro studies and RCTs, by targeting blood cells (platelets, monocytes, neutrophils, lymphocytes) and vascular cells. Additional focus of her research are putative interactions of plant bioactives with nutrients and other factors influencing interindividual variability in their effects (health status, dietary patterns, GIT health, polymorphisms ect). She was a principal investigator or a co-investigator of several RCTs and a large epidemiological study, within both national and international projects. She serves as an external member of the Ethics Committee for Clinical Trials at the Faculty of Pharmacy of the University of Belgrade. Along with the core research activities she dedicates her time for public engagement through scientific consultations, advices and lectures for different public societies and organizations.

Contact: sandrakonic@gmail.com

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG3, FG, TTG

Role in POSITIVe: MC Member, Steering Committee Member, STSM Coordinator

Professor Dr. Maria Glibetić is research director of Centre of Research Excellence in nutrition research, Institute for medical research in Belgrade, Serbia and the member of executive board of food data association EuroFIR AISBL She is an experienced basic and nutritional scientist with over 250 publications and presentations. Maria has considerable experience in leading national and international projects and since 2006 she participated in seven EU funded projects. Maria and her team were responsible for the creation of first on line national food database, for designing food data management system and for development of different nutritional tools for intake analysis. She leads post-graduate department for integrated nutritional sciences at University of Belgrade where she teaches two post-graduate courses.

Contact: mglibetic@gmail.com

Major contribution to POSITIVe: WG1

Role in POSITIVe: Partner

Professor Dr Mirjana Gurinović MD, PhD in nutrition Specialist Hygiene and Medical Ecology is recognised public health nutrition scientists, actively engaged in research on nutrition, food composition, public health nutrition epidemiology, diet and health and capacity development in food and nutrition specific for WB and CEE countries. In addition to public health nutrition research she has considerable experience in developing different programs and national action plans underling the main objectives for nutrition policy. She is project advisory board (PAB) member in EuroDISH project and had leading role in national and international projects and until 2006 she participated in seven EU FP6/7 project.She is the European Heart Network (EHN) Nutrition Expert Group member and coordinated the nutrition and obesity prevention in strategy and action plan for CVD prevention in Serbia. She was WHO Nutrition Counterpart (2010-2011).She created several nutritional tools, software's for nutrition planning and diet modelling, dietary intake/assessment and monitoring of the nutritional status of the population. Dr. Gurinović is a Chair of the Network for Capacity development in Nutrition in CEE Countries (CAPNUTRA) (www.capnutra.org) which was established in 2005.
Contact:mirjana.gurinovic@gmail.com

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: FG
Role in POSITIVe: Substitute MC Member

Nevena Kardum is Research Associate at IMR. She is PhD student at Faculty of Pharmacy, Department of Medical Biochemistry (University of Belgrade) and currently she is before the PhD thesis defence. So far, she was included in examination of polyphenols and polyphenol-rich foods impact on health and risk factors of cardiovascular diseases development. This includes their effects on platelet function (activation and aggregation with other blood cells), pro-oxidant/antioxidant status and fatty acid profile in serum and membranes of red blood cells and use of different methods based on flow citometry, gas-liquid chromatography and spectrophotometry.
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Major contribution to POSITIVe: WG2
Role in POSITIVe: Partner

Dr Manja Zec is Research Associate at IMR. She received her PhD in Genetics, Faculty of Biology, University of Belgrade. The aim of her research is establishment of novel cardio-vascular biomarkers and potential risk factors, particularly related to the development of atherosclerotic plaque, including molecular mechanisms underlying polyphenol-rich food atherosclerosis-related preventive effect and angiogenesis. Her general field of interest is translational research, nutrigenetics and nutrigenomics.
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Major contribution to POSITIVe: WG2, TTG
Role in POSITIVe: Partner

Marina Nikolić is a biostatistician - PhD student, involved in data analysis and developing software applications for dietary assessment and optimisation of dietary/nutrient intake according to the recommendations, food composition and cost using linear programming. Her main research interests are focused on development of computer applications useful for different aspects of dietary modelling.
Contact: marina.nikolic12@yahoo.com

Major contribution to POSITIVe: WG2, TTG
Role in POSITIVe: Partner

Brief description of the Research Group

- ***Organisation & Facilities***

Biotechnical Faculty (www.bf.uni-lj.si) and Faculty of Electrical Engineering (www.fe.uni-lj.si) are two of the key academic and research entities of Slovenian foremost public University of Ljubljana. Both have established numerous research groups focusing on the aspects oflife sciences and technological innovation. Group for Microbiology and Microbial Biotechnology is focused on the interactions between diet and microbiota, creating internal and external environment of the host, affecting human and animal health. In the past 10 years the publications of the small interdisciplinary subgroup (**SIS**) collaborating with Machine Vision Laboratory from Faculty of Electric Engineering and other were cited more than 3500 times. The group has capacities for current bioinformatics, statistical and chemical analyses, and is linked through projects to other research groups providing access to versatile chemical analytical capacities.

- ***Aims of the Research Group***

Meta-analysis of microbiota families/microbial enzymes associated with inter-individual variation across studies in published literature, mapping the reported parameters into comprehensive overview metadata in order to identify the relative importance of factors such as age, gender, genetic background, geographical location, sampling campaigns, lifestyle, and other for explaining the between-subject variation in microbial communities involved in metabolism of ingested food and associated microbial in-situ environmental parameters.
This approach aims to identify the functional properties of specific microbial groups (97% OTU or other) or microbial functional genes (KEGG or other) through the use of metabolic networks to explain inter-individual variation in the recorded general parameters of metabolism and assess the contribution of other factors, such as age, gender, dietary habits to the inter-individualvariation in coveted bioavailability of polyphenolic and other metabolic compounds

- ***Methodologies & Approaches***

- Bioinformatics and applied statistics analyses of the next generation sequencing datasets from either metagenomics or amplicon sequencing by linking to accompanying metadata, at the level of microbial OTU, taxonomy or functional genes
- Chemical analyses of body fluids and excrements through gas chromatography (short chain fatty acids), spectrophotometry and HPLC (phenolic compounds), liquid and solid state NMR (various metabolites), reducing sugars (spectrophotometry).
- Development of novel bioinformatics tools and utilities for data analyses.

Participation in the most relevant European and National projects

During the last 5 years members of SIS have participated within EU FP7 framework collaborative project PlanHab, were granted the key National Basic Research Grant (SRA-J1-6732, Metagenomics and transcriptomics through de-novo assembly) and haveserved as departmental coordinators of EU exchange project ERASMUS+.

Description of the principal personnel involved with their relevant experience

Dr.Blaž Stres is an associate professor at Biotechnical Faculty, Department of Animal Science, Group for Microbiology and Microbial Biotechnology. He received his PhD from University of Ljubljana in biochemistry and molecular biology and conducted his research in the labs of Center for Microbial Ecology, Michigan State University, USA; University of Burgundy-INRA, Dijon, France; Swedish Agricultural University, Uppsala Sweden and University of Innsbruck, Austria. His research has initially focused on responses of microbial communities (soil, sediments; subsequently intestinal tracts and industrial environments) at the level of abundance, activity and community assembly and structure, to governing environmental and spatio-temporal factors. This research is based on bioinformatics and applied statistics analyses of next-generation sequencing data (amplicon, shot-gun metagenomes, transcriptome) in relation to various types of metadata, variation partitioning, modelling, interactions and identification of most important explanatory variables within recorded metabolomes and other metadata.
The aim of his research is identification of microbial groups that consistently respond to changes inhuman physiology and physical characteristics linked to plant polyphenols, food composition and intake, hypoxia, inactivity, stress responses, and are not affected by between-subject variability.
Contact: blaz.stres@bf.uni-lj.si

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2
Role in POSITIVe: MC Member

Dr. Bostjan Murovec is an associate professor at the Faculty of Electrical Engineering, University of Ljubljana, Slovenia. He gained B.Sc, M.Sc and D.Sc. in electrical engineering in years 1996, 1999 and 2002, respectively, all from Faculty of electrical engineering ofUniversity of Ljubljana. During graduate and mastership study his research interest was primarily focused on computer graphics and optical pattern recognition. He is a member of The International Association for Pattern Recognition. From late 1999 his interest became combinatorial optimizations and since 2007 the algorithms within the scope of bioinformatics.
During his whole career he has also worked within the field of sensor and data-acquisition electronics. He developed several such systems for experimental and industrial use. Some of them have been funded by the Leonardo da Vinci framework.
Contact: bostjan.murovec@fe.uni-lj.si

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2

Robert Šket, MSc Microbiology, is PhD student at University of Ljubljana, enrolled in Bioinformatics PhD studies. In context of his doctoral thesis, his research focuses on impact of physical inactivity and hypoxia on human intestinal microflora in relation to nutritional and human physiology data, within the EU FP7 PlanHab project. In addition, the evaluation of the impact of systematic errors in published research is being conducted within the domain of bioinformatics and applied statistics that are often the cause for misinterpretation of actual data.

Chemical analyses of human samples are primarily focusing on water soluble plant polyphenols, extractable sterols, short chain fatty acids, reducing sugars and the extent of undigested fraction of nutrients.

His research capabilities in the use of next generation sequencing approaches were expanded through successful application for one month Short Term Scientific Mission within the scope of *ESSEM COST Action ES1103 Microbial ecology & the earth system: collaborating for insight and success with the new generation of sequencing tools* in October 2014,by visiting the Research Unit Environmental Genomics at Helmholtz ZentrumMünchen, DeutschesForschungszentrumfür Gesundheit und Umwelt, Germany, prof. dr. Michael Schloter.

*Contact:*robert.sket@bf-lj.si

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG2

Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

CSIC is the main Research Institution in Spain that belongs to the Central Government and is in charge of developing the research national initiatives. It includes above 100 research institutes, working in different research areas among which food science and technology is well represented. The CEBAS institute is located at Murcia in one of the main regions for fruit and vegetable production and processing, and it is devoted to agro food research covering aspects from the environment to the consumer. At CSIC, CEBAS (Murcia) gathers 220 persons, including a permanent staff of 60 scientists devoted to the production of fruit and vegetables under difficult environmental conditions, and to provide safe and healthy food products. The impact of food constituents, particularly polyphenols, on human health, and the mechanisms involved has been a key topic of research over the last 15 years. The excellence of the research carried out at CEBAS is well recognized internationally. Over 800 original publications were published in the period 2010-2014. During the 10 last years, CEBAS has been involved as coordinators or partners in European research projects (FP6, FP7 and H2020) and has organized several international conferences and workshops. CEBAS is organized into 11 research groups covering different aspects of fruit and vegetables production and health effects.
The Research group on Quality, Safety and Bioactivity of plant foods includes 10 permanent staff scientists, and has in house equipments for metabolomics and transcriptomics analyses, identification and quantification of metabolites in biological fluids, and microbiology laboratories for anaerobic bacteria studies (gut microbiota studies). It has also access to the University of Murcia central facilities for experimental animals (pigs, rodents) and experimental farms, advanced analytical methods, and metabolic units for clinical intervention studies. In addition the group has a good cooperation with the three main hospitals in the Murcia region to complete clinical studies.

- ***Aims of the Research Group***

The **Research Group** has a well-recognized experience on plant food bioactives, especially in polyphenols, their metabolism and health effects. Through an integrated research approach combining classic and omics methodologies, this group aims: (1) to determine the role of plant foods and particularly those of polyphenols in the maintenance of health, (2) to advance in the knowledge on the mechanisms involved in these health effects, (3) to study the complexity of phytochemical exposure of individuals after plant food intakes for a better understanding of determinants of plant food health effects and (4) to understand the role of the interaction of dietary polyphenols with gut microbiota and the effects on human health.

- ***Methodologies & Approaches***

- Clinical trials; animal models and cell culture experiments.
- Transcriptomic analysis in biological samples (cells, tissues).
- Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot, proteomics), cell interaction assessment (chemotaxis, cell adhesion, transendothelial migration).
- Metabolomics (high resolution mass spectrometryto characterize the food metabolome in biofluids)
- Evaluation of gut microbiota metabolism of polyphenols.
- Identification and isolation of gut microbiota strains responsible for specific metabolic transformation of polyphenols.

- ***Participation in the most relevant European and National projects***

MINECO, ConsoliderIngenio 2010 (CSD2007-00063) Fun-C-Food, New Functional Food Ingredients to improve Human Health.
MINECO, CICYT-BFU2007-60576, Dietary resveratrol as cardioprotective compound: Bioavailability, metabolism, and effects on gene expression and cardiovascular function in patients and pigs as animal model.
MINECO, CICYT-AGL2011-22447, Role of pomegranate ellagitannins and its metabolites urolithins on colorectal cancer. Metabolic and molecular studies in patients and animal models.
EU. VII PM. FP7-KBBE-2012-2.2-01. Grant Agreement Number: Beneficial effects of dietary peptides and polyphenols on cardiovascular health in humans (BACCHUS).

Description of the principal personnel involved with their relevant experience

Dr Francisco A. Tomás-Barberán, is Research Professor and Head of Groupat CEBAS-CSIC. He is also Science and Technology Coordinator of the Area of Food Science at CSIC. Presently, he is vice-chair of the COST-Action POSITIVe. He has been working for 15 years in the field of Nutrition to study the metabolism and bioavailability of dietary polyphenols in humans, the interaction with gut microbiota and the potential effects on human health. This research includes human intervention studies, analysis of metabolites in biological fluids, gut microbiota fermentation of polyphenols and identification of the metabolites and the gut microbial strains responsible for polyphenol metabolism.
Contact: fatomas@cebas.csic.es

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG3

Role in POSITIVe: MC Member, Steering Committee Member, Vice Chair

Dr Juan Carlos Espín is Research Professor at CEBAS-CSIC. He has been working for 15 years on the role of polyphenols in human health. His research covers the topics of bioavailability and metabolism of polyphenols as well as their role on cardiovascular diseases, inflammation, cancer and oxidative stress. This research has been carried out in patients, healthy volunteers, animal models (pigs, mice and rats) and different cell culture models. He has led a number of projects dealing with clinical trials in patients at risk of cardiovascular disease and with established coronary artery disease, colorectal cancer patients, chronic obstructive pulmonary disease (COPD), etc.
Contact: jcespin@cebas.csic.es

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1

Dr María-Teresa García-Conesa is a Senior Research Scientist at CEBAS-CSIC. She received her PhD from the University of East-Anglia, Norwich (UK) in Biology. Hercurrent main research line is the identification and understanding of molecular and cellular mechanisms underlying the health benefits of plant dietary bioactive compounds (polyphenols, diterpenoids, etc). Her research is partially based on the application of genomic techniques to cell, animal and human studies looking at the regulation of genes, miRNAs and proteins in relation to inflammation, cancer, metabolism & obesity, host-microbiota interaction. Most recent work is focused on the interpretation of gene and miRNAs expression variability in human intervention studies (colorectal cancer; breast inflammatory disease: mastitis).
Contact: mtconesa@cebas.csic.es

Major contribution to POSITIVe: WG2, FG

Additional contribution to POSITIVe: WG1

Role in POSITIVe: Substitute MC Member, WG Leader, Steering Committee Member

Dra.Maria Victoria Selma, is a Tenured Research Scientist at CEBAS-CSIC. She has been working for 12 years in the field of microbiology. Her current research covers the topics of Gut microbial metabolism of dietary polyphenols.Gut Microbial ecology: effect of dietary polyphenol.Role of dietary polyphenol and gut microbiota on diseases characterized by intestinal dysbiosis: inflammatory bowel disease, colon cancer, metabolic syndrome, and obesity. This research includes analysis of gut bacteria in human and animal intervention studies, gut microbiota fermentation of polyphenols and identification of the gut microbial strains responsible for polyphenol metabolism.
Contact: mvselma@cebas.csic.es

Major contribution to POSITIVe: WG1

Dr Antonio González-Sarrías is an Early Stage Researcher. He received his PhD in Biology (University of Murcia, Murcia, Spain) in 2009.During his PhD, and currently, through a "Juan de la Cierva" grant, at the Food Science and Technology Department of CEBAS-CSIC, his scientific career has allowed the identification of biological activities mainly anti-carcinogenic and anti-inflammatory in both preclinical (cell and animal models) and clinical studies of the urolithins, the main bioavailable metabolites upon consumption of ellagitannin-containing foods (pomegranate, walnuts, strawberries, etc.) produced by the gut microbiota. . In addition, he is participating in one European project ("Beneficial effects of dietary bioactive peptides and polyphenols on cardiovascular health in humans (BACCHUS). FP7-KBBE2012-6")to evaluate the bioavailability of ellagic acid and urolithins after pomegranate extract intake as well as to evaluate the effect of an ellagitannin rich pomegranate extract on cardiovascular risk markers in overweight healthy subjects.

Major contribution to POSITIVe: WG2, TTG

Dr Rocío García Villalba is an Early Stage Researcher. She developed her PhD in the Department of Analytical Chemistry at University of Granada (Granada, Spain) evaluating the potential of different analytical platforms for the characterization of bioactive compounds in foods and metabolites in biological fluids. For the last 5 years she has been working at the Food Science and Technology Department of CEBAS-CSIC developing analytical methods (separative techniques coupled to mass spectrometry) for the analysis of polyphenol metabolites in cell culture, gut microbiota, animal and human studies. Most recent work is focus in metabolomic studies using advanced analytical and statistical tools.

Contact: rgvillalba@cebas.csic.es

Major contribution to POSITIVe: WG1, TTG

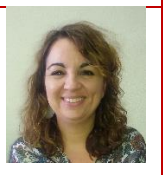
Dr Pilar Truchado was awarded a bachelor in Food Technology (Universidad de Murcia) and a PhD in Food Technology at the University of Murcia, on the topic of identification of phenolic compounds as floral markers in honey and their anti-quorum sensing activity. After that she continued her research in the Laboratory of Microbial Ecology (LABMET; University of Ghent) expanding her research topics on the prebiotic effect on microbial communities in the gastrointestinal. She is currently a Postdoctoral Researcher at CEBAS-CSIC, enrolled on a project aiming to study the shift of bioactive compounds and epiphytic microbiota as biotechnological tools to reduce foodborne illness outbreaks associated with leafy greens.

Contact: ptruchado@cebas.csic.es

Major contribution to POSITIVe: WG1, TTG

Dr. María Romo Vaquero is a postdoctoral researcher. She obtained a phD in Biology at University of Salamanca (Spain). For the last five years she has been working at the Food Science and Technology Department of CEBAS-CSIC. Her research focuses on the analysis of bioavailability of polyphenols in animals and humans after clinical intervention studies, with special emphasis on the role of polyphenols on gut-microbiota.

Contact: mrvaquero@cebas.csic.es



Major contribution to POSITIVe: WG2, WG3, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

CNIC is an international research centre of excellence which mission is to improve cardiovascular health in the population, generating scientific knowledge and efficiently translating that knowledge to the clinical practice. The Area of Epidemiology and Populations Genetics (AEPG)is responsible for the design and coordination of CNIC's cohort studies. The AEPG comprises of a multidisciplinary group of cardiologists, epidemiologists, biostatisticians, nutritionists, psychologists and sociologists, working together to study the distribution of cardiovascular disease and the determinants, such as lifestyle behavior (dietary habits, physical activity), genetic predisposition, biorhythms and psychosocial factors, associated with its development and progression in the context of large population studies. Several world known researchers and experts in the different scientific areas such as Dr. Fuster (CNIC's General Director and Director of the Mount Sinai Heart, and the Zena and Michael A. Wiener Cardiovascular Institute, Mount Sinai Hospital, NY), Dr. Ordovás (Tufts University, Boston, MA), and Dr. Pocock (London School of Hygiene and Tropical Medicine, London, UK) are involvedin the ongoing projects of the AEPG. The AEPG performs on amultidisciplinary approachand within an extensivenetwork of international collaborations enabling the state-of-the-art research and high impact projects.

- ***Aims of the Research Group***

The AEPG is committed to performing high-quality and high-impact clinical and population-based research on the environmental, social, individual and genetic risk factors that are causally related tocardiovascular disease. The group´s aims are: 1) to investigate the presence and progression of determinants of early cardiovascular disease; 2) to identify the early markers of cardiovascular disease in order to determine at risk population; 3) to evaluate the influence of lifestyle behavior (dietary habits, physical activity), genetic determinants, biorhythms and psychosocial factors on the onset, progression, and prevalence of cardiovascular disease.

- ***Methodologies & Approaches***

- Prospective cohort data on diet, physical activity (accelerometer), biorhythms and psychosocial factors.
- Non-invasive vascular imaging tests (2D/3D vascular ultrasound, CT imaging for coronary calcium, magnetic resonance imaging (MRI) and positron emission tomography (PET))
- Molecular analysis: gene expression (qPCR).

Participation in the most relevant European and National projects

CNIC is well recognized for its international collaborations, and strategic alliances, among well-known leaders in medical and scientific training and education including Mount Sinai School of Medicine, and Tufts University. The center has been ranked among the top three Spanish Institutions in 7FP PEOPLE (M. Curies) program. More than 25 projects were granted and are ongoing within the European Commission's Seventh Framework Program (FP7): four starting ERC grants, one ERC advanced grant, seventeen Marie Curie research grants (including ITNs, COFUNDs and IDP-ITN coordinated by the Centre).Two HEALTH-COOPERATION projects are coordinated by CNIC and several "Health" and "ICT" projects in which the center is involved.

Description of the principal personnel involved with their relevant experience

José L. Peñalvo is assistant Professor, currently holding a joint appointment at CNIC and the Friedman School of Nutrition Science and Policy at Tufts University (Boston, MA). He is the leading scientist in the area of life style assessment in CNIC cohorts aiming to identifying determinants of early subclinical atherosclerosis: The PESA (Early Detection and Progression of Early Subclinical Atherosclerosis) study and the Aragon Workers' Health Study (AWHS). He has a strong background in clinical research and epidemiology methods, including the design, implementation and evaluation of community-based interventions. He is particularly interested in the study of life style determinants of cardiovascular health. He has worked on this topic from different perspectives, starting from basic biomedical research to currently working at applying epidemiological methods and advanced biostatistics to large data sets.
Contact: jlpenalvo@cnic.es

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG3, FG

Belen Oliva is senior Statistician at the AEPG with an extensive knowledge in research methodology in health sciences, statistical methods and database management. She is currently involved in the Progression and Early detection of Subclinical Atherosclerosis (PESA) study. In the past she has been working on the BIFAP project at the Spanish Agency of Medicine (AEMPS), and under the project "Analysis of the microRNAs (mRNAs) profiles and their combination with the mass expression results of mRNAs in colon cancer for the patient classification".
Contact: belen.oliva@cnic.es

Major contribution to POSITIVe: WG2

Irina Uzhova is predoctoral fellow at the AEPG. She received her Master degree at the Department of Bioscience and Nutrition (Karolinska Institute, Sweden). Initially her research focused on the adherence to the dietary and lifestyle guidelines for the general Spanish population and its association with anthropometric measurements of obesity. Her main current interest is to identify and investigate gene-diet interaction in relation to obesity, atherosclerosis development and progression, and risk of cardiovascular disease.
Contact: irina.uzhova@cnic.es

Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

The Institute of Biomedical Research in Malaga (IBIMA) is a multidisciplinary space biomedical research that gathers around the Regional and Virgen de la Victoria Malaga University Hospitals, in conjunction with primary care and biotech groups at the University of Málaga .It aims to promote research excellence, preferably oriented translational research, obtaining encouraging results transferable to clinical practice and biotechnological applications. IBIMA is one of the largest clinical-research centers in Andalusia, covering a population over 500.000 people, of which more than 60.000 are over 65 years old.

At IBIMA, the Cardiovascular and Kidney Diseases - Diabetes and Obesity Research Area, gathers more than 100 persons, including a permanent staff of more that 30 scientist, all sharing as a common goal the understanding on two problems of population health, cardiovascular and endocrine diseases, which could be summarized in heterogenic and polygenic diseases. It covers projects in nutrition, intermediary metabolism and endocrinology and clinical objectives are obesity, diabetes and arteriosclerosis. Besides these topics described, it also covers other important diseases such as digestive and respiratory.

Our research group belongs to one of the best centers for Biomedical Research in Red-Pathophysiology of Obesity and Nutrition (CIBERobn) in Spain. We work with the fundamental objective of research to find answers and solutions to combat obesity and associated diseases, and improve, through the study of nutrition, quality of life of citizens. Our activity, carried out through the collaboration of groups of basic and clinical research, aims to find the causes and mechanisms that influence the development of obesity and other disturbances of nutrition behavior. Over 150 original publications were published in the period 2010-2014. During the 7 last years, the IBIMA has been involved as coordinators or partners in European research projects (FP7) and has organized several international conferences and workshops.

- ***Aims of the Research Group***

Our research group in cellular and molecualra endocrinology coordinates different research lines related with the: 1) etiopathogenic basis of the relationship between adipose tissue and diabetes; 2) Study of the stability of atherosclerotic plaque; 3) Adipose tissue adipogenesis; 4) Intestinal microflora, obesity and diabetes; 5) State postprandial lipoprotein oxidative stress; 6) Lipoproteins modified antibodies

- ***Methodologies & Approaches***

- Randomized clinical trials; cell culture experiments (endothelial cells, monocytes)
- Transcriptomic analysis in biological samples (cells, tissues).
- Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot, proteomics), cell interaction
- assessment (chemotaxis, cell adhesion, transendothelial migration).
- collection of blood and DNA samples from a signed informed consent, well phenotyped big cohort of patients from previous studies (IMAP study and MHO study). Including a database with anthropometric/biochemical measurements and nutritional habits as well. In a similar way, blood and tissue samples are also available from morbid obese, colon-rectal cancer, metabolically healthy obese and metabolically thin patient.national epidemiology study on type 2 diabetes
- Within the Endocrinology and Nutrition unit, coordinated by Dr. Francisco Tinahones, there are several research groups working in different endocrinology aspects on an interacting and collaborative frame, which leads to improved research results and effective transfer from basic research to the human benefit.

Participation in the most relevant European and National projects

During the 5 last years, our clinical-research group has been involved as partners in various National (AES; SAS; Predimed), and European (Reprobesity ***FP7-Health-F2-2008-223713; 2009-2011***) or International (JPI HDHL-BioNH_FOODBALL) large collaborative projects. This group organizes the 2nd Lilly Diabetes Scientific Community, October 2014.

Our Group is member of the EASO (European Association for the Study of Obesity) accredited collaborating centre for obesity managment (COM).

Description of the principal personnel involved with their relevant experience

Dr Francisco Tinahones, Head of the Unit Clinical Management in Endocrinology and nutrition, and of the BiomClinical. University Hospital Virgen de la Victoria, since 2006. Head for the **Joint Network of Excellency for biomedical research on Physiopathology of Obesity and Nutrition** (CB06/03 Institute of Health Carlos III, Madrid-Spain), since 2004. Director of Research in Biomedicine Laboratory for the FIMABIS, since 2011. Medical School Professor in the Univesity of Malaga, since 2012.
President of the Andalusian Society of Endocrinology and Nutrition (SAEN)

- Steering Committee Member of the Spanish Society of Endocrinology and Nutrition (SEEN)
- Membership of the Scientific Assessment Panel technique evaluation Commission of Chronic
- Disease and Inflammation of the General Department of Evaluation and Research Promotion
- Director of Research at the Hospital University Virgen de la Victoria in Malaga
- Steering Committee Member of the CIBER Physio pathology of Obesity and Nutrition
- Member of the American Diabetes Society (ADA), European Atherosclerosis Society (EAS) and European Association for the Study of Diabetes (EASD)

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Major contribution to POSITIVe: WG2, WG3

Dr Manuel Macias Gonzalez, Research Group Leader in the *Program* (Monarde-SAS) Health government, Spain. Scientific Researcher on Molecular biology for the J*oint Network of Excellency for Biomedical Research on Physiopathology of Obesity and Nutrition* (CiberObn-CB06/03). Institute of Health Carlos III, Madrid-Spain).
PAI Group Member of Excellence (CTS560) Regional Govermment in Innovation. Experts for Research Activities in the Health Ministry of Spain and for the seventh framework programme (FP7) in the European Union in the COMPETENCE CENTRE PROGRAMME, which is to support the creation and operation of centres for research, development and innovation (R&DI) in advanced fields of application with high innovative potential and prospects for making a substantial contribution to the growth of competitiveness of TECNOLOGY AGENCY OF THE CZECH REPUBLIC
-Author of different international patents: WO2007085469-A1; ES2288107-A1; NO200803636-A, WO 2015/004306 a1

Contact email: mmacias.manuel@gmail.com

Major contribution to POSITIVe: WG2, WG3

Brief description of the Research Group

- ***Organisation & Facilities***

The Spanish National Research Council (**CSIC**) is the largest public institution dedicated to research in Spain and the third largest in Europe. It is more than 12,000 staff, of whom more than 3,000 are staff researchers.CSIC is organized around eight scientific-technical areas.
The Institute of Food Science, Food Technology and Nutrition (**ICTAN**) is one of the 8 CSIC's research centres working in the research area of Food Science and Technology, and the only one with a Department of Metabolism and Nutrition.
At the **Department of Metabolism and Nutrition**the main research line is Nutrition in the prevention and treatment of diseases. The facilities include a Human clinical Research unit, a cell culture unit and an analytical unit with up to the date analytical techniques.

- ***Aims of the Research Group***

Our research is aimed at better understanding the beneficial properties to human health of dietary plant polyphenols. To do this we focus on the study of polyphenols bioavailability and metabolism, their antioxidant properties and their effects at inflammation and cardiovascular level. The main research objectives are: (1) Anthocyanins and derived compounds: effects on markers of inflammation and cardiovascular disease and (2) Interactions between polyphenols and other bioactive compounds present in the human diet

- ***Methodologies & Approaches***

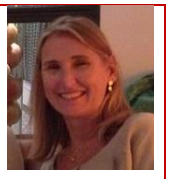
- Cell culture models (intestinal, endothelial, macrophages, hepatic, retina, etc)
- Randomized clinical trials (Bioavailability and CVD mainly)
- Molecular and cellular analysis: protein expression and activity (Western blot, Zymography, ELISA, etc); gene expression (qPCR)
- High-throughput analytical techniques

Participation in the most relevant European and National projects

POLYHEALTH Group has participated in the last 5 years in various national (AGL2009-07894, AGL2009-10415, AGL2012-30803) and international (I-LINK0502, CYTED-CORNUCOPIA) projects and scientific networks.

Description of the principal personnel involved with their relevant experience

Dr. Sonia de Pascual-Teresa is a Scientist. Her main interests are polyphenols, their bioavailability, metabolism and biological effects. She has experience in both cellular models of absorption and CV disease as well as in human trials. In the last years she has focused on the interactions between polyphenols and other food components, such as vitamins, carotenoids or bacteria.
Contact: s.depascualteresa@csic.es



Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2

Dr. Jose Manuel Silván is a Postdoctoral researcher. He is a microbiologist and his main interest is the interaction bacteria-polyphenol. He works with pathogens as well as with probiotic bacteria.
Contact: jm.silvan@csic.es

Major contribution to POSITIVe: WG2, TTG
Additional contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

CSIC is the largest public research organization in Spain and it is distinguished by its multidisciplinary nature. It has long standing experience in R&D projects and training grants. The CSIC is the responsible for the 20% of international scientific publications of Spain and for the 30% of the Spanish European patents. It has a staff of more than 10.000 employees, 3.200 scientist and 3.800 pre- and postdoctoral researchers. CSIC has successfully participated in FP7 with 580 funded projects, including 70 coordinated by the CSIC as well as 30 ERC.The Institute of Agrochemistry and Food Technology (IATA) belongs to CSIC and is dedicated to several scientific areas including Nutrition, Microbial Ecology and Biotechnology with an excellent leadership on R+D actions and scientific productivity.

- ***Aims of the Research Group***

The participant's group from CSIC investigates the role the human gut microbiota plays in the transition from health to disease, including studies on diet- (e.g. obesity, metabolic disease), behavioural- and age-related disorders. The expertise of the group includes descriptive and functional analysis of the intestinal microbiota and its genome (microbiome) by the use of next generation sequencing techniques and platforms and its relationship with the phenotype based on a combination of classical and omic-based biomarkers. The groups is also investigating and modelling microbial interactions driven by environmental (e.g. diet) and host factors (e.g. genetics, disease) to optimize physiological functioning of the gut ecosystem. It is also involved in the selection of a next generation of probiotics isolated from the indigenous microbiota to improve efficacy of interventions targeting the gut microbiota in humans.

- ***Methodologies & Approaches***

microbiology (anaerobs), bacterial physiology, next generation sequencing, 16S rRNA gene sequencing, metagenomics, metatranscriptomics, proteomics, animal models, human intervention trials.

Participation in the most relevant European and National projects

International projects/networks

- Microbiome Influence on Energy balance and Brain Development-Function Put into Action to Tackle Diet-related Diseases and Behavior. MyNewGut.*7thFP EU project Grant Agreement: nº=613979. Dec 2013-Nov 2018. Coordinator: Yolanda Sanz*
- European Network for Gastrointestinal Health Research–ENGIHR, European Science Foundation; the European Multi-Stakeholder Platform CDEUSSA 7FP, European Functional Food Network 6FP. Participants.

National projects

- *Advances in the development of probiotics to tackle immunological and metabolic disorders. Funding agency: Spanish* Ministry of Economy and Competitiveness; AGL2011-25169. *2008-2011. Principal Investigator: Yolanda Sanz*
- *Development of new methodologies and emerging technologies to evidence the efficacy of foods with beneficial health properties for the reduction of chronical pathologies in middle aged (HENUFOOD). Ministry of Science and Innovation; Ref. CEN-20101016. Nov 2010-Dec 2014. Principal Investigator: Yolanda Sanz*
- Diets and food targeting the elderly (SENIFOOD). *Ministry of Science and Innovation;* CENIT- 2009 Ref. CEN-20091006. Sept 2009-Oct 2013. *Principal Investigator: Yolanda Sanz*

Description of the principal personnel involved with their relevant experience

Yolanda Sanz, PhD in Pharmacy, Professor of Research of CSIC and head of the group of Microbial Ecology, Nutrition and Health at IATA-CSIC. She has been Assistant Professor of Human Dietetics and Nutrition (2005-2011) and of MSc on Food Safety and Technology (2011-2015), of Personalised Nutrition (2015; UVEG), of Genetics, Nutritional and Environmental Factors for Development (UG); and of Celiac Disease (UPM, Italy). She is also Vice-Chair of the Panel of Nutrition, Dietetic Products and Allergies (NDA) of the European Food Safety Authority (EFSA) from 2012-2015 and was Panel Member from 2009-2012.

She is expert in human microbiome research and has extensively contributed to elucidate the role the gut microbiota plays in pathogenesis and risk of diet-related disorders (e.g. celiac disease, obesity). She has published 130 research papers in internationally peer-reviewed Journals (PLoS ONE, Am J ClinNutr., Int J Obesity, Obesity, J Leukoc Biol., Appl. Environ. Microbiol, etc.). She received the John Harries Award in Gastroenterology from the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) in June 2009 and from the Spanish Society of Paediatric Gastroenterology, Hepatology and Nutrition (SEGHNP) in May 2007 for her investigations on the gut microbiota and its relation to immune mediated diseases. She has also filed eight patent applications, some of which have been transferred to the industrial sector. She has also published more than 500 papers in the EFSA Journal as part of the EFSA NDA related Nutrition and Health Claims assessments.

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Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

The **University of Barcelona** (UB) was founded in 1450. Today it boasts of a student body of 63,020 and a research staff of 5,312 members. Degrees are offered in 73 different areas of teaching with numerous postgraduate and doctorate programs as well as continuing education courses. The University of Barcelona (UB) is the largest of the six universities of Barcelona and of the ten in Catalonia. The UB is ranked the first Spanish university, and the twenty third European institution in scientific quality and productivity. The UB manages in average 150 European projects per year, for an amount of about 8,6 million euro a year. The University of Barcelona develops all its activities related to the research in Europe through its European Research Projects Office, a unit in charge of the promotion of EC programmes, technical assistance to the elaboration of proposals and management of projects with participation of researchers of the UB, coordinated by the Vice-rector for Innovation and Transfer of Knowledge.
Since January 2010, University of Barcelona is part of the prestigious League of European Universities Research (LERU).

- ***Aims of the Research Group***

The BIOMARKERS AND NUTRITIONAL& FOOD METABOLOMICS research group with Quality Certification from Generalitat de Catalunya as Research Group (Ref.: 2014 SGR 1566.) Member of the Reference Network on Food Technology (XaRTA), the Nutrition and Food Safety Research Institute (INSA), the Fun-C-Food Consolider Program, Spanich Food-Omics Network and NuGO Association. Focuses its activity on studies of nutritional metabolomics. The research areas of the group, which works actively with international teams, including exploring new robusts, sensitive and reliable biomarkers, based on their bioavailability, activity and intake of certain foods (with a particular interest in Mediterranean diet) which contains polyphenols and bioactive compounds which can be found as functional ingredients or as natural compounds of food and drink (markers of consumption) and on understanding their association with obesity, aging and cardiovascular risk reduction (markers of effect / disease risk). The methodology applied is based on targeted and/or non-targeted studies using a metabolomic approach (LC-MS/MS, OrbiTrap, RMN).(www.nutrimetabolomics.com)

- ***Methodologies & Approaches***

- Metabolomics and Biomarkers of exposure to active substances, food and/ or dietary patterns. Exploring new robusts, sensitive and reliable biomarkers, based on their bioavailability, activity and intake.
- Development of biomarkers of effect and intake. Clinical biochemistry and molecular biology of obesity and diabetes. Metabolomic profiles studies.
- Metabolomics and Nutritional and Risk Biomarkers of disease, focus on understanding their association with obesity, aging and cardiovascular risk reduction (markers of effect / disease risk).
- Experimental and in silico predictive strategies for assessing intake, metabolism, bioavailability and safety of dietary polyphenols.
- Methodological development in advanced analytical techniques: Nutrimetabolomics in complex biological samples. The methodology applied is based on targeted and/or non-targeted studies using a metabolomic approach (LC-MS/MS, OrbiTrap, RMN).
- The role of food in the host- gut microbiota relationship.
- Intake of polyphenols and risk factors for chronic disease, a metabolomics approach: clinical and epidemiological studies (InCHIANTI, EPIC and PREDIMED study)

Participation in the most relevant European and National projects

The BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS research group from the University of Barcelona lead by Prof Cristina Andres-Lacueva participates in international projects: member of the European consortium JPI-A Healthy Diet for a Healthy Life (JPI HDHL). BioNH: Joint action of the JPI HDHL for Biomarkers in Nutrition and Health (acronym: FOODBALL); University of Barcelona is Core partner in EIT-HEALTH consortium: Healthy Living and Active Aging which aims to promote entrepreneurship and develop innovations in healthy living and active ageing. InnoLife is a consortium of more than 50 core partners (plus 90 associate organizations) of leading businesses, research centres and universities from 14 EU countries. Spanish National contact point in the Nutritional Research Cohort (NRC).
National competitive projects:"Application of Metabolomics in the study of discordant phenotypes Obesity / Diabetes. Metabolic profiles towards prevention and clinical treatment" from the Spanish Health Institute (ISCIII-FIS); SGR-Generalitat of Catalonia; "Functional foods for a personalized nutrition (Food Fun-C-Net)." (Ref .; AGL2014-58205-REDC) Spanish government.
Other private projects with industry (valorisation, CENIT-HIGEA, CDTI, Mapfre foundation, Ordesa laboratories S.L, Institute IMDEA Food, KAO corporation-Japan).

Description of the principal personnel involved with their relevant experience

Prof Cristina Andres-Lacueva, PhD is Associate Professor at the Nutrition&Food Science Department of the Pharmacy School at the University of Barcelona (UB) and leader of "BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS" research group from the UB. The Research group focuses its activity on studies of nutritional metabolomics. The research areas of the group, including exploring new robusts, sensitive and reliable biomarkers, based on their bioavailability, activity and intake of certain foods (with a particular interest in Mediterranean diet) which contains polyphenols and bioactive compounds which can be found as functional ingredients or as natural compounds of food and drink (markers of consumption) and on understanding their association with obesity, aging and cardiovascular risk reduction (markers of effect / disease risk). The methodology applied is based on targeted and/or non-targeted studies using a metabolomic approach (LC-MS/MS, OrbiTrap, RMN). Dr Andres-Lacueva has coordinated several projects and contracts for research and development funded related with biomarkers in Nutrition and Health by the Spanish government, European and International Agencies and has authored ~ 150 peer reviewed research articles. H-Index of 37.
Expertise: Metabolomics, Biomarkers, Microbiota, Clinical Trials, Intervention and Prospective Studies, Obesity/diabetes, cardiometabolic, Aging, Polyphenols, Food Intake.
*Contact:*candres@ub.edu

Major contribution to POSITIVe: WG2, WG3
Additional contribution to POSITIVe: WG1
Role in POSITIVe: MC Member

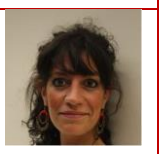
RafaL Lorach Asuncion, PhD is tenure-track 1 lecturer at the University of Barcelona in the "BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS" research group. His scientific career has been focused on the study of polyphenols, measuring their content in food plants and/or evaluating their bioavailability and bioactivity. Actuallly, his main research focused on the development and application of the metabolomics in the study of the relationship between the consumption of fruit-and-vegetable-enriched diet (rich in polyphenols), such as the Mediterranean Diet and the health in the PREDIMED thematic network. Dr Llorach has co-authored ~ 70 peer reviewed research articles.
*Contact:*rafallorach@ub.edu

Major contribution to POSITIVe: WG1, WG3, FG
Additional contribution to POSITIVe : WG2
Role in POSITIVe: Substitute MC Member

Mireia Urpi Sarda, PhD is associate scientist "Ramon y Caja Program" at the "BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS" research group at the University of Barcelona. Her research focuses on the analysis of bioavailability of polyphenols in animals and humans after clinical intervention studies taking into account the role of intestinal microbiota and the identification of their metabolites in body fluids and biological tissues. Her postdoctoral research was on effects of Mediterranean diet on inflammatory biomakers related to atherosclerosis. After, she did research stages at INRA-Clermont-Ferrand and at the University of Aberysthwyth to apply the metabolomics to human biological samples. Her recent research is based in the metabolome modifications after polyphenol-rich diets. The methodology applied is based on targeted and non-targeted studies using a metabolomic approach (LC-MS/MS, LC-q-ToF, NMR). Dr Urpi-Sarda has co-authored ~ 70 peer reviewed research articles.
Contact: murpi@ub.edu

Major contribution to POSITIVe: WG2, TTG
Additional contribution to POSITIVe: WG1

Sara Tulipani, PhD is postdoctoral associate scientist in the "BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS" research group at the University of Barcelona. Her main research focus on the application of metabolomics to study the urinary metabolome changes after consumption of typical foods of the Mediterranean diet, with particular attention to nuts, and in identifying potential nutritional biomarkers of consumption of these foods and biomarkers of effect on health promotion. Her ongoing research is focus on metabolomic study on healthy obese people. She held a predoctoral stay at the Plant Research International at Wageningen (Netherlands) and at the Scottish Crop Research Institute at Dundee (Scotland). Dr Tulipani has co-authored ~ 45 peer reviewed research articles.
Contact: sara.tulipani@gmail.com



Major contribution to POSITIVe: WG2, TTG
Additional contribution to POSITIVe: WG3

Mar Garcia-Aloy, PhD is postdoctoral scientist in the "BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS" research group at the University of Barcelona. In July 2014 she obtained her PhD in Food and Nutrition at the University of Barcelona entitled "Biomarkers of dietary exposure in nutritional studies. Application of an HPLC-Q-ToF metabolomic approach for improving predictive ability through combined multimetabolite models" (http://tdx.cat/handle/10803/271793). Her main research activity focuses on the development of new nutritional biomarkers and biomarkers of disease risk by a metabolomics approach using liquid chromatography coupled to mass spectrometry (LC-MS). Dr Garcia-Aloy has co-authored ~ 21 peer reviewed research articles.
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Major contribution to POSITIVe: WG2, TTG

Nina Görner, PhD is postdoctoral scientist in the "BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS" research group at the University of Barcelona. She obtained a degree in Chemistry and a PhD in Biochemistry at FreieUniversität (FU) in Berlin and the Institute for Research in Biomedicine (IRB), Barcelona. During her PhD at the IRB she participated in a cancer related, interdisciplinary collaboration project with Prof. J. Massagué (Memorial Sloan Kettering Cancer Centre, New York) and determined several protein-peptide complex structures by multi-dimensional NMR spectroscopy, she carried out mass spectrometry measurements, FMOC-solid phase peptide synthesis and chemical ligations, she cloned, expressed and purified protein domains by LC and HPLC and measured binding affinities by isothermal titration calorimetry (ITC). Her main postdoctoral work is focused on targeted metabolomics by LC-MS/MS and GC-MS.

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Major contribution to POSITIVe: WG3, TTG

Olha Khymenets, PhD is postdoctoral fellow in the "BIOMARKERS AND NUTRITIONAL & FOOD METABOLOMICS" research group at the University of Barcelona. She obtained her degree in Biology in the Ivan Franko National University of Lviv (Lviv, Ukraine) and completed her PhD at Pompeu Fabra University (Barcelona, Spain). In 2011 she was granted with Juan de la Cierva Postdoctoral Contract from Spanish Government. Her recent work was in the field of olive oil polyphenols: their bioavailability, effect of metabolism on their bioactivities, and impact of polyphenol-rich olive oil consumption on human health via transcriptomic response. Her current research focuses on analysis of polyphenols bioavailability in human organism, on the impact of consumption of polyphenols-rich food on human metabolome and related to this health benefits. Dr Olha Khymenets has co-authored more than 20 peer reviewed research articles.

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Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

Organisation & Facilities

- Consolidated research group (4 permanent researchers, 1 technical specialist, 2 contracted doctors, 3 PhD students, 5 Bachelor students).
- Advanced instrumentation and excellent laboratory facilities: LC-DAD, LC-Flur, LC-DAD, UPLC-DAD-ESI-TQ MS, GC-FID and GC-MS equipments. Mass spectrometry (MS) detectors are specifically advised for accurate analysis of phenolic compounds. A wide collection of phenolic standards (>200) is also valuable. Specific laboratories for molecular biology, culture microbiology and gut models. The CIAL centre also harbours a Metabolomic Platform, a Biological Laboratory at P2 level (Microbiology, Cell lines) and a Pilot Plant specialized in food processing development and pilot-scale production of functional food ingredients/products.
- Our group leads the Dynamic Gastrointestinal Simulator (SIMGI) Platform that is located at CIAL.

Aims of the Research Group

To investigate the influence of wine polyphenols, and their metabolites, on oral and gastrointestinal health, with particular attention to the effects on dental biofilm, the impact on the intestinal microbiota and their metabolic functionality, and possible modulation of the intestinal immune response. Specifically, we aim:

- To determine changes in the microbiome before and after moderate consumption of wine in healthy volunteers using metagenomics approaches, and to establish connections among bacteria species, specific polyphenol-metabolizing metabotypes and biomarkers of gut and metabolic disorders
- To associate previously identified wine-polyphenols metabotypes to gut microbiota patterns (species and functionality) and individual metabolic response
- To assess if the metabotypes identified are related to the intestinal immune response and to the incidence of gut diseases and metabolic disorders

Methodologies & Approaches

Integrative approaches at different levels are intended: (i) human intervention studies to try and understand the complex biological situation; (ii) assays in oral models and gastro-intestinal simulations to allow the specific study of variables in the diet, and (iii) use of cell line cultures in order to compare the bioactivity of different chemical structures at physiological levels.
Specific methodologies:
Metabolomic analysis: Targeted analysis of phenolic metabolites in faeces and urine (UPLC-ESI-TQ MS/MS), SCFA analysis in faeces (HS-SPME-GC MS), Non-targeted analysis of faeces (UHPLC-TOF MS)
Metagenomic analysis of faecal microbiota by sequencing the 16S rRNA (Illumina MiSeq Personal Sequencer Platform)
Determination of immune markers in faecal samples (Multiplex assay for inmunoglobulins and citoquines determination, and ELISA assay)
Genotyping and gene expression analysis

Participation in the most relevant European and National projects

At present, the group leads 3 Spanish National projects (AGL2012-40172-C02-01, INNPACTO IPT 2012-0130-06000, CSIC-Intramural 201270E065) and 2 International projects (PRI-PIBAR-2011-1358; i-link 1049-CSIC) in relation to the identification of human factors affecting metabolism for wine components. In addition, it has been part of major projects on nutrition and prevention of diseases such as the consortium ALIBIRD-Programme (S2013 / ABI-2728) for R & D between groups of the Community of Madrid (Spain).

Description of the principal personnel involved with their relevant experience

M. Victoria Moreno-Arribas (Scientific Researcher, CIAL, CSIC-UAM)
Bachelor and PhD in Pharmacy from the University Complutense of Madrid (Spain). Her CV included more than 120 original articles (h index = 34) indexed in the Science Citation Index (SCI), edition of 6 international books, and participation in 55 invited lecturer conferences, and as Principal Investigator in 30 R+D projects. Currently, she is Vice-president of the Microbiology Commission at the International Organization of Vine and Wine (OIV) and Director of the Institute of Food Science Research (CIAL), CSIC-UAM.

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG2

Begoña Bartolomé (Scientific Researcher, CIAL, CSIC-UAM)
Bachelor in Chemistry from the University of Valladolid (Spain) and PhD in Chemistry from the University Autónoma of Madrid (Spain). Her CV included more than 130 original articles (h index = 38) published in different journals indexed in the Science Citation Index (SCI), many book chapters and collective issues, several invited conferences, and participation in numerous R+D projects and supervision of PhD and Master students.

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

Lund University ranks among the best universities in Northern Europe and is one of Sweden's largest and most comprehensive universities with approx. 34000 undergraduates, 3200 postgraduates and 6500 employees. It has strong profiles in epidemiology, gene technology, food and nutrition science, immunology, inflammation, oncology and diabetes. Biomedical Nutrition belongs to the Division Pure and Applied Biochemistry and is part of the Centre of Applied Life Sciences.

- ***Aims of the Research Group***

Biomedical Nutrition conducts research on the role of food composition for the health effects of foods on the consumer. In particular, the effects of Nordic foods (the Nordic diet) on the metabolic, cellular and molecular level of the human being are studied to investigate if these foods and their specific bioactive compounds can prevent metabolic diseases (e.g. obesity, diabetes, metabolic syndrome). Biomedical Nutrition is also active in teaching at Lund University, both at the Faculty of Engineering and the Medical Faculty.

- ***Methodologies & Approaches***

- Dietary intervention studies (healthy subjects, patients with metabolic syndrome/obesity/diabetes)
- Biomarkers e.g. carotenoids (HPLC)
- Metabolomics(LC-QTOF/MS), in collaboration with Copenhagen University, Denmark

Participation in the most relevant European and National projects

The Biomedical Nutrition group has been involved in several EU-projects: SYSDIET (Systems Biology in controlled dietary interventions and cohort studies), EuroDISH (Studying the need for food and health research infrastructures in Europe), NuGO (the European Nutrigenomics Organisation) and ECNIS (Environmental Cancer Risk, Nutrition and Individual Susceptibility).

Description of the principal personnel involved with their relevant experience

Dr. Lieselotte Cloetens is working as a Research Scientist at Biomedical Nutrition. She received her PhD in Medical Sciences (Gastroenterology) at the Catholic University Leuven, Belgium. Her main research focuses on the effects of functional foods and Nordic foods on the human metabolism thereby studying if specific compounds could prevent metabolic diseases (e.g. obesity, diabetes, metabolic syndrome).
She has conducted extensive human intervention studies with tailor-made prebiotics including the use of advanced physiological methods and biomarkers. Furthermore, she was leading the Lund branch of the randomised multicentre SYSDIET study. She is the representative of Lund University for EuroDISH. Lieselotte is also responsible for the courses Diet & Health given at Lund University.
Contact: lieselotte.cloetens@tbiokem.lth.se

Major contribution to POSITIVe: WG2, TTG
Role in POSITIVe: MC Member

Prof.Gunilla Önning is a nutritionist with a PhD in Applied Nutrition. Her research focuses on the health benefits of oats and other grains. She has been active in several EU-projects e.g. Beta-Glucan and NuGO.

Major contribution to POSITIVe: WG2

Dr. Anna Johansson-Persson recently received her PhD in Engineering at Biomedical Nutrition, Lund University. She is working in the field of Nutrition & Health for several years. During her PhD-studies she conducted clinical trials with different types of dietary fibres. One of her research topics is metabolomics.

Major contribution to POSITIVe: WG2

Prof.Björn Åkesson is involved in human nutrition research since several decades. Some the major topics are the roles of fat, fibre, antioxidants and bioactive compounds in the diet. In recent years he has made major contributions to the NuGO and ECNIS and the Nordic Centre of Excellence SYSDIET.

Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

The **Swedish University of Agricultural Sciences (SLU)** is one of the top ranking universities in agricultural sciences. SLU develops the understanding and sustainable use and management of biological natural resources. The **Department of Food Science** is one of 36 Departments at SLU and is located in Uppsala BioCenter which is a newly built research cluster at SLU. This cluster provides a stimulating research environment with access to advanced equipment and technical competence in plant biology, OMICs-techniques, and heavy NMR and MS-based infrastructure.The Department of Food Science is organized into four research units and operates within the areas:Composition and structure of plant and animal raw material and foods; Food technology, processing and packaging; and **Food and health**. The unit **Food and Health** has 15 members (senior scientists, PhD-students and one technician).Together the Department gathers about 45 persons to generate and communicate new important knowledge of composition and properties of food and its importance for human health for students, food industry and for the public. This is done in close collaboration with other researchers and different actors in the food chain, nationally and internationally, for the greatest possible community benefit. The research conducted at the Department of Food Science is well recognized internationally and about 50 papers are published per year. The Department has been an active member of the NordicCentre of Excellence programs in Nutrition including the Helga-project, SYSDIET, MitoHealth, EU-projects such as Healthgrain, AVEQ, EuroFIR, and Healthy Structuring.

- ***Aims of the Research Group***

The research in the ***Food and Health*** unit is mainly focused on: evaluation of short- and long term health effects of foods and; development and validation of tools for objective measurement of dietary exposures. The role of the diet, with emphasis on plant foods and their bioactive compounds in health is investigated in short- to medium term intervention studies (appetite, postprandial glucose and hormonal effects in response to specific food components and meals) and in relation to hard endpoints (such as type 2 diabetes, prostate, colorectal cancer and mortality) in epidemiological studies (in the Helga cohort and EPIC).The unit has developed and validated biomarkers of whole grain intake which are used in a great number of internal and external projects. Our research is highly multidisciplinary and we are collaborating closely with leading institutions in medicine and nutritional epidemiology (such as KarolinskaInsitutet, Uppsala University, Harvard University, National University of Singapore, Danish Cancer Society and more). Currently, the unit is applying untargetedMS- and NMR-based metabolomics as a tool to discover and validate new biomarkers of specific food items and dietary patterns to be used in epidemiologic research. We are also conducting metabolome wide association studies for biomarker discovery of type 2 diabetes and associated conditions in large datasets.

- ***Methodologies & Approaches***

- Randomized controlled trials
- Nested case-control studies, cross-sectional studies and prospective cohort studies
- Pharmacokinetic studies
- Targeted analysis of small molecules in foods and biological samples (UHPLC, HPLC-coularray, GC, GC-MS, ELISA)
- Untargeted metabolomics (high-resolution MS and NMR)
- Validation of multivariate models

Participation in the most relevant European and National projects

The unit Food and Health has been engaged in the Nordic Centre of Excellence programs in Nutrition including the Helga-project, SYSDIET, MitoHealth and in EU-projects such as Healthgrain and EuroFIR. The group is also active in the consolidation of the national biobank infrastructure in Sweden (BBMRI.se) for the period 2016-2024. The group is an active member of the national food science platform Food Science Sweden and is the holder of several national and international research grants.

Description of the principal personnel involved with their relevant experience

Rikard Landberg is associate professor in the Department of Food Science, Swedish University of Agricultural Sciences (SLU) where he leads the unit Food and Health. He is also affiliated with the Nutritional Epidemiology unit, Institute of Environmental Medicine at Karoliniska Institute and is a guest researcher at the unit Diet, Genes and Environment, Danish Cancer Society Research Centre, Copenhagen. The main research focus is on health effects of plant based foods and development of novel approaches to measure dietary exposures. Currently, high-fibre cereal foods targeted for improved appetite regulation and beneficial effects on cardiometabolic risk factors are investigated in randomized controlled trials. Rikard and his group is also evaluating long-term effects of healthy foods on pathological endpoint in epidemiological studies using data and samples from large prospective cohort studies such as the Helga-cohort (www.helgaholegrain.org). Metabolomics approaches are currently integrated in the research to provide objective measures of different dietary exposures and for elucidation of underlying mechanisms for observed health effects. Rikard has published about 50 papers, a number of book chapters and he is the editor of the second edition of Whole Grains and Health (Black & Wiley).
Contact: rikard.landberg@slu.se

Major contribution to POSITIVe: WG1, TTG

Role in POSITIVe: MC Member, WG Leader, Steering Committee Member

Carl Brunius is a postdoctoral researcher at the Department of Food Science, Swedish University of Agricultural Sciences (SLU), Food and Health unit. Carl is an expert in bioanalytical method development and validation, classical and multivariate statistics and chemometrics and he is responsible for method development in metabolomics data management within the unit's ongoing health-related projects. The aims of these projects range from discovery and validation of dietary biomarkers and biomarkers of diet-related diseases to mechanistic investigations of observed effects from diet consumption, e.g. in relation to satiety regulation.
Carl'swork in this area is related to quality of data in the data management chain and includes: design of experiments; instrumental analysis, statistical modelling; validation of multivariate methods and; identification of metabolites.
Carl completed his PhD in 2011 in 2.5 years with 8 publications. He has co-authored a total of 11 scientific publications. He also has excellent communication skills and access to a vast stakeholder network and has performed several outreach/stakeholder activities in scientific projects.

Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

BFH (www.bfh.ch) is Bern University of Applied Sciences, located at Bern, capital of Switzerland. It conducts innovative scientific research and development work in fields including nutrition and dietetics for population and individual target groups such as the obese patients. It handles relevant projects within the scope of its activities and within its capabilities in terms of specialisation and personnel. BFH – as a public educational institution in tertiary education (ISCED 5) - offers a science-based curriculum for the education and training of dieticians.

- ***Aims of the Research Group***

The research group has a suitable skill mix to perform with partners from hospital and industry projects on nutrigenetic diagnostics of adiposities combined to accompanied interventions, detect, assess and evaluate new findings in food-drug-interactions, as well as every kind of true individualised nutritional therapy for neglected and special patient groups. It aims to contribute to improve the outcomes and decrease actual morbidities and mortalities in non-communicable diseases.

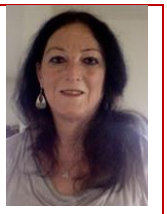
- ***Methodologies & Approaches***

- Translational research: combining basic research with a selection of own research to new nutrition support and therapies suitable satisfying the need of therapists, patients, taxpayers, hospital administrators, and manufacturers
- Rheology and texture analysis
- GC-MS, HPLC-MS, ICP-MS
- FT-IR

Participation in the most relevant European and National projects

In the last years, the individualized nutrition research field has been emerging and developed from bottom up to obtain nationally funding. The international branch is ongoing. The focus of the projects realized are found food-drug interactions, swallowing disorders, menopausal hypo sexual desire disorders, gestational diabetes in Tamil migrants, tumors, wound healing, and individual all-in-one compounding. Contributions are placed in BMJ Pharma, Clinical Nutrition, Aktuelle Ernährungsmedizin, and in Congresses of EAHP, ESSD, ESPEN, GESKES, and a selection of national congresses.

Description of the principal personnel involved with their relevant experience



Dr. Helena Jenzer, PhD, PharmD, Hospital Pharmacist, is reader and principal researcher for pharmako nutrients and personalized nutrition. She is a member in various national (e.g. GSASA, GESKES) and international professional associations (e.g. ESPEN, EAHP). She is member of the Scientific Committee of the EAHP (European Association of Hospital Pharmacists), chairing the annual academy camps.
In research, she is eager to make out the most added values of both pharmacy and nutritional sciences by realizing synergies in their commonalities in biochemistry, pharmacology, or phytochemistry. This is particularly enriching for patients suffering from malnutrition, infertility, tumors, hard-to-heal wounds, or thyroidal diseases. Her main research interests are in clinical nutrition, food-drug interactions, nutrient-gene interactions, parenteral nutrition, bioavailability, and oxygen-free radicals.Actual activities are in Aromatase (CYP19A1) Inhibitors and enhancer, and in geno- and phenotype diagnostic as a basis for nutritional interventions and prevention strategies.
www.gesundheit.bfh.ch/jzh1 www.helena-jenzer.ch
Contact : helena.jenzer@bfh.ch

Major contribution to POSITIVe: WG1, WG3
Additional contribution to POSITIVe: WG2
Role in POSITIVe: Substitute MC Member

Dr. Leila Sadeghi, PhD, Biologist, Public Health Nutritionist, Researcher and Reader for public health nutrition and nutritional biology, obtained her degrees in biology, nutrition and public health (minor) from the University of Minnesota, MN, USA. She is specialised in Whole Grain research, and applied research in nutrition support for migrants. Her actual research topics comprise nutrigenomics, salt reduction in communal catering, caffeine effect in menopausal hypo sexual desire disorder, virtual food market. She is a member of the American Dietetic Association, the Swiss Nutrition Society, and the Swiss Association of Registered Dieticians, member of the Board of Editors, and Jury member for poster contest at congresses.
www.gesundheit.bfh.ch/sgl1

Contact: leila.sadeghi@bfh.ch

Major contribution to POSITIVe: WG1, WG3
Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

ETH Zurich is one of the world's leading universities for technology and the natural sciences, and its Department of Health Sciences and Technology (D-HEST) aims to create the foundations for sustaining and improving the quality of life for people into old age. The mission of its Institute of Food, Nutrition and Health (IFNH) is to create a national and global excellence centre for natural and engineering science of food systems, their processing, and their health impacts with the aim to improve food quality, safety, security, economy, nutritional value and public health. The approximately 250 membered research staff of the IFNH publishes annually more than 100 original publications and several patents. The facilities in the laboratories of INFH groups provide sophisticated instrumentation and state-of the-art infrastructure for food analysis, chemical synthesis, food processing, material science, analysis of stable isotopes, microbiological and biotechnological studies, cell culture studies, animal studies, and human nutrition studies.

- ***Aims of the Research Group***

The aim of the Food Biochemistry group is to improve understanding of health promoting compounds in plant based foods and the possibility to utilize their characteristic chemical features and reactions to improve food quality from a nutritional, technological, or sensory point of view. The group studies the structure-function-property relationships of soluble dietary fibres (beta-glucan, Arabinoxylan) and various phytochemicals (plant sterols and their conjugates, phenolic acids and their esters etc.), and aims to link the structural differences in a group of compounds to properties like nutritional or technological functionality.

- ***Methodologies & Approaches***

- High resolution mass spectrometry for the elucidation of phytochemicals in plants, with a special focus on minor lipids (esp. conjugates of plant sterols), and their association to the genotypic information
- Study of radical mediated reactions in foods and food model systems, and identification of involved radical species with electron paramagnetic resonance (EPR) spectroscopy
- Application of complementary analytical methods (HR-MS/MS, FT-IR, NMR, EPR, rheological tools) to understand processing or chemical reaction induced changes in health promoting compounds (fibres and phytochemicals) at a molecular level
- Enzymatic methods for the production of natural phytochemicals to tailor and optimize their functional properties (solubility, antioxidant activity)
- Evaluation of bioaccessibility, uptake and cellular signaling of phytochemicals, esp. plant sterols and their conjugates using cell culture and in vitro models

Participation in the most relevant European and National projects

The ongoing, nationally funded research projects of the Laboratory of Food Biochemistry include enzymatic reactions of polar steryl conjugates (Swiss National Science Foundation), characterization of secondary metabolites and dietary fibres in cereal grain varieties (Swiss Federal Office for Agriculture), quality improvement of wholegrain wheat flour (Swiss Federal Office for Agriculture), cereal beta-glucan processing for improved molecular interactions (National Research Program, Swiss National Science Foundation), and analysis of beta-glucan oxidation products at a molecular level. While working in Univ. Helsinki (FI), Dr. Nyström was involved in Healthgrain and EuroFIR projects (FP6).

Description of the principal personnel involved with their relevant experience

Dr. Laura Nyström is Assistant Professor of Food Biochemistry at ETH Zurich and the Head of the Laboratory of Food Biochemistry. She received her doctoral degree in Food Sciences (Food Chemistry) from University of Helsinki, Finland. Her research interests include health promoting dietary fibres and phytochemicals from cereal grains and other plant-based foods. This research includes evaluation of nutritional and technological functionalities of food components, understanding the structure-function relationships at a molecular level, as well as finding ways to optimize composition, contents and chemistry of the functional compounds.

Contact: laura.nystroem@hest.ethz.ch

Major contribution to POSITIVe: WG1, TTG
Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The Institute of Life Technologies (ITV) is one of the six research institutes of the University of Applied Sciences and Arts Western Switzerland in Canton Valais. The Institute is comprised of 18 senior researchers (food technologists, microbiologists, analytical and food chemists) and a total scientific staff of about 60 persons. The HES-SO has accredited analytical facilities which permit a thorough screening of plant matrices and stability assessment of bioactive compounds by following degradation pathways and identification of reaction products due to technological processes. The institute is composed of three functional units: Food Technology, Biotechnology and Analytical Chemistry. The Food Technology Unit is headed by Prof. Dr. Wilfried Andlauer, a food chemist with profound knowledge in bioactive plant compounds and in bioactivity testing.All analytical laboratories are ISO 17025 accredited.

- ***Aims of the Research Groups Systems Nutrition and Health and Natural Bioactives and Screening***

- Process & product development for functional and innovative food
- Screening of bioactives in plant raw material and following the fate of selected markers during processing (track and trace). Process optimization for bioactive compound preservation.
- Biological, chemical, physical and sensory properties of food.
- Digestion and absorption of bioactive compounds from different matrices (in vitro, cell culture)
- Development of analytical methods for chemical, pharmaceutical, cosmetic and food applications

- ***Methodologies & Approaches***

Food Technology: Pilot plant equipped for all standard procedures like filtration, drying, pasteurisation, homogenisation, encapsulation, extrusion, etc.
Analytical laboratories: Analytical chemistry laboratory with state of the art equipment (Q-TOF, HPLC-MS/MS, GC-MS/MS, 400 MHz-NMR, ICP-OES, UV and fluorescence microplate reader, etc. Our analytical equipment is adequate to perform all kind of analyses to characterize and quantify bioactive constituents and to assess bioactivity (test systems to evaluate antioxidant activity, fungicide and bactericide activity ...).
Food physics and sensory laboratory. Cell culture laboratory: Two step in vitro digestion combined with a CaCo-2 cell culture model to assess bioavailability of isolated compounds from (processed) food

Participation in the most relevant European and National projects

- COST Action FA0802: Feed for Health, 08/2008 –12/2012
- REFRESH: FP7-Regpot-2010-1-264103, Advisory Board Member, 11/2010 – 10/2014
- TRAFOON: FP7-KBBE-2013-7 Network for the transfer of knowledge on traditional foods to SMEs, 09/2013 – 08/2016
- 10272.1PFLS-LS: Functional food for the management and prevention of neurodegenerative and metabolic disorders. 06/2009 – 05/2011

Description of the principal personnel involved with their relevant experience

Prof. Dr.Wilfried Andlauer, food chemist, head of the Food Technology Unit of the Institute of Life Technologies, University of Applied Sciences and Arts Western Switzerland Valais. Prof. Dr. Andlauer has a track record in the domain of non-nutrient food constituents of plants, and in particular bioavailability and activity of phenolic phytochemicals. He previously assessed the influence of processing methods on phenolic compounds. The development of robust analytical methods (trace and track) for analyses of polyphenols and assessment of their bioactivities is an additional research field. He is coordinator of the HES-SO research programm *Food Quality and Food Safety* (HealthFood).
Contact: wilfried.andlauer@hevs.ch

Major contribution to POSITIVe: WG1
Role in POSITIVe: MC Member

Description of the principal personnel involved with their relevant experience

Dr.Agnieszka Kosinska is an Early Stage Researcher at the Institute of Life Technologies, University of Applied Sciences and Arts Western Switzerland Valais. She received her Ph.D in Food Science at the Polish Academy of Sciences (Olsztyn, Poland). She worked on the development of food products with enhanced content of bioactive compounds. Her main interests focus on phenolic compounds in plant food material: identification, effect of growing conditions and processing, biological activity, absorption and metabolism *in vitro*. The influence of phenolic compounds on the integrity of the intestinal epithelium is a part of current research.

Contact: agnieszka.kosinska@hevs.ch

Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

The Nestlé Institute of Health Sciences (NIHS) does fundamental research for the understanding of health and disease and for developing science-based targeted nutritional solutions for the maintenance of health. NIHS aims at [1] building the scientific platforms to elevate and expand the role of nutrition; [2] creating knowledge to better define and target appropriate nutrition interventions, and [3] applying these insights to the future of targeted nutrition for the maintenance of health. NIHS's long-term vision is to elucidate the complex interaction of diet, genes and lifestyle factors to develop targeted nutritional solutions for the maintenance of health. Such nutritional solutions must have strong scientific underpinning and clinical proof, both of which are important objectives for the NIHS. The role of NIHS within Nestlé is to drive the development of innovative nutritional concepts and products that will benefit consumers worldwide through outstanding scientific and technological research whilst strengthening Nestlé's position as the world's leading nutrition, health and wellness company. NIHS is located at the Innovation Park of the Swiss Federal Institute of Technology in Lausanne (EPFL) and hosts over 140 scientists from 20 different nationalities. Since its creation in 2011, NIHS delivered over 100 peer-reviewed publications and collaborates with numerous universities and companies worldwide.

The Nutrition and Metabolic Health unit studies the effect of nutrition on metabolic health from two angles: [1] in the framework of obesity as a major risk factor for the development of type II diabetes and cardiovascular disease. There is particular interest in understanding which factors influence the trajectory of weight loss and weight maintenance in humans and their correlation with maintaining metabolic health. [2] To understand and approaches how micronutrients (or the lack thereof) relate to health, metabolic imbalance, and generally the metabolic state of individuals in respect to varying genetic, nutritional and cultural backgrounds.

- ***Aims of the Research Group***

The overarching mission of the Systems Nutrition and Health group is to develop systems concepts, experimental designs, and analytical methods to further understand health processes and how to maintain them throughout the course of life. The key goals lie in [1] developing novel experimental designs for assessing health that accounts for genetic and lifestyle variability in humans and pet animals; [2] developing n-of-1 research designs for nutrition and drugs; [3] assessing micronutrient needs in populations with different genetic backgrounds, cultures, and socioeconomic conditions; and [4] developing concepts and methods for assessing phenotypic flexibility linked to health outcomes.

The main goal of the Natural Bioactives and Screening group is to select natural extract hits that are relevant in the prevention and the treatment of Metabolic, Brain, and Gastrointestinal diseases. The biochemical, cellular, and tissue assays optimised by the Nestlé Institute of Health Sciences will constitute the basis of the biological screening activities. Once the hits are selected, the mechanism of action of the extracts will be investigated by identifying the active individual compounds, or more likely groups of active constituents. The group will also try to establish a link between the observed biological response and analytically measurable chemical markers of the extracts.

- ***Methodologies & Approaches***

- Clinical trials
- Systems analysis of
- Omics(proteomic, metabolomic, genomic, clinical, and environmental data) integration
- Biological Screening of natural compounds and extracts
- Computational chemistry (SAR, docking, etc)
- Extract preparation and fractionation at the preparative-scale
- Metabolomics by NMR and LC-MS (for plant extract characterisation, bioactive identification, and cellular models challenged with bioactives)

Participation in the most relevant European and National projects

2012 – 2015 Collaborator. European Union Framework 7. Nutritech (http://www.nugo.org/nutritech). Principal Investigator – Ben van Ommen. TNO. Ziest, The Netherlands. Grant agreement no: 289511

2012 – present Collaborator. European Union Framework 6: DioGenes (http://www.diogenes-eu.org/). Wim Saris. Maastricht University, The Netherlands. Contract no. FP6-2005-513946

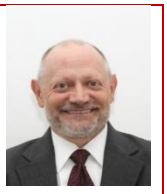
2011 – present NuGO (Nutrigenomics organization), originally EU Framework 6 project and now an association (http://www.nugo.org/everyone).

2012 – present Joint Irish Nutrigenomics Organization Metabolic Challenge (MECHE) study.

Description of the principal personnel involved with their relevant experience

Jim Kaput (PhD in Biochemistry and Molecular Biology) is a senior expert studying health in the Nutrition and Metabolic Health Unit of NIHS. Micronutrients are plant and animal bioactives that function directly as or are metabolized to cofactors for large numbers of enzymatic pathways. With our partners at the Microsoft Research-University of Trento Institute of Computation and Systems Biology, we are constructing a cofactor database of proteins and their genes. These analysis are using systems concepts and methods to link these proteins/genes to normal and disease phenotypes (e.g., obesity, diabetes, and others). A completed multimicronutrient intervention study conducted with collaborators at the University of Sao Paulo RibeiroPreto is being analyzed using these tools to link genetic variation, dietary intake, and phenotypic responses. These studies are providing the proof-of-concept results that may be extended to POSITIVe activities.

Major contribution to POSITIVe: WG2
Role in POSITIVe: MC Member



Sofia Moco (Engineer in Chemistry, PhD in Biochemistry) is a scientist in MS- and NMR-based metabolomics, and is responsible for the Bioactives Biochemistry activities within the Natural Bioactives and Screening department at NIHS. Her research aims at characterising and identifying bioactive compounds from plants and studying its human metabolism, with particular emphasis on the gut-microbial co-metabolism by using metabolomics and pathway analyses strategies.

sofia.moco@rd.nestle.com

Major contribution to POSITIVe: WG1, TTG

Brief description of the Research Group

- ***Organisation & Facilities***

Ege University was founded on May 20th, 1955 and initiated its teaching and academic activities on March 9th, 1956. There are 603 laboratories employed for specific training and research projects conducting by the faculties, schools, institutes and research and application centres. Ege University is currently composed of 11 Faculties, 6 Schools, 7 Vocational Schools, a State Turkish Music Conservatory, 8 Institutes, 5 Departments in special status and 27 Research and Application Centres. There are 3252 teaching staff and 4000 administrative personnel in Ege University consisting of 12400 graduates, 29455 undergraduate, 4726 postgraduates and doctorate students, 495 specialists in medicine in total 47080, by 2014-2015 academic year.

- ***Aims of the Research Group***

Effects of food processing and in vitro digestion on the production of bioactive peptides. Separation of bioactive peptides obtained from boza, a fermented beverage, lentils, common dry beans and dry pinto beans, according to their molecular weights. Development of functional vegetable products containing seed and sprouts and caseinomacropeptide isolated from whey. Determination of health effects including antidiabetic activity, cholesterol-lowering effect, and ACE inhibitory activity of these products. Protease inhibitors in various cereal flours and breads and effects of fermentation, baking and in vitro digestion on trypsin and chymotrypsin inhibitory activity. Nanodelivery system formed by self-assembly of hydrolysed α- lactalbumin. Effect of food processing and in vitro digestion on polyphenols in various foods. Formation of stable sodium caseinate-gum arabic complex for nanoencapsulation and delivery of EPA/DHA fatty acids in fruit juice. In vitro bioaccessibility of oenzymeQ10 in meats and enriched yogurts with emulsified CoQ10, gamma-cyclodextrin CoQ10 complex and nanoparticle CoQ10 preparations. Identification of kefir bioactive peptides released after in vitro digestion and determination of their bioactivities.

- ***Methodologies & Approaches***

- Application of standardized static *in vitro* digestion method suitable for food
- Determination of health effects by *in vitro* methods: antidiabetic activity, glycemic index, cholesterol-lowering effect, antioxidant activity, and ACE inhibitory activity.

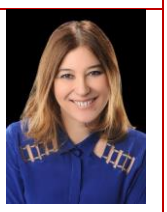
Participation in the most relevant European and National projects

- COST Action Acronym: FA1005 INFOGEST
- COST Action Acronym: FA 1402 (ImpARAS)
- 7th Framework Programme: PATHWAY-27

Description of the principal personnel involved with their relevant experience

Prof. Dr. Sedef Nehir EL has PhD in Food Science and Nutrition. She is a lecturer for Nutrition and Food Biochemistry at the Food Engineering Department in Ege University, Turkey. She has extensive experience in studies on *in vitro* digestion and bioaccessibility of bioactive food constituents and macronutrients, with a special interest in evaluation of health benefits of potential ingredients for functional foods.
Contact: sedef.el@ege.edu.tr

Major contribution to POSITIVe: WG1
Role in POSITIVe: MC Member



Prof. Dr. Sibel Karakaya is a Professor in Nutrition Prof. Dr. Sibel Karakaya in Section of Food Engineering Department of Ege University, Izmir, Turkey. Her research activities include several topics of food science and nutrition, food biochemistry, functional foods and effect of food processing on bioactive compounds. In these fields, she has devoted special attention to bioactive peptides, antioxidant capacities of foods and how in vitro digestion affects the release of bioactive compounds from food matrix.
Contact: sibel.karakaya@ege.edu.tr

Major contribution to POSITIVe: WG1
Role in POSITIVe: Substitute MC Member

Dr. Sebnem SIMSEK has PhD in Food Science and Nutrition. She is a research assistant for Nutrition and Food Biochemistry at the Food Engineering Department in Ege University, Turkey. She has experience in studies on enzyme characterization, antioxidant capacities of foods, *in vitro* digestion of bioactive food constituents and macronutrients such as bioactive peptides and starch, and *in vitro* determination of glycemic index and antidiabetic activity of foods.
Contact: sebnem.simsek@ege.edu.tr

Major contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

Istanbul Technical University (ITU) established in 1773 is the world's third oldest technical university dedicated to engineering sciences, and is one of the most prominent educational institutions in Turkey. The **Food Engineering Department** within Chemical and Metallurgical Engineering Faculty of ITU gathers five full-time professors, two associate professors, four assistant professors, five staff members and twelve research assistants. The members of the department have a broad range of technical interest and expertise, and their diverse backgrounds are quite consistent with the multi-disciplinary nature of the food engineering discipline.

- ***Aims of the Research Group***

The **Food Bioactives Research Group** within Food Engineering Department of ITU has experience on bioactive compounds of plant foods, in particular polyphenols and carotenoids. The aim of this group is (1) to determine the effect of food processing and/or food matrix on bioavailability and bioactivity of health-related compounds, (2) to characterize bioactive compounds from plant processing by-products that could lead to higher value applications and (3) to develop methods that could increase the bioavailability of the target bioactive compounds.

- ***Methodologies & Approaches***

  - Simulation of *in vitro* gastrointestinal digestion
  - Micro and nano-encapsulation of bioactive compounds
  - Chromatographic methods (HPLC, LC-MS)
  - Spectrophotometric methods

Participation in the most relevant European and National projects

Food Bioactives Research Group has been involved in various National (ITU-Scientific Research Projects, Istanbul Development Agency, General Directorate of Agricultural Research and Policies Projects) and European (FP6-FLORA, FP7-ATHENA) collaborative projects as coordinators or partners.

Description of the principal personnel involved with their relevant experience

Dr. Esra Capanoglu is an Associate Professor at Food Engineering Department of ITU. She is the leader of the research group and has extensive experience regarding the analysis of bioactive compounds. Part of her PhD research, which she performed in Plant Research International (PRI), Wageningen UR, the Netherlands, involved the investigation of the effect of industrial paste processing on the bioactive compounds of tomato. She also worked on the enzymes of the flavonoid pathway at the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Germany. Later, during her post-doc in RWTH Aachen University in Germany, she further examined the effect of priming on polyphenol content of tomato fruit. She took part in many national and international projects focusing on polyphenols. International projects that she participated in includes EU 6th framework of FLORA and EU 7th framework of ATHENA projects, which aimed to provide dietary recommendations that include foods with high levels of anthocyanins and related polyphenols to promote health and to protect against chronic diseases. Currently, her research interest is focused on the effect of processing on antioxidants as well as polyphenol bioavailability and bioactivity.

Contact: capanogl@itu.edu.tr

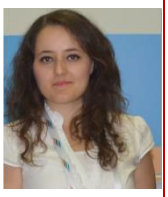
Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: FG

MSc. Senem Kamiloglu is a PhD candidate at two institutions: Food Engineering Department at ITU and Food Safety and Food Quality Department at Ghent University, Belgium. Previously, she was a project assistant in EU 7th framework of ATHENA project, in which she investigated the bioavailability of polyphenols using simulated *in vitro* gastrointestinal digestion models. Later, in Ghent University she participated in EU 7th framework of BACCHUS project where she investigated the impact of the intestinal matrix on *in vitro* bioavailability of hesperidin. Currently, her research is focused on the investigation of bioavailability and bioactivity of black carrot polyphenols using digestion models combined with a co-culture model of intestinal and endothelial cell lines.
Contact: skamiloglu@itu.edu.tr; Senem.Kamiloglu@UGent.be

Major contribution to POSITIVe: WG1
Additionnal contribution to POSITIVe: FG

MSc. Gulay Ozkan is a research assistant and a PhD student at Food Engineering Department of ITU. Previously, she worked as a researcher in a TUBITAK project at Ege University in which she studied the microencapsulation of enzymatically extracted chlorophyll from spinach. Her current research interests are *in vitro* bioavailability methods, phytochemicals, encapsulation and protein-phenolic interactions.
Contact: ozkangula@itu.edu.tr



Major contribution to POSITIVe: WG1
Additionnal contribution to POSITIVe: FG

Brief description of the Research Group

- ***Organisation & Facilities***

Food Institute, being one of the oldest and most renowned institutes of TÜBİTAK Marmara Research Center, was established in 1971. Food Institute has in-depth expertise and experience in conducting R&D projects and conducts research under three strategic units (Food Science and Technology, Nutrition and Functional Foods, and Food Microbiology and Biotechnology). Food Institute gathers 81 personnel (2 managers, 50 researchers, 27 technicians, and 2 support personnel). During the last 10 years, the institute has been involved as coordinators or partners in several national and European funded (FP6 and FP7) projects and has organised several international congress, workshops, and brokerage events.
The Functional Food Group is one of the most active groups within Food Institute and has 8 permanent researchers. The group has multidisciplinary scientists such as Food Engineers, Chemical Engineers, Biochemist, Chemists, and Mechanical Engineer. Functional foods, nutraceuticals, food containing natural functional ingredients, human & clinical nutrition as well as natural and traditional health foods/products are major interests of the group.

- ***Aims of the Research Group***

The **Functional Food Group**conduct research on functional foods, nutraceuticals, natural health products (NHP), and dietary supplements.

- ***Methodologies & Approaches***

- Identification and quantification of bioactives/phytochemicals in foods.
- Well-designed human intervention studies.
- Designing of functional foods and beverages.
- Bioavailability and health benefits of foods and beverages.
- Antioxidants in foods

Participation in the most relevant European and National projects

The Functional Food Group has been involved as coordinators or partners of several National and European funded projects:

- Development of functional instant tea and its health effect (*Project No: 110G028, Funded by KAMAG Group of TÜBİTAK, Ankara, Turkey*), **2011-2014**. Total budget: 750,000 €. Project Coordinator.
- Beneficial effects of dietary bioactive peptides and polyphenols on cardiovascular health in humans (**KBBE.2012.2.2-01**, funded *by FP7-European Union*), **2012-2016**. Total budget: 122,785 €. Project Partner.
- Improving research capacity of TUBITAK MRC Food Institute on functional foods, nutraceuticals, and natural health products (**REGPOT-2012**, funded *by FP7-European Union*), **2012-2015**. Total budget: 1,608,651 €. Project Coordinator.
- Development of research and innovation facilities for improving the regional competitiveness of food industry (*Regional Competitiveness Operational Programme CCI No.: 2007 TR 16I PO 03 - IPA*, *In Progress by European Union*), **2015**. Total budget: 29,778,000 €. Project Coordinator.

Description of the principal personnel involved with their relevant experience

Cesarettin ALASALVAR (Associate Professor), Chief Research Scientist/Deputy Director of the Food Institute at TÜBİTAK Marmara Research Centre in Turkey. He received his PhD at University of Lincoln in the United Kingdom. Alasalvar works in identifying bioactives and phytochemicals present in foods and plant-based products. His research includes identification of phytochemicals, designing functional foods, and conducting well-design human intervention studies. Alasalvar has been active in Institute of Food Technologists (IFT) programs for many years and has played a leadership role in the Nutraceuticals and Functional Foods Division. Currently, he serves as Vice-President of International Society for Nutraceuticals and Functional Foods (ISNFF). Alasalvar coordinates two major European Union funded projects: EU-FP7 (NutraHEALTH) and EU-IPA (INNOFOOD).
Contact: cesarettin.alasalvar@tubitak.gov.tr

Major contribution to POSITIVe: WG1

Additional contribution to POSITIVe: WG2, WG3, FG

Role in POSITIVe: MC Member

Ebru Pelvan is a Senior Researcher at TÜBİTAK MAM Food Institute. She is responsible from the Functional Foods Laboratory. Her research is focused on development of functional food and formulizations, food composition and characterization of bioactives/phytochemicals are conducted within the area of nutrition and functional foods. Specifically, she studies on the characterization of phytochemicals and bioactive compounds in food, determination of antioxidant activity and development of functional food for specific purpose.
Contact: ebru.pelvan@tubitak.gov.tr

Major contribution to POSITIVe: WG1, WG3

Dr Ayse Karadag is a Senior Researcher at TÜBİTAK MAM. She received his PhD from Istanbul Technical University in food delivery systems, performed her PhD studies in Hohenheim University (Germany) and Rutgers State University (NJ, USA) about the use of liposome, nanoemulsion and suspension technologies to encapsulate polyphenols. Her research includes producing cold water dispersible sterol enriched herbal tea formulations to reduce total cholesterol level. She carried out a study to incorporate fish oil into some baked foods by using two different emulsion systems in the presence of seaweed extracts with antioxidant potential due to their phlorotannin content.
Contact: ayse.karadag@tubitak.gov.tr

Major contribution to POSITIVe: WG1

Dr. Banu Bayram is a Senior Researcher at TÜBİTAK MAM Food Institute. She received her PhD from the Technical University of Istanbul in Food Engineering. She performed her PhD studies at Christian Albrechts University of Kiel, Department of Human Nutrition and Food Science. She worked at the Institute of Food Research (IFR) as an exchange researcher under NutraHEALTH project. She has experience in analytical method development & validation, cell culture and animal studies. Her main interests are nutraceuticals, functional foods, bioavailability and biological activity of phenolic compounds. Recently, she has been working on method development for the analysis of sterols in plasma.
Contact: banu.bayram@tubitak.gov.tr

Major contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

The **Institute of Food Research (IFR)** is a world leader in research into harnessing food for health and preventing food-related diseases and is the only UK institute wholly dedicated to food science and diet and health. As one of the UK Biotechnology and Biological Science Research Council's institutes, IFR conducts internationally-ranked fundamental, strategic and applied research with high socio-economic impact, benefitting UK and European industry, consumers, policymakers and regulatory agencies. The Institute is located on the Norwich Research Park (www.nrp.org.uk) along with the University of East Anglia, Norfolk & Norwich University Hospital, and research centres devoted to genome analysis and the plant and microbial sciences.

- ***Aims of the Research Group***

The IFR **Polyphenols and Health Research Group**is led by Dr Paul Kroon who is a Research Leader in the Food & Health Programme.The group's research is focussed on understanding how dietary polyphenols interact with cells and tissues in ways which ultimately causes beneficial physiological effects. The research is focussed on cardiovascular and metabolic health outcomes and includes dietary interventions and bioavailability studies in humans, pre-clinical mechanistic studies in animal (ApoE$^{-/-}$ mice) and cultured human cell models, and use of omics approaches to discover mechanisms of action. Our approaches include using authentic human polyphenol metabolites (synthesised by our chemist) to investigate cellular mechanisms of action, use of metabolite profiling and transcriptomics to identify novel mechanisms of action, and polyphenol-protein interaction studies to characterise key events initiating responses to polyphenols. The IFR group has long-standing collaborations with Prof Cathie Martin at the John Innes Centre in Norwich where we use her group's novel food plants resulting from plant biotechnology to address nutritional questions, and with the Nutrition Department at UEA led by Prof Aedin Cassidy largely focussed on polyphenol bioavailability and efficacy studies in humans.

- ***Methodologies & Approaches***

The Polyphenols & Health Research Group includes several post-docs and experienced technical staff with expertise in organic chemistry, analytical chemistry, molecular nutrition, biochemistry, endothelial biology, human studies, animal studies, and mammalian cell culture studies. In addition there are 2-4 PhD students and 1-3 visiting scientists at any one time. The institute is very well equipped with state-of-the-art equipment including various forms of LC-MS, GC-MS, FT-IR spectroscopy and a 600MHz NMR for analytical chemistry, flow cytometry and cell sorting, immunology and biomarker quantification, tissue sectioning and histochemistry, synthetic chemistry, mammalian cell culture, human dietary intervention studies and animal studies including access to germ-free facilities.

Participation in the most relevant European and National projects

The Institute has been active in research, training, knowledge transfer and networking projects funded by EU FPs since 1983, and is currently involved in >60 projects with partners from across the EU and beyond, being a Work Package Leader or Coordinator in more than 30% of these. IFR is recognised internationally for its communication activities, which are targeted at stakeholder communities, and for its knowledge exchange programme, which is globally networked and channelled through its Food and Health Network (www.foodandhealthnetwork.com). IFR is a founding member of the European Technology Platform Food for Life (etp.ciaa.eu) and of the FOOD*force* network of leading EU centres of food and health research (www.foodforce.org). Collaborating with key partners across Europe, the Institute is developing a Food Knowledge and Innovation Community (www.foodbestoresund.eu) to integrate the education, research and innovation sectors.

Dr Kroon has been a PI in a series of successful EU-funded FP projects including FP5 FLAVO, FP6 BaSeFood, FP7 ATHENA, and currently he coordinates the FP7 project BACCHUS which is concerned with developing scientific evidence and tools to support health claims for polyphenols and bioactive peptides. Paul has also supported several successful Marie Curie postdoctoral fellows and is a partner on an application for an ETN programme and a partner on an ERC Consolidator proposal.

Description of the principal personnel involved with their relevant experience

Dr Paul A Kroon is a Research Leader at the Institute of Food Research and heads the Polyphenols and Health group. His group focusses on basic research to understand the mechanisms by which dietary polyphenols are absorbed and exert health benefits. This knowledge is also used to inform the development of foods with health benefits that are supported by scientific evidence. Dr Kroon is coordinator of the EU FP7 BACCHUS project which is focussed on developing the science to support health claims for food products containing bioactive peptides and polyphenols (http://www.bacchus-fp7.eu/). He is a partner and work package leader in the FP7 ATHENA project. His research has been funded by UK research councils, the EU Framework programmes, the Food Standards Agency, charities and industry. He is an editor for the Molecular Nutrition and Food Research and Nutrition and Ageing journals, Executive Editor for the Journal of the Science of Food & Agriculture and has been Vice President of the Groupe Polyphenols international society. Paul has published more than 130 refereed publications and book chapters.

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1

Role in POSITIVe: Substitute MC Member

Dr Fraser L Courts is a post-doctoral researcher in theIFR Polyphenols and Health group. He obtained his PhD in nutritional biochemistry from the University of Leeds (UK) and worked in academic / translational research for about 4 years before joining IFR. His research at IFR is focussed on undertaking fundamental studies of how polyphenol metabolites interact with the vascular endothelium to affect endothelial function and slow vascular ageing. He is particularly interested in the interactions between polyphenols, cell receptors and their corresponding ligands that are involved in regulating endothelial function and cellular senescence.

Major contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

The Institute of Food Research (IFR) is a publicly funded UK research institute that focuses on the underlying science of food and health to address the global challenges of food security, diet & health, healthy ageing and food waste

- ***Aims of the Research Group***

The aim of IFR's Food and Health research is to improve our understanding of how bioactive compounds found in plant-based foodsand the biophysical structure of foodmay maintain health and prevent and alleviatechronic disease. Our research aims to elucidate the function of bioactive compounds in foods and the manner by which they modulatephysiological processes that impact upon health. We also seek to translate our research outputs into consumer products

- ***Methodologies & Approaches***

The research programme integrates plant and crop sciences, food biophysics and the use of model systems and human intervention studies to address how food can promote health and alleviate chronic disease. It uses the full range of 'omic technologies and system biology approaches to elucidate how food and food components affect biochemical and physiological processes. Human intervention studies range from acute studies to assess bioavailability of specific food components to long term community based studies involving hospital outpatients. Major areas of interest are food and metabolic homeostasis and resilience, and prevention of prostate cancer progression

Participation in the most relevant European and National projects

UK cancer prevention network

Description of the principal personnel involved with their relevant experience

Professor Richard Mithen is the lead scientist of the Food and Health programme at the Institute of Food Research. His main research interest is in bioactive compounds form cruciferous vegetables and the manner by which they may reduce the risk of aggressive prostate cancer through modulating central pathways of metabolism. Contact: richard.mithen@ifr.ac.uk **Major contribution to POSITIVe: WG2, WG3**	
Dr Maria Traka is a senior scientist with expertise in both laboratory based molecular biology and bioinformatics. She is engaged with NGS and metabolomics analyses of human tissue biopsies obtained from volunteers in dietary intervention studies, and the use of cellular and animal model systems for elucidating mode of action of food components. **Major contribution to POSITIVe: WG2**	
Dr Antonietta Melchini is a senior scientist who leads a long term dietary intervention study with men who have low and medium grade prostate cancer. The study involves the collection of prostate biopsy tissue, blood and urine, and obtaining data on habitual food intake and calorific expenditure **Major contribution to POSITIVe: WG2**	

Brief description of the Research Group

- ***Organisation & Facilities***

The Rowett Institute, University of Aberdeen, plays a major role in the UK research capability in nutrition and human health. Much of the current research is sponsored by the Scottish Government and aims to address the big issues of our time, including food inequalities, food security and obesity, as well as the sustainable development of Scotland's food industry. Major programmes of food-related research are also funded by the EU.The Rowett offers substantial expertise and know-how in the design and execution of human dietary intervention studies, and the assessment of efficacy of lifestyle interventions in terms of impact on health, society and economy.

- ***Aims of the Research Group***

Our research programmes at the Rowett aim to understand the complexity of the whole diet; it is important that the diet delivers adequate nutrition as well as preventing certain diet-related diseases. Our analysis of the diet considers the major macronutrients (carbohydrate, protein and fat), micronutrient minerals and vitamins, as well as the non-nutrient phytochemicals that are considered to be beneficial for health. The focus is on (i) assessing the bioavailability and metabolism of phytochemicals, (ii) determining the bioactivity of phytochemicals on metabolic health, inflammation and oxidative stress pathways, and (iii) understanding the human metabolic phenotype (the metabotype) in relation to health.

- ***Methodologies & Approaches***

We have significant expertise in studying the links between diet, foods, exercise and health through large scale observational studies involving thousands of subjects and through randomised controlled human dietary/exercise intervention studies in healthy subjects or subjects at increased risk of chronic disease. We have ready access to state-of-the-art analytical facilities, as well as dietary and exercise intervention facilities. The Human Nutrition Unit at the Rowett Institute of Nutrition and Health provides a state-of-the-art metabolic research facility to study the relationship between diet, exercise and health in human volunteers, enabling the conduct of both residential and out-patient studies. Our analytical facility provide proximate and automated analytical techniques but also support research in the areas of genomics, proteomics and specialised mass spectrometry. The Institute uses electrospray ionisation mass spectrometry for quantification of a range of metabolites by Multiple Reaction Monitoring (MRM), and for the identification of proteins and de novo peptide sequencing.

Participation in the most relevant European and National projects

- Scottish Government-funded research program investigates the effects of traditional versus sustainable feeding regimes of Scottish farmed salmon on heart health, micronutrient status, inflammation, oxidative stress and gut health in the Scottish population (the FISH DISH study).
- JPI DEDIPAC
- TSB funded development of 2nd generation antioxidant ingredients for beverages from marine sources.

Description of the principal personnel involved with their relevant experience

Baukje de Roos is a senior research scientist at the Rowett Institute of Nutrition & Health at the University of Aberdeen. Her research program assesses novel mechanisms through which dietary fatty acids (such as omega-3 fatty acids) and plant polyphenols affect the development of major chronic diseases, such as cardiovascular disease, and resilience to disease development. This is achieved not only by measuring their effect on validated risk markers (for example lipid levels, hematological function, blood pressure) but also by assessing their effect on novel biomarkers that are currently being identified through nutrigenomics technologies. She is the CEO of the European Nutrigenomics Organisation (NuGO), a network of over 25 Universities and Research Institutes across Europe, focusing on jointly developing the existing research area of nutrigenomics, molecular nutrition and personalised nutrition.

Major contribution to POSITIVe: WG2, WG3

Role in POSITIVe: MC Member, Steering Committee, WG leader

Wendy Russell is a senior research fellow in Natural Product Chemistry at the Rowett Institute of Nutrition and Health, University of Aberdeen. Specialised in phytochemical analysis, metabolism, bio-availability and bio-activity she is researching the complex interplay between diet and health. Current focus is on establishing the metabolic phenotype for different population groups and the impact of dietary modulation on nutritionally-related disorders, such as obesity, type 2 diabetes, cardiovascular disease and cancer. This work has involved running several human dietary interventions including macronutrient modulation, weight loss studies, animal vs. plant protein and the effect of plant-based diets. With a key interest in how nutrition impacts on the prevention and management of type 2 diabetes, she chairs International Life Sciences Institute expert groups exploring 'nutritional management of blood glucose' and 'efficacy of dietary intervention in metabolic syndrome'. She also plays an active role in developing healthy and sustainable products for the Food and Drink Industry.

Major contribution to POSITIVe: WG1, WG2

Role in POSITIVe: Substitute MC Member

Brief description of the Research Group

- ***Organisation & Facilities***

The Department of Nutrition, UEA is based in Norwich Medical School (MED) which has 211 staff members and is adjacent to, and strategically integrated with the Norwich and Norfolk University Hospital (NNUH). Areas of research focus in MED include, Nutrition, Cardio-metabolic health, Gastroenterology and gut biology, Medical Microbiology and Health Economics. In addition our research is conducted in collaboration with a number of international groups including Harvard TH Chan School of Public Health, Tufts University, The Twins Unit (Kings College London), the University of Kiel and the University of Illinois
Norwich is fourth in the UK for the number of most highly cited scientists after London, Cambridge and Oxford, with 89% of the Department of Nutrition's research judged to be world-leading or internationally excellent, in the 2014 *Research Excellent Framework* exercise conducted by the UK government.

Our research capabilities and facilities include

- Access to healthy volunteers and all major patient groups via primary and second care networks and the NNUH
- Three complementary clinical trial units, with an arrayof vascular assessment methodologies including FMD and PWV
- A3T MRI scanner,
- *Wellcome Trust,* small animal facility
- In vivo imaging, FACs, DNA sequencing, LC-MS/MS, HPLC-MS/MS

The main aims of our research group are

- Establish the impact and dose-response relationship between plant bioactives and n-3 fatty acids and cardio-metabolic health, cognitive function and cancer risk
- Gain an understanding of dietary flavonoid metabolism (ADME) and its regulation
- Establish the main genetic and phenotypic determinants of n-3 fatty acid and flavonoid status and ADME, and their impact on health end points

- ***Methodologies & Approaches***

Approximately two thirds of our research uses human randomised controlled trial (RCT) methodology in healthy, at-risk or early stage disease individuals. In addition to advancing knowledge in its own right our prospective epidemiological research, cell and rodent studies inform the design and focus of our RCTs and establish underlying mechanisms of action. We conduct both targeted genotyping and sequencing, along with more discovery driven exon or whole genome sequencing. Our flavonoidcharacterisation and ADME studies use HPLC-MS/MS techniques

Participation in the most relevant European and National projects

We are a partnerin the NU-AGE Consortium (FP7), and one of 5 recruiting centres for the RCT which targets low grade inflammation in older adults. We are currently conducting a USDA funded trial examining the benefits of blueberries in adults with the metabolic syndrome and a University of Illinois (Centre for Nutrition Learning and Memory) funded RCT (Norwich, Melbourne, Illinois) which is examining the impact of dietary strategies to improve cognition in older adults with mild cognitive impairment. We are active contributors to ILSI Europe.

Description of the principal personnel involved with their relevant experience

Aedin Cassidy's research team investigates the effects of dietary polyphenols on health with a focus on flavonoids. This includes studying their absorption, metabolism, impact on risk biomarkers and incident disease, and investigation of their physiological and molecular mechanisms of action. Cardio-metabolic health is the main focus of her research programme with endpoints of interest including vascular function and insulin sensitivity and the potential impact of metabolism/microbiota on clinical efficacy. Her research focuses on well characterised prospective cohort studies in combination with human intervention trials

Contact: a.cassidy@uea.ac.uk

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG1

Prof Anne Marie Minihane heads the *Nutrigenetics Group,* in the Department of Nutrition. Her research examines the independent and interactive impact of n-3 fatty acids, select flavonoids and common gene variants on cardiometabolic health. Endpoints of interest include plasma lipids and lipoproteins, vascular function, and the non-alcoholic fatty liver disease phenotype. Over the last 15 years a particular focus has been investigating the aetiological basis for the association between an *APOE4* genotype, and cardiovascular disease and (more recently) Alzheimer's Disease risk, and responsiveness to n-3 fatty acid intervention. Her research uses human RCT and rodent wild-type and transgenic models

Contact: a.minihane@uea.ac.uk

Major contribution to POSITIVe: WG1

Additionnal contribution to POSITIVe: WG2

Role in POSITIVe: MC Member

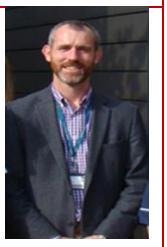
Dr David VAUZOUR received his PhD from the University of Montpellier (France) in 2004. His research over the last 10 years, based at the University of Reading (2005-2011), and at Norwich Medical School, UEA (2011- present), has focused on investigating the molecular mechanisms that underlie the accumulating body of evidence on a positive correlation between the consumption of diets rich in fruits and vegetables and a decreased risk of (neuro)degenerative disorders. In this context, his initial work provided considerable insights into the potential for natural products to promote human vascular function, decrease (neuro)inflammation, enhance memory, learning and neuro-cognitive performances and to slow the progression of Alzheimer's and Parkinson's diseases. His recent interests concern how phytochemicals modulate *APOE* genotype-induced cardiovascular risk and neurodegenerative disorders and their underlying mechanisms.

Contact: D.Vauzour@uea.ac.uk

Major contribution to POSITIVe: WG2

Additionnal contribution to POSITIVe: WG1

Dr Peter Curtis is a senior research fellow at UEA. He leads a team of researchers in the Department of Nutrition, conducting human RCTs. His research examines both the acute and longer-term cardio-metabolic effects of a range of dietary flavonoids in populations at elevated risk of disease (i.e. diabetes, metabolic syndrome, elevated CHD risk). Endpoints of interest include arterial stiffness, endothelial function, insulin resistance and associations with flavonoid metabolites. A focus of current ongoing research includes dose-response studies, with endpoints including, glucose-tracer clamp studies, vascular function, cognition, respiratory function and MRI assessed liver fat. His research is primarily based on human RCTs, involving clinical and academic collaborators.



Contact: p.curtis@uea.ac.uk

Major contribution to POSITIVe: WG2, TTG

Additionnal contribution to POSITIVe: WG1

University of East Anglia (UEA)
Norwich Medical School
Department of Nutrition

UNITED KINGDOM

Dr Noemi Tejera Hernandez is an Early Stage Researcher. Her PhD was focused on essential fatty acid (EFA) requirementsand the important role played by carotenoids in pigmentation and animal health. Following her PhD, she joined Vanderbilt University (USA) as research fellow, where she identified and characterized novel lipid mediators generated by human cells and curcumin oxidative products, using mass spectrometry.

In 2012 she joined Prof Anne Marie Minihane's group at UEA Medical School to contribute to the work programme of the BBSRC (UK Research Council Institute Programme Grant (ISP)) on plant bioactives and health. One of the aims of her research is to investigatethe impact of age, sex, genetic make-up and gut microflora composition on flavonoids' absorption, distribution, metabolism and elimination in humans. In addition she investigates the bioavailability and bioefficacy of plant versus fish sources of n-3 fatty acids. This research is based on human clinical trials and rodent models.

Contact: N.Tejera-Hernandez@uea.ac.uk

Major contribution to POSITIVe: WG2, TTG

Additionnal contribution to POSITIVe: WG1

Brief description of the Research Group

- ***Organisation & Facilities***

The University of Glasgow (founded 1451) is the fourth oldest university in the English-speaking world and is in the top 1% of the world's universities. As a large research intensive University, our academics undertake research across a broad range of disciplines generating new innovations relevant for companies and economies worldwide. Partnering with both public and private organisations to realise the impact of these innovations for society and the economy is core to the mission of the University of Glasgow. Formed in 2010, the College of Medical, Veterinary and Life Sciences brings together internationally renowned experts and state-of-the-art facilities to improve health and quality of life for humans and animals across the globe. Our collaborative, interdisciplinary approach means we can study processes at every level of their biological organization, from genes, to cells, organs, individuals, populations, and ecosystems. The results of our high quality research are used across the UK and internationally to improve human and animal health, quality of life and the competitiveness of the economy. The School of Medicine is internationally recognised for its innovative and distinctive basic science, translational and clinical research programmes in medicine, dentistry, nursing and healthcare based on interdisciplinarity and a multiprofessional approach. Human Nutrition is hosted in a state-of-the-art New Lister building, with access to precision analytical facilities, and specialist environment for the running of all feeding studies and dietary interventions. Close ties with other schools and Institute within the college ensure expertise from molecular and biomarker techniques through to population-level epidemiology and clinical trials.

- ***Aims of the Research Group***

Our research is multi-disciplinary and focuses on how food (including whole foods, specific nutrients, and the way we eat) impacts on health throughout life, from the time peri-conception to old age. We have a particular focus on plant bioactives, in the context of the “farm to fork to society” nexus, and its implications for all stakeholders, from a community, industry and clinical settings.
Current aims include

- identifying the impact of age and ethnicity on colonic determinants of plant bioactives bioavailability and action
- defining the physiological contribution of plant bioactive intake on inflammation and oxidation in specific populations at risk of developing chronic diseases, and in specific patient groups

- ***Methodologies & Approaches***

- Benchtop models of glycation, colonic fermentation and oxidation/nitrosation
- Intervention studies, including short-term acute feeding studies to study bioavailability of phytochemicals and medium to long term-term feeding studies in healthy volunteers and patient groups
- Analytical biochemistry (liquid / gas chromotography and mass spectrometry) with emphasis on bioactive profiling in foods (polyphenolics), biomarkers of colonic metabolism (phenolic acids, short-chain fatty acids) and oxidation/glycation/inflammation (Advanced Glycation End-products)
- Cross-sectional surveys in the clinic and community, focussing on exposure to key dietary compounds (polyphenolics, iodine) in relation to metabolic health or awareness, knowledge and practice related to nutrition.

Participation in the most relevant European and National projects

We are conducting short-term dietary interventions in healthy volunteers and risk populations to identify the determinants of variation on the bioavailability of plant bioactives (Tenovus Scotland & Royal Society funding). New BBSRC-funded research will be initiated shortly, investigating the manipulation of colonic metabolism of polyphenolics.

Description of the principal personnel involved with their relevant experience

Dr Emilie Combet is a lecturer in Human Nutrition at the University of Glasgow, School of Medicine. Her research focuses on how foods and lifestyle impact on health, with pre- and post-doctoral training spanning several fields, from analytical biochemistry to horticulture, food science, physiology, gastroenterology and nutrition. She has a particular interest in carrying out inter-disciplinary research with strong transferable value for public health, clinical and industrial applications.

Recent research has focused on the inhibition of glycation by phenolic acids, the role of colonic fermentation in the bioavailability of plant bioactives, the impact of phenolics on oral biofilms, and the association / impact of polyphenolic-rich diets on cardiovascular disease risk and bowel cancer risk (epidemiological and interventional designs).

Contact: emiliecombet@gmail.com

Major contribution to POSITIVe: WG2, FG

Additional contribution to POSITIVe: WG1, WG3

Ms Susana Palma is a PhD student at the University of Glasgow, School of Medicine. Her research focuses on impact and associations between polyphenol-rich diets and cardiovascular risk. A particular focus is on glycation, type 2 diabetes and protection of the micro- and microvasculature.

Major contribution to POSITIVe: WG2

Additional contribution to POSITIVe: WG3

Brief description of the Research Group

- ***Organisation & Facilities***

Within the School of Food Science and Nutrition, University of Leeds, Leeds, UK, my research combines analytical chemistry, biochemistry, cell biology, molecular biology and human pharmacology to elucidate how biologically active polyphenols affect disease risk, and aims to:
Advance knowledge in the area of absorption, metabolism and biological activities of polyphenols by publishing, delivering lectures at international conferences and influencing government policy, including the European Union.
Determine realistic mechanisms of action of polyphenols on sugar metabolism, energy balance and cell signalling related to reducing the risk of type II diabetes onset.
The group consists of a 4 research postdoctoral scientists and 12 PhD students, together with several undergraduate and MSc project students. All postdocs and PhD students are externally funded from grant income.

- ***Methodologies & Approaches***

Human intervention studies, cell models and analytical techniques such as HPLC-MS.

Participation in the most relevant European and National projects

Prof Williamson holds a European Research Council Advanced Grant "What is the mechanism of the true chronic effect of dietary polyphenols?" Grant agreement no.: 322467 "POLYTRUE?", and is partner and workpackage manager in the EU Framework 7 collaborative projects BACCHUS (Beneficial effects of dietary bioative peptides and polyphenols on cardiovascular health in humans) and PlantLIBRA (Plant food supplements: Levels of Intake, Benefit and Risk Assessment).

Description of the principal personnel involved with their relevant experience

Prof Gary Williamson is a head of the Polyphenols and Health Group. Published over 330 peer-reviewed scientific papers; ISI highly cited author in Agricultural Sciences (h index of 73, September 2014). Thomson Reuters highly cited researcher in recognition of ranking in the top 1% of researchers in their field. Fellow of the Royal Society of Chemistry, and recently was Editor-in Chief of a Royal Society of Chemistry journal, Food and Function. Organiser and Chairman of 4th International Conference on Polyphenols and Health, December 2009. Chairman of Faculty ethics committee at University of Leeds.
Contact: g.williamson@leeds.ac.uk

Major contribution to POSITIVe: WG1
Additional contribution to POSITIVe: WG2

Brief description of the Research Group

- ***Organisation & Facilities***

The ***University of Reading*** has two dedicated research centres, which will each support and contribute to the current work. The recently founded Centre for Food Security builds upon Readings long-standing reputation in food and agricultural research and is designed to contribute to the global food security agenda by enabling increased coordination and focus for this agenda across research disciplines. The Institute for Cardiovascular and Metabolic Research (ICMR) is a multidisciplinary centre that brings together scientists from a wide range of research fields to work to understand the development of cardiovascular diseases. Research is conducted in the 5*-rated School of Chemistry, Food and Pharmacy, Food and Nutritional Sciences Department, which contains all of the core facilities for human clinical trial work. The human intervention studies are conducted in the Hugh Sinclair Nutrition Group, a highly research active group that has a wealth of experience in running large human interventions.

- ***Aims of the Research Group***

The research group (currently 5 PDRA's, 1 research nurse, 2 research technicians and 11 PhD students) is recognised as one of the leading groups in the world dedicated to working mechanistically at the interface of dietary phytochemicals and brain function. Research at the cell, animal and human levels focus on understanding how flavonoids influence brain and cardiovascular health through their interactions with specific cellular signaling pathways pivotal in protection against neurotoxins, in preventing neuroinflammation and in controlling memory, learning and neuro-cognitive performance.

- ***Methodologies & Approaches***

- Randomized clinical trials to investigate vascular and cognitive health/function
- animal models of memory and learning
- Human cognitive assessment using cognitive domain testing, structural MRI and functional MRI
- Vascular function assessment (endothelial function in macro and micro-circulation, arterial stiffness).
- Molecular and cellular analysis: gene expression (qPCR), protein expression (Western blot, proteomics)

Participation in the most relevant European and National projects

- BBSRC grant ref. BB/L02540X/1: Development and application of phenolic-rich oats for the maintenance of cardiovascular health: £534,820; Start: Jan 2015 to Dec 2017
- BBSRC grant ref. BB/L02540X/1: Mechanistic assessment of the acute and chronic cognitive effects of flavanol/anthocyanin intervention in humans: £717,105; Start: Dec 2014 to Nov 2017
- Principal Investigator on a BBSRC-DRINC grant (Grant ref. BB/G005702/1): The impact of cocoa processing on flavanol content, absorption and health effects [Start date: 01-010-08, end date: 3-09-11]: £322,033
- Co-PI on a European Union 7th Framework grant: Targeted delivery of dietary flavanols for optimal human cell function: Effects on cardiovascular health (FLAVIOLA) [Start date: 01-09-09, end date: 31-08-12]: £2,990,000 (£650,000 to Reading)
- PI on a BBSRC grant (Grant ref. BB/F008953/1): Enhancement of learning and memory by flavonoids [Start date: 01-04-08, end date: 31-03-11]: £485,357

Description of the principal personnel involved with their relevant experience

Professor Jeremy P E Spencer received his PhD from King's College London in 1997 and is currently Professor of Nutritional Biochemistry and Medicine at the University of Reading. His initial work focused on the cellular and molecular mechanisms underlying neuronal death in Parkinson's and Alzheimer's disease. His current interests relate to how flavonoids and other polyphenols, found in a number of fruits, vegetables and beverages, promote brain and cardiovascular health. In particular, the focus is on their ability to modulate specific intra*cellular signaling pathways pivotal in promoting blood flow, protecting against neurotoxins, preventing neuroinflammation and in controlling memory, learning and neuro-cognitive performance. He is a member of the BBSRCs* Basic Bioscience Underpinning Health Strategy Advisory Panel, is Editor-In-Chief of Nutrition and Aging and has published over 150 research manuscripts.

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Major contribution to POSITIVe: WG1, WG2
Additional contribution to POSITIVe: WG3