



Università di Camerino



nutrigenomics summer school UNICAM



HR EXCELLENCE IN RESEARCH



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3rd European Summer School on NUTRIGENOMICS June 25-29, 2018 Teatro Pergolesi Jesi Italy

Modulation of the epigenome by nutrition and xenobiotics during early life and across the life span: the key role of life style

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Key role of epigenetics in the programming of adult health

- 14.00 Registration
14.30 Welcome
Chairs: Clarissa Gerhäuser and Melita Vidakovic
15.00 Lecture Torsten Plosch, Dept. Obstetrics and Gynaecology, University Medical Center Groningen, The Netherlands, Introduction to Epigenetics
15.45 Keynote Lecture Michael Müller, Norwich Medical School, University of East Anglia, Norwich, United Kingdom, Nutri-transcriptomics - impact of nutrition for phenotypic flexibility of the intestine
16.30 Coffee break
17.00 Lecture Alfredo Martinez, University of Navarra, Centre for Nutrition Research, Pamplona, Spain, DNA Methylation: metabolism and taste interactions with adiposity
17.45 One minute for you
18.45 Take home message
19.00 Welcome party at 'Gli Spiazzi'
21.30 Concert, Piazza delle Monichette, Jesi

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How nutrition modulates health through nutrigenomics and nutrigenetics

- Chairs: Michael Müller and Baukje De Roos
9.00 Keynote Lecture Clarissa Gerhäuser Division Epigenomics and Cancer Risk Factors, German Cancer Research Center (DKFZ), Heidelberg, Germany, Nutriepigenomics as modulator of health
9.45 Lecture Wim Vanden Berghe Laboratory of Protein chemistry, Proteomics and Epigenetic Signaling University, Antwerp (Wilrijk), Belgium, Nutrients, histone modifications and miRNA
10.30 Coffee break
11.00 Keynote Lecture Lorraine Brennan, Institute of Food and Health and Conway Institute, UCD School of Agriculture and Food Science, Science Centre South, Dublin, Ireland, Metabolic-based identification of clusters that reflect dietary patterns
11.45 Lecture Raffaele De Caterina, Cardiology Division, 'G. d'Annunzio' University, Chieti, Italy, The role of genetic variations on the individual dietary response: how to use nutrigenetics. Guideline from the ISNN
12.30 Light lunch and poster session
Chairs: Michael Müller and Baukje De Roos
15.00 Technical research talk Wim Vanden Berghe Laboratory of Protein chemistry, Proteomics and Epigenetic Signaling University, Antwerp (Wilrijk), Belgium, Technical approaches for epigenetic profiling
15.30 Research talk Clarissa Gerhäuser, Do selected dietary bioactive compounds affect epigenetic mechanisms to reduce the risk of Metabolic Syndrome? Results from the Pathway27 project (www.pathway27.eu)
16.00 Coffee break
16.30 Research talk Mona Mischke, Danone Nutricia Research, Utrecht, the Netherlands, Can synbiotics in early life protect against diet-induced obesity?
17.00 Round table: Highlights on nutrigenomics and human health
Chairs: Michael Müller, Baukje De Roos and Torsten Plosch
18.00 Take home message
19.30 Dinner at 'Pecapi'
21.15 City walls walk tour by Archeoclub, Jesi

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How xenobiotics control gene expression: not just epigenetics

- Chairs: Rosita Gabbianelli and Josep Antoni Tur Mari
9.00 Lecture Stefano Lorenzetti, Istituto Superiore di Sanità, Department of Food Safety and Veterinary Public Health, Unit of Food and Veterinary Toxicology, Rome, Italy, Endocrine Disruptors and Nuclear Receptors: genomic and non genomic actions.
9.45 Lecture Carlos Guerrero-Bosagna, Avian Behavioral Genomics and Physiology Group, IFM Biology, Linköping University, SE-58 183 Linköping, Sweden, Correlation between Environmental Contaminants and Obesity taking into account transgenerational inheritance
10.30 Coffee break
11.00 Lecture Torsten Plosch, Dept. Obstetrics and Gynaecology, University Medical Center Groningen, The Netherlands, Trouble in pregnancy - epigenetic consequences of common pregnancy complications
11.45 Research talk Laura Bordini, Unit of Molecular Biology, University of Camerino, Italy, Permethrin exposure and neurodegeneration: which mechanism behind the damage?
Selected presentations from participants
12.15 Beatrice Choi, Institute of Nutraceuticals and Functional Foods, Laval University, Québec, Effect of a prebiotic cranberry extract on weight loss and glucose tolerance in obese mice exposed to persistent organic pollutants
12.30 Sara Diels, Center of Medical Genetics, Department of Biomedical Sciences, University of Antwerp, Antwerp, Belgium, Elucidating the multifactorial causation of metabolic disease; the interplay between environmental epigenetics and obesity-associated genetic PON1 variants
12.45 Light lunch and Poster session
Chairs: Rosita Gabbianelli and Tur Mari Josep Antoni
14.00 Research talk Carlos Guerrero-Bosagna, DNA methylation as marker of stressful conditions in farmed animals: implication for nutrition
14.30 Research talk Torsten Plosch, Recent models in epigenomic research: smoking mice, placental damage, maternal diabetes
15.00 Research talk Stefano Lorenzetti, Environmental and dietary contaminants as Endocrine Disruptors: different knowledge coming from animal and no animal testing
15.30 Course Photo and Coffee break

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How life style (diet, physical activity, sleep, leisure-time and sedentary behaviour) modifies gene expression

- Chairs: Wim Vanden Berghe and Elisabete Weiderpass Vainio
9.00 Keynote Lecture Tur Mari Josep Antoni, Research Group on Community Nutrition and Oxidative Stress (NUCCOX), University of the Balearic Islands & CIBEROBN (Spain), Epigenetics of redox balance
9.45 Lecture Marco Malavolta, Advanced Technology Center for Aging Research, Scientific and Technological Pole, Italian National Institute of Health and Science on Aging (INRCA), Ancona, Italy, Relevance of modulation of metallothionein gene expression in the biology of aging
10.30 Coffee break
11.00 Keynote Lecture Marianne Rots, Department of Pathology and Medical Biology, University Medical Center Groningen, The Netherlands, Mitochondrial epigenetics: an overlooked layer of regulation?
11.45 Lecture Torsten Bohn, Luxembourg Institute of Health, Luxembourg, Host factors including Genetic Aspects influencing the Absorption, Distribution, Metabolism and Excretion of Carotenoids
12.30 Lecture Carlo Catassi/Elena Lionetti, Department of Pediatrics, Università Politecnica delle Marche, Ancona, Italy, Non-celiac gluten sensitivity
13.15 Light lunch and Poster session
Chairs: Wim Vanden Berghe and Elisabete Weiderpass Vainio
15.30 Research talk Melita Vidakovic, Institute for Biological Research 'Sinisa Stanković', University of Belgrad, Serbia, Technical approaches for epigenetic remodelling
16.00 Research talk Tur Mari Josep Antoni, Epigenetics of redox balance through lifestyle: The PREMEDI-PLUS study
16.30 Coffee break
17.00 Research talk Torsten Bohn, Bioavailability of Carotenoids - Influence of Dietary Factors with a focus on Mineral Interactions
17.30 Research talk Melita Vidakovic, Identification of novel DNA demethylating agents using MeFISH method: Potential application in the treatment of diabetes

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Nutrigenomic biomarkers in blood, urine and saliva.

- Chairs: Marianne Rots and Carlos Guerrero-Bosagna
08.30 Keynote Lecture Baukje De Roos, Deputy Director Rowett Institute, University of Aberdeen, U.K. New insights into nutritional blood biomarkers
09.15 Keynote Lecture Elisabete Weiderpass, Department of Medical Epidemiology and Biostatistics, Karolinska Institute, Stockholm, Sweden, Genome-wide DNA methylation in saliva and body size of adolescent girls
10.00 Coffee break
Selected presentations from participants
10.30 Natassia Robinson, Institute of Health & Society, Newcastle University, U.K., Finding intermediate DNA methylation biomarkers of early life exposures and later life obesity
10.45 Monika Baranowska, Gdansk University of Technology, Faculty of Chemistry, Gdansk, Poland, The influence of phenolic acids on antioxidant defence system of cells
11.00 Sunniva V. Larsen, Department of Nutrition, Institute for Basic Medical Sciences, University of Oslo, Norway, Plasma fatty acid levels and gene expression related to lipid metabolism in peripheral blood mononuclear cells: a cross-sectional study in healthy subject
11.15 Round table: How to transfer research in nutritional practice: is it time to reconsider current recommendations? Chairs: Baukje De Roos and Michael Müller All speakers of the summer school on nutrigenomics
12.15 Poster Award
12.30 Closing remarks

Scientific Committee
Chair Rosita Gabbianelli, University of Camerino, Italy
Raffaele De Caterina, 'G. d'Annunzio' University, Chieti, Italy
Stefano Lorenzetti, Istituto Superiore di Sanità, ISS, Roma, Italy
Michael Müller, University of East Anglia, Norwich, United Kingdom
Cinzia Nasuti, University of Camerino, Italy
Torsten Plosch, Dept. Obstetrics and Gynaecology, Groningen, The Netherlands
Marianne Rots, University Medical Center Groningen, The Netherlands



Si ringrazia il Comune di Jesi per la gentile concessione del Teatro Pergolesi



Local Organizing Committee
School of Pharmacy, Università di Camerino, Camerino, Italy
Chair Rosita Gabbianelli
Laura Bordini
Donatella Fedeli
Cinzia Nasuti

All participants will acquire 6 CFU/ECTS

- Selected presentations from participants
16.00 Natália Yumi Noronha, Departments of internal medicine and Genetics, Ribeirão Preto Medical School, University of São Paulo, São Paulo, Brazil, Methylation of SRRP1 gene is correlated with aluminum and arsenic serum concentration in obese women
16.15 Fatchiyah Fatchiyah, Research Center of Smart Molecule of Natural Genetic Resources, Brawijaya University, Malang, East Java, Indonesia, Milk Alpha-S2 Casein Protein provided Different physiological function on Signal Transduction Gene Cascade and tissue microstructure
16.30 I. Melis Durasi Kumcu, Sabanci University, Faculty of Engineering and Natural Sciences, Istanbul, Turkey, Integrated Analysis of Expression Data Using Directed Signaling Network Identifies Regulatory Pathways in Human Obesity
16.45 Archibold Mposhi, Department of Hepatology and Gastroenterology, Epigenetic Editing, Department of Medical Biology and Pathology, University Medical Center Groningen, The Netherlands, Unravelling the effects of mitochondrial DNA methylation on hepatic energy metabolism
17.00 Jovana Rajić, Institute for Biological Research, Department of Molecular Biology, University of Belgrade, Belgrade, Serbia, Evaluation of the DNA Methylation Status of Procalcitonin Gene as a Biomarker of Local and Systemic Inflammation
17.15 Kathleen Wijnant, Department of Public Health, Ghent University, Ghent University, Belgium, Salivary metabolomics as a new tool for unravelling stress obesity pathways in adolescents from a clinical public health perspective
17.30 Ferenc Torma, Research Institute of Sport and Life Sciences, University Physical Education, Budapest, Hungary, Every other day feeding affects histone H4 acetylation of the BDNF gene in the hippocampal area in low- and high running capacity rats
17.45 Take home message
18.00 Visit of 'Pinacoteca'
20.00 Dinner at 'Catto Matta'
21.30 Visit of 'Palazzo della Signoria'

www.unicam.it/nutrigenomics