Preventing Age-Related Diseases with Redox-Active Compounds: a taste of controversy?

Strasbourg, ECPM, University of Strasbourg
27 – 29 September 2017

Produced using all your keywords
Scientific Committee
Professor Mustapha Cherkaoui Malki, University of Burgundy, Dijon, France
Professor Agnieszka Bartoszek, Gdansk University of Technology, Gdansk, Poland
Professor Claus Jacob, University of Saarland, Saarbrücken, Germany
Professor Patrick Chaimbault, University of Lorraine, Metz, France
Dr Mohammad Tadayyon, Pharmidex, London, United Kingdom
Professor Josep A. Tur, University of the Balearic Islands, Palma de Mallorca, Spain
Professor Elke Richling, TU Kaiserslautern, Kaiserslautern, Germany
Professor Nina Hermans, University of Antwerp, Antwerp, Belgium
Dr Claudia Santos, Instituto Biologia Experimental e Tecnologica, Oeiras, Portugal
Professor Marc Diederich, LBMCC Hopital Kirchberg, Luxembourg, Luxembourg
Dr Linda Giblin, Teagasc Food Research Centre, Fermoy, Co.Cork, Ireland

Local Organizing Committee
Dr Mourad Elhabiri, University of Strasbourg, Strasbourg, France
Dr Caroline Gaucher, University of Lorraine, Nancy, France
Professor Claus Jacob, University of Saarland, Saarbrücken, Germany
Professor Mustapha Cherkaoui Malki, University of Burgundy, Dijon, France
Dr Pierre Andreoletti, University of Burgundy, Dijon, France
Dr Elisabeth Davioud-Charvet, University of Strasbourg, ECPM, Strasbourg, France
Angéline Cherbonnel, University of Strasbourg, Strasbourg, France
Dr Léandro Cotos-Munoz, University of Strasbourg, Strasbourg, France
Vrushali Khobragade, University of Strasbourg, Strasbourg, France
Didier Boettger, University of Strasbourg, Strasbourg, France
Nathalie Bancod, University of Burgundy, Dijon, France

Secretariat
Mourad Elhabiri, UMR 7509 CNRS-University of Strasbourg, European School of Chemistry, Polymers and Materials, 25, rue Becquerel 67200 Strasbourg, France
Email: elhabiri@unistra.fr
Phone: (+33) 3 68 85 26 85
Fax: (+33) 3 68 85 27 42

and

Nathalie, Bancod, BioPeroxIL, EA7270, Laboratoire de Biochimie du Peroxysome, Inflammation & Métabolisme Lipidique, University of Burgundy, 6, Boulevard Gabriel, 21000 Dijon, France
Email: nathalie.bancod@u-bourgogne.fr
Phone: (+33) 3 80 39 62 37
Fax: (+33) 3 80 39 62 50

Congress website: http://blog.u-bourgogne.fr/cost-nutredox/events/event/cost-nutredoxnutriox-joint-meeting-strasbourg/
Contact: Dr Pierre Andreoletti
Email: pierre.andreoletti@u-bourgogne.fr
Foreword

On behalf of the International Scientific Committee and of the Local Organization Committee, it is our great pleasure to cordially welcome you at the University of Strasbourg – Alsace/Région Grand Est in Strasbourg, France to attend the joint scientific meeting “NutRedOx COST Action CA16112 & Postgraduate Training Atelier “NutriOx” 2017”. This book gathers the abstracts of the 2 keynote lectures, 31 oral communications, and 26 poster communications that will be presented by about 120 participants (coming from 36 countries) during the two-day meeting held at the European School of Chemistry, Polymers and Materials (ECPM) of the University of Strasbourg. Besides the University of Strasbourg (Mourad Elhabiri), this meeting will be organized in cooperation with the University of Lorraine (Caroline Gächter), the University of Saarland (Claus Jacob) and the COST Action CA16112 (Mustapha Cherkaoui-Malki and Agnieszka Bartoszek).

The NutriOx Network brings together emerging junior scientists from the region and experts from various disciplines, ranging from analytical and organic chemistry to medicinal, pharmaceutical, nutritional or agricultural sciences to cite a few. This long-term network aims to address questions of nutrition and health. Every year, the NutriOx network runs a workshop for early stage and experienced scientists in the form of an open and informal “Atelier” that is supported by the French-German University. In the tradition of the previous NutriOx workshops (University of Saarbrucken in September 2012, University of Burgundy in September 2013, University of Metz in October 2014, Hospital Kirchberg in Luxembourg in November 2015 and University of Kaiserslautern in September 2016), this Postgraduate Training Atelier 2017 will undoubtedly provide an international forum for early stage scientists, graduate and PhD students as well as Post-Docs.

Exceptionally, this 6th NutriOx Atelier 2017 will be organized jointly with the NutRedOx COST Action annual meeting (CA16112), so that the participants can benefit from the advantages of these two intimately related networks. The NutRedOx COST Action (CA16112) entitled “Personalized nutrition in aging society: redox control of major age-related diseases” started in March 2017 and is led by Prof. Mustapha Cherkaoui Malki (University of Burgundy, France) and co-led by Prof. Agnieszka Bartoszek (Gdansk University of Technology, Poland). Its scientific items are closely linked to the NutriOx network. The NutRedOx COST Action is gathering experts from more than 35 European and Mediterranean countries, and from different disciplines that are involved in the study of biological redox active food components that are relevant to the ageing organism, its health, function and vulnerability to diseases.

This joint meeting entitled “Preventing Age-Related Diseases with Redox-Active Compounds: a taste of controversy?” will focus on up-to-date topics concerning nutraceuticals and health with a particular focus on age-related diseases. The title of this meeting is deliberately challenging and will focus on redox active compounds, with special themes such as their beneficial (or deleterious) use in nutrition for the prevention and eventually treatment of age-related diseases. Nutrition and Ageing is undoubtedly a matter of substance in our society with the raised perennial question: how to stay healthy and prevent disease in a near-natural manner? Maybe “simply” in our daily nutrition? But with which compounds? From which sources? Furthermore, are redox-active natural compounds or nutrients (i.e. there are many in our daily diets) beneficial or deleterious for the human health particular for the elderly? The answers are not straightforward and the understanding of diets and dietary components effects on ageing and age-related diseases requires deeper investigations.
through complementary pluri- and interdisciplinary approaches emanating from analytical, chemical, biochemical and pharmacological, neuroscience, cardiovascular medicine, and nutritional sciences. Many hot-topics have to be studied such as the effects and the mechanisms of actions on cell function of natural or plant-derived constituents (i.e. vitamins, minerals and other micronutrients, as well as non-nutrients) and the potential of these nutrients to modulate environmental and genetic factors linked to age-related diseases.

We are wishing to all of you the best profit from your participation at this joint NutRedOx COST Action CA16112 meeting & NutriOx Atelier 2017 and a pleasant stay in the historical city of Strasbourg and in the Alsace region.

Sincerely yours,

The Organisers:
Dr. Mourad Elhabiri (Laboratoire de Chimie Moléculaire, UMR 7509 CNRS-University of Strasbourg, Strasbourg, France)
Dr. Caroline Gaucher (CITHEFOR, EA 3452, University of Lorraine, Nancy, France)
Pr. Claus Jacob (University of Saarland, Saarbrucken, Germany)
Pr. Mustapha Cherkaoui-Malki (Laboratoire Bio-PeroxIL, EA 7270, University of Burgundy, Dijon, France)
Date: 27 & 28 September 2017

MC member meeting: Amphi Lambla & Wurtz room, European School of Chemistry, Polymers and Materials (ECPM) Strasbourg, 25 rue Becquerel 67200 Strasbourg http://ecpm.unistra.fr/en/contact/access-map/
Date: 29 September 2017

From downtown & Gare de Strasbourg railway station
Cars and pedestrians access: 23, rue du Loess
Pedestrian access (keycard access only from 9:30 am to 05:00 pm): 25, rue Becquerel

From Gare de Strasbourg railway station (15 min) - Take the bus line G "Espace Européen de l'Entreprise" and leave at "Arago" stop. From 7:30 to 9:30 am and from 5.00 to 7:00 pm, you can access the ECPM from 25 rue Bequerel. Between 9:30 am and 5:00 pm, you will need to access campus from the left, 23 rue du Loess, and to walk through the campus following the road signs.

From Strasbourg – Entzheim Airport (45 min) - Take the shuttle train to Strasbourg railway station (http://www.sncf.com/ - every 10 minutes) Take the bus line G "Espace Européen de l'Entreprise" and leave at "Arago" stop. From 7:30 to 9:30 am and from 5.00 to 7:00 pm, you can access the ECPM from 25, rue Bequerel. Between 9:30 am and 5:00 pm, you will need to access campus from the left, 23, rue du Loess, and to walk through the campus following the road signs.
Grateful acknowledgments to:
CONFERENCE PROGRAM

Wednesday 27. September 2017

8:00-8:40 Arrival and registration, coffee
8:40-9:00 Welcome and Opening remarks,
   Dr. Mourad Elhabiri (Unistra) & Dr Caroline Gaucher (U. Lorraine) & Prof. Claus Jacob (U. Saarland) – NutriOx
   Prof. Mustapha Cherkaoui Malki (U. Burgundy) & Prof. Agnieszka Bartoszek (U. Gdansk) – NutRedOx
   COST Action CA16112

Session 1: Isolation, (Bio)characterization, Analysis and Effects of Antioxidants
Chairman Prof. Claus Jacob

9:00-9:40 1st keynote lecture: Prof. Peter Faller (U. Strasbourg, France) The production of reactive oxygen species by Cu-amyloid-β: mechanism, inhibitors and relevance to Alzheimer’s

9:40-10:00 Communication 1: Dr. Svetlana Dinić (Department of Molecular Biology, Institute for Biological Research, University of Belgrade, Belgrade, Serbia) Natural products with antioxidant activities in diabetes treatment

10:00-10:20 Communication 2: Prof. Torsten Bohn (Luxembourg Institute of Health, Luxembourg) Anti-inflammatory properties of carotenoids – an overview

10:20-10:40 Communication 3: Muhammad A. Farooq (U. Strasbourg, France). The omega-3 EPA:DHA 6:1 formulation improves ageing-related blunted endothelium-dependent relaxations and increased contractile responses in the mesenteric artery: role of oxidative stress and cyclooxygenases

10:40-11:10 Poster session and networking + Coffee Break

Chairman Prof. Josep Antoni Tur Mari

11:10 - 11:30 Communication 4: Prof. Elke Richling (U. Kaiserslautern, Germany) Antioxidative effects of a fruit juice rich in anthocyanins in humans

11:30 – 11:50 Communication 5: Prof. Bojana Vidovic (Department of Bromatology, Faculty of Pharmacy, University of Belgrade, Serbia University of Belgrade, Serbia) Effect of different nutraceuticals on paraoxonase 1 enzyme activity and oxidative stress status in middle-aged subjects

11:50 – 12:10 Communication 6: Prof. Ileana Antohe (University of Medicine and Pharmacy "Grigore T Popa" Iasi, Roumania) Natural polyphenols’ antioxidant intervention in a murine experimental model of Diabetes mellitus
12:10 – 12:30 Communication 7: Alberto Corrochano (Teagasc Food Research Centre, Moorepark, Fermoy, Co.Cork, Ireland) Antioxidant activity of whey protein: survival during gut transit and bioavailable to target cells?

12:30 - 12:50 Communication 8: Andreia Gomes (Instituto de Biologia Experimental e Tecnológica, Estação Agronómica Nacional, Oeiras - Portugal) Daily consumption of a (poly)phenol enriched diet prevents death of hypertensive rats: exploring the role of gut microbiota

12:50–14:20 Poster session and networking + Lunch

Session 2: Nutrition & Health

Chairman Prof. Agnieszka Bartoszek

14:20-15:00 2nd keynote lecture: Prof. Eric Marchioni (U. Strasbourg, France) Analysis of bioactive compounds in local and traditional foods. Application to diabetes and their complications

15:00-15:20 Communication 9: Prof. Wim Vanden Berghé (University of Antwerp, Belgium). Characterisation of chemosensitizing effects of the electrophilic steroidal kinase inhibitor withaferin A in therapy resistant multiple myeloma

15:20-15:40 Communication 10: Prof. Norbert Latruffe (University of Burgundy & Head of the NMS association) Presentation of the Mediterranean diet and health association. A link with NutriOx/NutRedOx purposes

15:40-16:00 Communication 11: Prof. Armen Trchounian (Yerevan State University, Armenia) Armenian plants and their callus cultures in biotechnology and medicine: novel results and future study

16:00–16:30 Poster session and networking + Coffee Break

Chairman Prof. Elke Richling

16:30-16:50 Communication 12: Prof. Claus Jacob (University of Saarland, Germany) Redox active natural products: a fountain of inspiration and inexhaustible well of well-being

16:50-17:10 Communication 13: Prof. Niki Chondrogianni (Institute of Biology, Medicinal Chemistry & Biotechnology, Athens, Greece) Proteasome activators in our diet: a promising strategy against aging and aggregation

17:10-17:30 Communication 14: Cristina Bouzas (University of Balearic Islands, Spain) Dietary antioxidant intake and physical activity level among metabolic syndrome elderly patients: preliminary evidence in the Balearic Islands subgroup of the PREDIMED-PLUS trial

17:30-17:50 Communication 15: Manuela Abbate (University of Balearic Islands, Spain) An energy restricted Mediterranean diet does not compromise dietary antioxidant intake: preliminary evidence in the Balearic Islands subgroup of the predimed-plus trial
17:50-18:10  Communication 16: Prof. Hafida Merzouk (University of Tlemcen, Algeria) Effects of vitamins on *in vitro* lymphocyte proliferation, cytokine release and oxidant/antioxidant status in obese aged subjects: impact on telomere length

18:10-18:30  Communication 17: Dr. Caroline Gaucher (University of Lorraine, France) Thiol based nitric oxide donors for cardiovascular diseases treatment

20:15 Conference Dinner

Thursday 28. September 2017

**Session 3: Biological Activity, Intracellular effects and nutrition**

Chairman Dr. Linda Giblin

9:00-9:20  Communication 18: Prof Gerald Thiel (U. Saarland, Germany) Identification of the c-Fos and IL8-encoding genes as delayed response genes following resveratrol stimulation

9:20-9:40  Communication 19: Prof. Paul G. Winyard (University of Exeter Medical School, Main Medical School Building, Exeter, U.K.) Functional effects of dietary inorganic nitrate in humans

9:40-10:00  Communication 20: Justine Bonetti (University of Lorraine, France) Intestinal absorption of nitric oxide donors

10:00-10:20  Communication 21: Romain Schmitt (University of Lorraine, France) S-nitrosoglutathione and intestine barrier integrity on an *ex vivo* rat model of LPS-induced inflammation

10:20-11:00  Poster session, networking and coffee break

Chairman Dr. Elisabeth Davioud-Charvet

11:00-11:20  Communication 22: Prof. Shlomo Sasson (Faculty of Medicine, The Institute for Drug Research, The Hebrew University of Jerusalem, Israel) Lipid peroxidation, lipohormesis and lipotoxicity in insulin secreting beta cells

11:20 – 11:40  Communication 23: Prof. Henrik E. Poulsen (Bispebjerg Frederiksberg Hospital, University of Copenhagen, Copenhagen, Danmark) Evidence for accelerated ageing in type 2-diabetes: RNA oxidation predicts survival in newly diagnosed as well as in manifest type 2-diabetes

11:40 – 12:00  Communication 24: Prof. Carsten Carlberg (School of Medicine, Institute of Biomedicine University of Eastern Finland, Kuopio, Finland) Nutrigenomics of vitamin D: the personalized vitamin D response index

12:00- 12:20  Communication 25: Esma Yagdi (LBMCC - Hopital Kirchberg, Luxembourg) Autophagy modulates survival during mitotic arrest by involving p62 protein in colon cancer
Chairman Prof. Mustapha Cherkaoui Malki

14:00-14:20  Communication 26: Prof Mohamed Zaibi (School of Science and Postgraduate Medicine, The University of Buckingham, Buckingham, United Kingdom)  *Leptadenia hastata* leaf extracts reduce bodyweight gain and improve insulin sensitivity In two animal models of obesity and insulin resistance

14:20-14:40  Communication 27: Dr Barbora Orlikova (LBMCC - Hopital Kirchberg, Luxembourg)  Atypical degradation of PARP-1 and necrotic cell death mediated by methylated indolequinone in chronic myeloid leukemia cells is prevented by new off target function of 3-aminobenzamide

14:40-15:00  Communication 28: Prof. Kyriakos E. Kypreos (University of Patras School of Health Sciences, Department of Medicine, Pharmacology Laboratory, Rio Achaias, Greece)  HDL protein composition as a modulator of lipoprotein functionality: evidence from clinical cases and animals studies

Chairman Prof. Nina Hermans

15:00-15:30  Poster session, networking and coffee break

15:30-15:50  Communication 29 Melita Vidakovic (Institute for Biological Research “Siniša Stanković”, University of Belgrad, Serbia)  Cellular reprogramming via Epi-CRISPRs-induced targeted DNA methylation

15:50-16:10  Communication 30: Prof. Mustafa Atalay (Institute of Biomedicine, Physiology, University of Eastern Finland, Kuopio, Finland)  The protective role of metabolic antioxidant alpha lipoic acid and exercise training in diabetes

16:10-16:30  Communication 31: Dr. Isabel Moreno-Indias (Biomedical Research Institute of Malaga, University Hospital of Malaga, Malaga, Spain)  Gut microbiota as a central mediator of the metabolic status of the host

16:30-17:00  Discussion “NutriOx”, feedbacks and future actions - Closing: Dr. Mourad Elhabiri (Unistra), Dr. Caroline Gaucher (U. Lorraine) & Prof. Claus Jacob (U. Saarland)

17h10 -18h10  Core Group Meeting CA16112

**Friday 29. September 2017**

The program will be sent by Prof. Mustapha Cherkaoui Malki CA16112 (MC Members only)
POSTER COMMUNICATIONS

P1) Virginie Aires, Jean-Jacques Michaille, Dominique Delmas, Fatima Djouadi, Jean Bastin, Mustapha Cherkaoui Malki & Norbert Latruffe. Mirna Modulation by Resveratrol in Human Fibroblasts with Fatty Acid Oxidation-Deficiency as Consequence of Carnitine-Palmitoyl Transferase 2 (CPT2) Mutation

P2) Monika Baranowska, Klaudia Suliborska, Wojciech Chrzanowski, Jacek Namieśnik, Agnieszka Bartoszek. The Impact of Flavan-3-Ols on Expression of Genes Related to Oxidative Stress and Antioxidant Defence


P4) Kateřina Valentová, David Biedermann, Jiří Vrba, Jitka Ulrichová, Vladimír Křen. 2,3-Dehydroflavonolignans as the Active Principle of Silymarin

P5) Corte-Real J., Guignard C., Gatenbein M., Bernard W., Burgard K., Hoffmann L., Richling E., Bohn T. Interactions of Divalent Minerals and Carotenoids during Digestion


P7) Mario Caruana, Neville Vassallo, Ruben J.Cauchi, Michelle Briffa, Stephanie Ghio, Johanna Neuner, Alison J.Gauci, Rebecca Cacciottolo, Christelle Marchal, Christopher Cullin. Mediterranean Plant Extracts Ameliorate Cellular and Animal Models of Neurodegenerative Diseases

P8) Azubuike P. Ebokaiwe. Chemopreventive Role of Quercetin and Vitamin E on Bonny Light Crude Oil-Induced Redox Alterations in Testicular Function of Wistar Rats

P9) E.C.C. Ejike Chukwunonso. African Plants with Redox Modulatory Properties Relevant in Medicine and Agriculture

P10) Bruno Fink, Coy Brunßen, Henning Morawietz, Alexander Rabovsky. Multifunctional Supplement is that the Key to Modulate Redox Signaling in Metabolic Syndrome Volunteers: Cellular Metabolic Index


P13) Züleyş Elmaçoğlu, Sait Yarayıcı, Cem Nuri Aytekın, Berivan Bitik, Berna Göker, Çimen Karasu. Targeting Redox Signaling by Phytophenols in Chondrocytes Isolated from Human Osteoarthritic Articular Cartilage in vitro

P14) M. Khvedelidze, T. Mdzinarashvili, E. Shekiladze. Incorporation of Vitamins in DPPC Nanoparticles as Novel Approach for Drug Delivery to Tumorous MDCK Cells
P15) Maija Dambrova, Andrejs Skesters, Janis Liepins
NutriOX related “Whos and Wheres” from Latvia

P16) T. Mdzinarashvili, M. Khvedelidze, N. Turkadze, I. Papukashvili, E. Lomadze
Physical-Chemical Factors Influence on Bacteria Behavior

P17) Karol Parchem, Agnieszka Bartoszek
Impact of Dietary Oxidized Phospholipids on Human Health and Methods of their Profiling and Assessment in Foods

P18) C. Perrin-Sarrado, V. Salgues, P. Giummelly, P. Leroy, I. Lartaud
Ability of Different S-Nitrosothiols to Induce Vascular Storage of Nitric Oxide and to Decrease Vasoconstrictive Capacities of Isolated Rat Aortae

P19) N. Sahakyan, M. Petrosyan, A. Trchounian
The Radical Scavenging Activity of Ajuga genevensis L. In vitro Culture

P20) Alice Santoro, Nina Ewa Wezynfeld, Wojciech Bal, Peter Faller
Cysteine Triggers the Copper Transfer from Aβ4-16 Peptide to Metallothionein-3

P21) Katarina Smilkov, Tanja Petreska Ivanovska, Tatjana Ruskovska, Kristina Mladenovska
Influence of Microencapsulated Probiotic Intake on Myeloperoxidase Activity in TNBS-Induced Colitis in Rats

P22) Klaudia Suliborska, Monika Baranowska, Agnieszka Bartoszek, Claus Jacob, Jacek Namieśnik, Wojciech Chrzanowski
Potentiometric Titration as a Reliable Method of Determination of Standard Reduction Potentials of Antioxidant Compounds on the Way to the of Antioxidant Power Series

P23) Antoni Sureda, Carla Busquets-Cortés, Xavier Capó, Silvia Tejada, Alejandra Arenas, David Mateos, Antoni Pons, Josep A Tur
A Mediterranean Diet Nutritional Intervention Lowers Blood Pressure and the Production of Reactive Oxygen Species by Immune Cells

P24) Panos G. Ziros, Eleni Ntalampyra, Gerasimos P. Sykiotis
Testing the Effects of Redox-Active Compounds on Thyroid Cells: a Call for Collaborations

P25) Zèlie Triaux, Léa Briard, Odile Petit, Eric Marchioni, Diane Julien-David
Antioxidant Capacity of Plant Extracts

Contribution of Iron Overload and Cholesterol Oxidation in the Pathogenesis of Alzheimer’s Disease