

VI European Workshop on Lipid Mediators (6EWLM)

Goethe University in Frankfurt am Main,
Otto Stern Zentrum, Lecture Hall H2, Campus Riedberg,
Ruth-Moufang-Str. 2, 60438 Frankfurt am Main

Frankfurt, Germany
September 27-30, 2016

Tuesday, September 27

EDUCATIONAL SESSION

13.00 Registration

ANALYTICAL CHEMISTRY OF LIPID MEDIATORS

14.00 Introduction Per-Johan Jakobsson (Karolinska Institute) / Xavier Norel (Inserm)

14:10-15:00 [Giuseppe Astarita](#) (Georgetown University, Washington DC, USA)
Untargeted and targeted lipidomics approaches with a focus on sample preparation, chromatography and data analysis (40 min + 10 Q&A)

15:00-15:50 [David Touboul](#) (CNRS, ICSN, Gif-sur-Yvette, France)
Integration of lipidomics with other omics approaches (40 min + 10 Q&A)

15:50-16:30 *Coffee Break*

16:30-17:20 [Rob Vreeken](#) (Janssen Pharma, Belgium & Maastricht University, The Netherlands)
Imaging mass spectrometry of lipids (40 min + 10 Q&A)

17:20-18:10 [Martin Giera](#) (Leiden University Medical Center, The Netherlands)
Analytical pitfalls and challenges in clinical metabolomics and lipidomics (40 min + 10 min Q&A)

Wednesday, September 28

08:00-09:00 Registration

09:00-09:15 Opening address by organizers – **Otto Stern Zentrum, Campus Riedberg, Lecture Hall H2**

Collaborative Research Centre sessions

Session A. LIPID MEDIATORS AND RESOLUTION OF INFLAMMATION

Chairpersons: *Bernhard Brüne / Dieter Steinhilber (Goethe University Frankfurt)*

09:15-09:45 [Hartmut Kühn](#) (Charité Berlin, Germany)

The role of ALOX15 in the biosynthesis of pro-resolving inflammatory mediators (25 +5 Q&A)

09:45-10:05 [Klaus Scholich](#) (Goethe University Frankfurt, Germany)

Platelet-derived thromboxane promotes proinflammatory macrophage phenotypes during inflammation (15 +5 Q&A)

10:05-10:40 *Coffee Break*

10:40-11:00 [Dieter Steinhilber](#) (Goethe University Frankfurt, Germany)

5-Lipoxygenase and cancer – where are the links? (15 +5 Q&A)

11:00-11:20 [Cecile Gladine](#) (INRA, Human Nutrition Research Unit, France)

Omega-3 fatty acid-derived oxylipins reduce inflammation response in human macrophages: putative mechanism through PPAR-gamma binding (15 +5 Q&A)

11:20-11:40 [Andreea Ioan Facsinay](#) (University Medical Center Leiden, The Netherlands)

The omega-6 fatty acid adrenic acid acts as a pro-resolving mediator (15 +5 Q&A)

11:40-12:10 [Derek W Gilroy](#) (University College London, UK)

Resolution of acute inflammation and innate immune conditioning (25 +5 Q&A)

12:10-14:10 *Lunch and **CRC poster session***

Session B. SPHINGOLIPIDS

Chairpersons: *Josef Pfeilschifter / Dagmar Meyer zu Heringdorf (Goethe University Frankfurt)*

14:10-14:40 [Sibylle Schneider-Schaulies](#) (University of Würzburg, Germany)

Sphingomyelinases regulating T cell activation and modulation by a pathogen (25 +5 Q&A)

14:40-15:10 [Andrea Huwiler](#) (University of Bern, Switzerland)

The yin and yang of S1P in a fibrotic cell response (25 +5 Q&A)

15:10-15:30 [Georgios Grammatikos](#) (Goethe University Frankfurt, Germany)

Sphingolipids as potential biomarkers of hepatic fibrosis and hepatocellular carcinoma (15 +5 Q&A)

15:30-15:50 [Anja Schwiebs](#) (Goethe University Frankfurt, Germany)

Activation-Induced Cell Death of Dendritic Cells Is Dependent on Sphingosine Kinase 1 (15 +5 Q&A)

15:50-16:10 [Robinson Daniel](#) (Northwestern University Feinberg, Chicago, USA)
Long chain fatty acids and their related oxylipins in preterm human milk during the first month of lactation. (15 +5 Q&A)

16:10-16:40 *Coffee Break and Exhibition Visit*

Session C. CYTOCHROME P450 PATHWAYS AND SOLUBLE EPOXIDE HYDROLASE

Chairpersons: *Ingrid Fleming / Eugen Proschak (Goethe University Frankfurt)*

16:40-17:10 [John Imig](#) (Medical College of Wisconsin, Milwaukee, USA)
Soluble Epoxide Hydrolase & Novel Therapeutic Vistas (25 +5 Q&A)

17:10-17:40 [Ingrid Fleming](#) (Institute for Vascular Signalling, Goethe University Frankfurt, Germany)
Looking good? The soluble epoxide hydrolase in the retina (25 +5 Q&A)

17:40-18:00 [Eugen Proschak](#) (Goethe University Frankfurt, Germany)
Discovery of chemical tools for investigation of the phosphatase activity of soluble epoxide hydrolase (15 +5 Q&A)

18:00-18:20 [Anne Konkel](#) (OMEICOS Therapeutics GmbH, Berlin, Germany)
Omega-3 epoxyeicosanoids – from bench to bedside (15 +5 Q&A)

18:20-21:00 Welcome reception at Otto-Stern-Zentrum

Thursday, September 29

08:00-08:30 Registration

Plenary lecture

08:30-09:15 [Bruce Hammock](#) (University of California Davis, USA)
Epoxides of arachidonic acid and docosahexaenoic acid modulate inflammatory and neuropathic pain

Session 1. FAT TISSUE-DERIVED BIOACTIVE LIPIDS AND LIPID DROPLETS: PHYSIOLOGY AND PATHOPHYSIOLOGY / RESOLVING LIPID MEDIATORS

Chairpersons: Joan Claria (Hospital Clinic, Barcelona), Gökçe Topal (Istanbul University)

09:15-09:45 [Daniel Closa](#) (CSIC, Barcelona, Spain)
Halogenated lipids in the inflammatory processes; the case of acute pancreatitis (25 +5 Q&A)

09:45-10:15 [Enrique Claro](#) (Universitat Autònoma de Barcelona, Barcelona, Spain)
Biogenesis and catabolism of lipid droplets during stress (25 +5 Q&A)

10:15-10:50 *Coffee Break*

10:50-11:10 [Karsten Weylandt](#) (Charité Berlin, Germany)
Alox15-deficiency modulates colitis activity in murine colitis (15 +5 Q&A)

11:10-11:30 [Trond Vidar Hansen](#) (University of Oslo, Norway)
The novel lipid mediator PD1n-3 DPA: Structural elucidation, biosynthesis, bioactions and total organic synthesis (15 +5 Q&A)

11:30-11:50 [Minna Holopainen](#) (Finnish Red Cross Blood Service, Helsinki, Finland)
Remodeling of phospholipid membrane in mesenchymal stromal cells: impact of polyunsaturated fatty acid supplementation (15 +5 Q&A)

11:50-12:10 [Valerie Urbach](#) (Paris, France)
Resolvin D1 reduces IL-8 secretion, improves alveolar macrophage activity, restores airway surface liquid height and normalizes nasal potential difference in cystic fibrosis (15 +5 Q&A)

12:10-14:10 *Lunch and poster session I*

Session 2. PROSTAGLANDINS, LEUKOTRIENES AND n-3 PUFAs IN CANCER

Chairpersons: Gerard Bannenberg (GOED, Madrid) / Per Kogner (Karolinska Institute, Stockholm)

14:10-14:40 [Per Kogner](#) (Karolinska Institutet, Stockholm, Sweden)
Tumor promoting inflammation as therapeutic target in childhood cancer (25 +5 Q&A)

14:40-15:10 [Dipak Panigrahy](#) (Beth Israel Hospital and Harvard Medical School, Boston, USA)
Omega-3 polyunsaturated fatty acid-derived pro-resolving lipid mediators in cancer (25 +5 Q&A)

15:10-15:30 [Nadine Rohwer](#) (Charité, Berlin, Germany)

- Low dose aspirin treatment inhibits mouse colon tumorigenesis and modifies the eicosanoid metabolome (15 +5 Q&A)*
- 15:30-15:50 [Shuntaro Hara](#) (School of Pharmacy, Tokyo, Japan)
Role of prostaglandin terminal synthases PGIS and mPGES-1 in chemical-induced carcinogenesis (15 +5 Q&A)
- 15:50-16:10 [Ulrike Garscha](#) (Institute of Pharmacy, Jena, Germany)
5-Lipoxygenase-activating protein (FLAP) rescues activity of 5-lipoxygenase mutations that delay nuclear membrane association and disrupt product formation (20 +5 Q&A)
- 16:10-16:40 *Coffee Break and Exhibition Visit*
- Session 3. PROTEO-METABOLO-LIPIDOMICS**
- Chairpersons: *Nils Helge Schebb (University of Wuppertal) / Nicolas Flamand (Quebec)*
- 16:40-17:10 [Nerea Ferreiros](#) (pharmazentrum, Goethe University Frankfurt, Germany)
Someone there? Handicaps for the detection of pro resolving lipid mediators (25 +5 Q&A)
- 17:10-17:40 [Stefan Offermanns](#) (Max Planck Institute for Heart and Lung Research, Bad Nauheim, Germany)
Physiological and pathophysiological roles of short chain fatty acid receptors (25 +5 Q&A)
- 17:40-18:00 [Pei-an Betty Shih](#) (University of California, San Diego, USA)
Integrating multi-omics biomarkers and postprandial metabolism to develop personalized treatment for anorexia nervosa (15 +5 Q&A)
- 18:00-18:20 [Andreas Koeberle](#) (University of Jena, Germany)
Functional lipidomics reveals role of phospholipid-based lipid mediators in vitamin A signaling (15 +5 Q&A)
- 20:00 Conference Dinner at the Campus Westend, Goethe University Frankfurt, Theodor-W.-Adorno-Platz 3, 60323 Frankfurt

Friday, September 30

6th European Workshop on Lipid Mediators – Day 2

- 08:30-09:15 *Opening lecture*
- [Bill Lands](#) (Fellow, American Society for Nutrition, USA)
Relationship between essential fatty acid intake and lipid mediator biosynthesis and action
- Young Investigator Session**
- Chairpersons: *Jesús Balsinde (CSIC) / Joan Claria (Hospital Clinic, Barcelona)*
- 09:15-09:27 [Cristina Lopez-Vicario](#) (Esther Koplowitz Center, Barcelona, Spain)
Bioactive ω -3-derived lipid mediators regulate white adipose tissue homeostasis and prevent obesity-induced inflammation and insulin resistance (10 +2 Q&A)

- 09:27-09:39 [Astrid Kahnt](#) (Goethe University Frankfurt, Germany)
Molecular mechanisms of lipoxin and resolvin biosynthesis (10 +2 Q&A)
- 09:39-09:51 [Gulsev Ozen](#) (Istanbul University, Turkey)
Role of PGE₂ and H₂S released by PVAT in the vascular tone of healthy or atherosclerotic human coronary vessels (10 +2 Q&A)
- 09:51-10:03 [Jessica Roos](#) (Goethe University Frankfurt, Germany)
Drug-mediated intracellular donation of nitric oxide suppresses 5-lipoxygenase product synthesis in vitro and in vivo by site-directed cysteine-nitrosylation of 5-lipoxygenase (10 +2 Q&A)
- 10:03-10:15 [Owein Guillemot-Legrès](#) (Louvain Drug Research Institute, Brussels, Belgium)
High-fat diet feeding differentially affects the central nervous system inflammatory tone: involvement of bioactive lipids (10 +2 Q&A)
- 10:15-10:27 [Chabha Benyahia](#) (Inserm, Paris, France)
The reduced vasodilation of human pulmonary vessels is related to the down regulation of PGI₂ pathway (10 +2 Q&A)
- 10:27-10:39 [Simona Pace](#) (University of Jena, Germany)
Sex modulation of pro-inflammatory lipid mediator biosynthesis during acute Inflammation (10 +2 Q&A)
- 10:39-10:51 [Sandra Gouveia-Figueira](#) (Umeå University, Sweden)
UPLC-ESI-MS/MS for comprehensive profiling of bioactive lipids in human lung lavage fluids after biodiesel exhaust exposure (10 +2 Q&A)
- 10:51-11:03 [Julia Esser-von Bieren](#) (Techn. Universität and Helmholtz Zentrum, Munich, Germany)
Age dictates a steroid resistant cascade of Wnt5a, transglutaminase-2 and leukotrienes in inflamed airways (10 +2 Q&A)
- 11:03-11:15 [Charlotte Rey](#) (Université de Bordeaux, France)
Resolvin D1 and E1 promote resolution of inflammation in microglial cells in vitro (10 +2 Q&A)
- 11:15-11:50 *Coffee Break and Exhibition Visit*

Session 4. CYCLOOXYGENASE PATHWAY, PROSTACYCLIN AND PGE₂ SYNTHESIS IN THE CARDIOVASCULAR SYSTEM

Chairpersons: *Sönmez Uydes Dogan (Istanbul University) / Xavier Norel (INSERM, Paris)*

- 11:50-12:20 [Nicolas Flamand](#) (Université Laval, Québec City, Canada)
Regulation of human leukocyte functions by endocannabinoids and their metabolites (25 +5 Q&A)
- 12:20-12:50 [Akos Heinemann](#) (University of Graz, Austria)
Role of prostaglandins in leukocyte trafficking (25 +5 Q&A)
- 12:50-13:10 [Yao Chengcan](#) (University of Edinburgh, Ireland)
Regulation of systemic inflammation by prostaglandin E₂ (15 +5 Q&A)
- 13:10-13:30 [Zoltan Benyo](#) (Semmelweis University Budapest, Hungary)
Complex signaling pathways of thromboxane receptor mediated vascular smooth muscle contraction (15 +5 Q&A)
- 13:30-15:30 *Lunch and **Poster Session II***

Session 5. PHARMACEUTICALS BASED ON EICOSANOIDS / LIPID MEDIATOR PHARMACOLOGY AND RECEPTORS

Chairpersons: *Per-Johan Jakobsson (Karolinska Institute Stockholm) / Nan Chiang (Boston)*

- 15:30-16:00 [Brendan Whittle](#) (William Harvey Research Institute, London, UK)
Development of prostanoids as therapeutic agents for vascular disease (25 +5 Q&A)
- 16:00-16:30 [Nan Chiang](#) (Brigham & Women's Hospital and Harvard Medical School, Boston, USA)
Specialized Proresolving Mediators (SPM) as templates for resolution pharmacology (25 +5 Q&A)
- 16:30-16:50 [Daniel Merk](#) (Goethe University Frankfurt, Germany)
Facing non-alcoholic steatohepatitis with FXR activation and sEH inhibition (15 +5 Q&A)
- 16:50-17:10 [Johannes Hendrick von Hegedus](#) (Leiden University Medical Center, The Netherlands)
Chronic Toll-like receptor signalling induces an temporal switch towards a more resolving lipid profile in monocyte-derived macrophages (15 +5 Q&A)
- 17:10-17:30 [Joan Raouf](#) (Karolinska Institute, Stockholm, Sweden)
mPGES-1 deletion increases prostacyclin and evades the elevated systemic ADMA associated with COX-2 inhibitors: relevance to cardiovascular safety of mPGES-1 (15 +5 Q&A)
- 17:30 *Adjourn: Workshop closing address by organizers*