

FEBS Special Meeting 2019 | Sphingolipid Biology: Sphingolipids in Physiology and Pathology

Monday, 2019/5/6

Sala Conde Cantanhede

15:00 - 15:10 Welcome remarks

Remarks

15:00 - 15:10 **Welcome remarks by the organizers**

Liana C. Silva, Giovanni DÇÇAngelo & Christopher Clarke

15:10 - 16:00 The EMBO Keynote Lecture

Keynote Lecture

Chair: Myles Cabot (US)

15:10 - 16:00 **Novel tools and aspects of sphingolipid metabolism and function**

Riezman, Howard (Switzerland)

16:00 - 17:00 Innovative tools to study sphingolipid structure and function

Session I

Chair: Thorsten Hornemann (CH)

16:00 - 16:10 **Overview of the field by the chair: hot topics and open questions**

Thorsten Hornemann

16:10 - 16:35 **Ceramidases: Chemical Sensors and Inhibitors**

Fabrias, Gemma (Spain)

16:35 - 17:00 **Novel applications of Förster resonance energy transfer (FRET) in sphingolipid enzymology**

Arenz, Christoph (Germany)

17:25 - 19:00 Innovative tools to study sphingolipid structure and function

Session I

17:25 - 17:40 **Short and facile synthesis of a combinatorial library of the CERT inhibitor HPA-12**

M. Saied, Essa (Germany)

17:40 - 17:55 **In-situ single cell lipidomics by Imaging Mass Spectrometry**

Capolupo, Laura (Switzerland)

17:55 - 18:20 **The structure and function of alkaline ceramidase 3 are related to adiponectin receptors**

GRANIER, Sebastien (France)

18:20 - 18:35 **Temporal and tissue specific requirements of CerS Schlank and the consequences of its inactivation with respect to the complete protein and the two distinct functional domains of the protein**

Bauer, Reinhard (Germany)

18:35 - 18:50 **Tango for promiscuity: Role of SPTLC3 in generating sphingolipid heterogeneity**

Lone, Museer (Switzerland)

18:50 - 19:00 **General discussion session 1**

Thorsten Hornemann

19:00 - 19:15 Introduction to FEBS activities

Remarks

19:00 - 19:15 **Introduction to FEBS activities**

Zrinka Kovarik

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Foyer

12:00 - 17:00 Arrival & Registration

Other

Sala das Aias & CC Club

17:00 - 17:25 Coffee Break

Networking

19:30 - 20:00 Welcome Drinks

Networking

Sala da Cisterna

20:00 - 23:00 Dinner and informal gathering

Networking

Tuesday, 2019/5/7

Sala Conde Cantanhede

08:30 - 10:00 Sphingolipids in membrane structure and dynamics

Session II

Chair: Alicia Alonso (ES)

08:30 - 08:40 **Overview of the field by the chair: hot topics and open questions**

Alicia Alonso

08:40 - 09:05 **Sphingolipids: from lipid domain pattern to functioning in Alzheimer's disease**

Staneva, Galya (Bulgaria)

09:05 - 09:30 **Profound changes in the dynamic properties of the cell membrane due to sphingolipid accumulation in a cellular model of Gaucher's disease**

Nagy, Peter (Hungary)

09:30 - 09:45 **The effect of canonical and 1-deoxy(methyl) sphingoid bases in membrane fluidity and lateral organization**

Santos, Tania (Portugal)

09:45 - 10:00 **GLTP's emerging role within the lipid synthesis and transport machinery**

Backman, Anders (Finland)

10:20 - 11:50 Sphingolipids in membrane structure and dynamics

Session II

10:20 - 10:45 **Sphingolipid-enriched Domains in Yeast Plasma Membrane: a Biophysical Perspective**
de Almeida, Rodrigo F. M. (Portugal)

10:45 - 11:10 **Impact of glycosphingolipids on membrane organization: focus on lipid nanodomains and their influence on peptide-membrane interactions**

Sarmiento, Maria J. (Czech Republic)

11:10 - 11:25 **Sphingolipid headgroup impact on gel domains in Saccharomyces cerevisiae plasma membrane**

Marquês, Joaquim Trigo (Portugal)

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11:25 - 11:40 **How to get sphingolipids to the plasma membrane - a lipid sorting story**

Podkalicka, Joanna (France)

11:40 - 11:50 **General discussion session 2**

Alicia Alonso

16:20 - 17:50 Sphingolipids in cell physiology: signaling, trafficking and metabolism

Session III

Chairs: Yasuyuki Igarashi (JP) Sarah Spiegel (US)

16:20 - 16:30 **Overview of the field by the chair: hot topics and open questions**

Yasuyuki Igarashi, Sarah Spiegel

16:30 - 16:55 **Membrane lipids and the activity of sphingolipid-cleaving hydrolases**

Sandhoff, Konrad (Germany)

16:55 - 17:20 **Molecular dissection of ceramide-induced apoptosis using photo-actuated lipid probes**

Holthuis, Joost (Germany)

17:20 - 17:35 **The Role of Acid Sphingomyelinase Activity in the Regulation of CREB Signaling**

Rhein, Cosima (Germany)

17:35 - 17:50 **The Unfolded Protein Response (UPR) Activator ATF6 Responds to Proteotoxic and Lipotoxic Stress by Distinct Mechanisms**

Niwa-Rosen, Maho (United States of America)

18:10 - 19:30 Sphingolipids in cell physiology: signaling, trafficking and metabolism

Session III

Chairs: Yasuyuki Igarashi (JP) Sarah Spiegel (US)

18:10 - 18:35 **Sphingolipid de novo biosynthesis: regulation and pathological impact**

Di Lorenzo, Annarita (United States of America)

18:35 - 19:00 **Sphingolipids and Flaviviruses: an intimate union**

Tafesse, Fikadu (United States of America)

19:00 - 19:15 **The glycosphingolipid metabolic switch controls neural differentiation**

Russo, Domenico (Italy)

19:15 - 19:30 **Ceramide Nanoliposomes and Autophagic Inhibitors Synergize in Resistant Head and Neck Squamous Cell Carcinoma**

Shaw, Jeremy (United States of America)

Foyer

21:00 - 23:00 Poster Session & Round Table Discussions I

Poster Sessions & Round Table Discussions

Sala das Aias & CC Club

10:00 - 10:20 Coffee Break

Networking

12:30 - 14:00 Lunch & meet the experts

Networking

17:50 - 18:10 Coffee Break

Networking

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Sala da Cisterna

19:30 - 21:00 Dinner

Networking

N/A

12:00 - 16:00 Conference tour to Sintra

Networking

Wednesday, 2019/5/8

Sala Conde Cantanhede

09:00 - 10:20 Sphingolipids in cell physiology: signaling, trafficking and metabolism

Session III

Chairs: Sarah Spiegel (US) Yasuyuki Igarashi (JP)

09:00 - 09:25 **Systematic development of natural ligand-nonmimetic inhibitors to the ceramide transport protein CERT**

Hanada, Kentaro (Japan)

09:25 - 09:50 **Sphingolipid synthesis inhibition by Myriocin post conditioning enhances lipid consume and ameliorates response to myocardial I/R injury**

Signorelli, Paola

09:50 - 10:05 **The juxtamembrane linker functions as an intramolecular allosteric switch to activate neutral sphingomyelinase-2**

Shanbhogue, Prajna (United States of America)

10:05 - 10:20 **The neutral sphingomyelinase 2 is required for endoplasmic reticulum-plasma membrane communication and cholesterol turnover in T cell activation**

Avota, Elita (Germany)

10:45 - 12:25 Sphingolipids in cell physiology: signaling, trafficking and metabolism

Session III

Chairs: Sarah Spiegel (US) Yasuyuki Igarashi (JP)

10:45 - 11:00 **Ceramide regulates interaction of Hsd17b4 with Pex5 and function of peroxisomes**

Bieberich, Erhard (United States of America)

11:00 - 11:15 **Differential roles of ceramide synthases in pancreatic beta cell demise**

Grieß, Kerstin (Germany)

11:15 - 11:40 **Lipid patterning and interplay during protein sorting at trans-Golgi Network**

BOUTTE, Yohann (France)

11:40 - 11:55 **Sphingosine kinase 1: An enigmatic regulator of the adipocyte circadian transcription complex**

Anderson, Andrea (United States of America)

11:55 - 12:10 **S1P1 receptor activity in rodent brain**

Martínez-Gardeazabal, Jonatan (Spain)

12:10 - 12:25 **General discussion session III**

Sarah Spiegel, Yasuyuki Igarashi

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16:30 - 18:00 Sphingolipids in health and disease

Session IV

Chairs: Thierry Levade (FR) Antonio Gomez-Munoz (SP)

16:30 - 16:40 **Overview of the field by the chair: hot topics and open questions**

Thierry Levade, António Gomez-Munoz

16:40 - 17:05 **Membrane sphingolipid synthesis and metabolic regulation: a novel function of GPRC5B**

Hirabayashi, Yoshio (Japan)

17:05 - 17:30 **Ceramide acyl chain length affects hepatic triglycerides via regulating endoplasmic reticulum stress**

Park, Joo-Won (South Korea)

17:30 - 17:45 **Targeting Dihydroceramide Desaturase (DEGS1) to Overcome Anoikis Resistance in HER2-positive Breast Cancer**

Clarke, Christopher J. (United States of America)

17:30 - 17:45 **Dissecting the role of sphingolipids in the phagocytic clearance of pathogens**

Niekamp, Patrick (Germany)

18:20 - 19:40 Sphingolipids in health and disease

Session IV

Chairs: Thierry Levade (FR) Antonio Gomez-Munoz (SP)

18:20 - 18:45 **Homeostatic and pathogenic roles of GM3 ganglioside molecular species in TLR4 signaling**

Inokuchi, Jin-ichi (Japan)

18:45 - 19:10 **Cancer Associated Glycosphingolipids as Targets for Immunotherapy**

Yu, Alice (Taiwan)

19:10 - 19:25 **PRO-TUMORIGENIC ACTIVITY OF BETA-GALACTOSYLCERAMIDASE: A NOVEL PLAYER IN CUTANEOUS MELANOMA**

Belleri, Mirella (Italy)

19:25 - 19:40 **SMPDL3B is a Major Regulator of Proteinuria in Experimental Alport Syndrome**

Mitrofanova, Alla (United States of America)

Foyer

14:30 - 16:30 Poster Session & Round Table Discussions II

Poster Sessions & Round Table Discussions

Sala das Aias & CC Club

10:20 - 10:45 Coffee Break

Networking

12:30 - 14:30 Lunch & meet the experts

Networking

18:00 - 18:20 Coffee Break

Networking

N/A

20:00 - 00:00 Free night out with the experts

Networking

Thursday, 2019/5/9

Sala Conde Cantanhede

09:00 - 10:20 Sphingolipids in health and disease

Session IV

Chairs: Antonio Gomez-Munoz (ES) Thierry Levade (FR)

09:00 - 09:25 **Ceramide metabolism alterations in melanoma: from basic mechanisms to immunotherapy in advanced melanoma patients**

Ségui, Bruno (France)

09:25 - 09:50 **Regulation of Sphingomyelin Synthase 1 in Leukemia: an Interesting "Start"**

Luberto, Chiara (United States of America)

09:50 - 10:05 **Sphingolipid Modulation Activates Autophagy and Proteostasis Programs to Govern Human Hematopoietic Stem Cell Self-renewal**

Xie, Stephanie (Canada)

10:05 - 10:20 **Sphingosine Kinases are key effectors of IL-7R-mediated signaling, viability, growth and proliferation in T-cell Acute Lymphoblastic Leukemia**

B. Fernandes, Marta (Portugal)

10:45 - 12:25 Sphingolipids in health and disease

Session IV

Chairs: Antonio Gomez-Munoz (ES) Thierry Levade (FR)

10:45 - 11:10 **Targeting sphingosine kinases in disease**

Pyne, Susan (United Kingdom)

11:10 - 11:25 **The Apolipoprotein M/S1P Axis Controls Triglyceride Metabolism and Brown Fat Activity**

Christoffersen, Christina (Denmark)

11:25 - 11:40 **Non-Canonical Sphingolipids Mediate Cardiomyocyte Death in Models of Ischemia**

Kovilakath, Anna (United States of America)

11:40 - 11:55 **Glycosphingolipid Dynamics in Human Embryonic Stem Cell and Cancer**

Yu, John (Taiwan)

11:55 - 12:10 **The Good, the Bad and the Ugly: 1-deoxysphingolipids in anoxic death, viral infections and anthrax intoxication**

Hannich, J. Thomas (Switzerland)

12:10 - 12:25 **General discussion session IV**

António Gomez-Munoz, Thierry Levade

15:00 - 15:40 Flash talks selected from posters

Poster Sessions & Round
Table Discussions

Chair: Riccardo Ghidoni (IT)

15:00 - 15:30 **Flash talks selected from posters**

15:30 - 15:40 **Discussion**

15:40 - 16:55 ISN Symposium in Sphingolipids in neural pathologies

Session V

Chair: Elisabetta Albi (IT)

15:40 - 15:50 **Overview of the field by the chair: hot topics and open questions**

Elisabetta Albi

15:50 - 16:15 **Host glucosylceramide levels modulate the virulence of viral infections of the CNS**

Vitner, Einat (Israel)

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16:15 - 16:40 **The role of the non-lysosomal glucosylceramidase GBA2 in regulation locomotion**

Wachten, Dagmar (Germany)

16:40 - 16:55 **Chronic stress causes neurodegeneration through AMPA receptor and Gd1a ganglioside in age and sex specific manner in rats**

Balog, Marta (Croatia)

17:20 - 18:25 **ISN Symposium in Sphingolipids in neural pathologies**

Chair: Elisabetta Albi (IT)

Session V

17:20 - 17:45 **Role of sphingolipids in major depression**

Gulbins, Erich (Germany)

17:45 - 18:10 **Sphingolipid metabolism: new perspectives for treating Huntington's disease**

Maglione, Vittorio (Italy)

18:10 - 18:20 **General discussion session V**

Elisabetta Albi

18:25 - 19:15 **Keynote Lecture II**

Chair: Tony Futerman (IL)

Keynote Lecture

18:25 - 19:15 **ER-Golgi contact sites**

Antonella De Matteis (Italy)

19:15 - 19:30 **Concluding remarks**

Remarks

19:15 - 19:25 **Concluding remarks**

Liana C. Silva, Giovanni DÇÇAngelo & Christopher Clarke

Sala das Aias & CC Club

10:20 - 10:45 **Coffee Break**

Networking

12:30 - 15:00 **Lunch & meet the experts**

Networking

16:55 - 17:20 **Coffee break**

Networking

23:00 - 02:00 **Conference Party**

Networking

Sala da Cisterna

20:00 - 23:00 **Conference dinner & announcement of the prizes**

Networking

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Friday, 2019/5/10

N/A

07:00 - 12:00 Breakfast and departure

Other