

Programme ESPL2025 Bonn

Sunday 6 July 2025

15:00 – 19:00 Registration and Poster hangup

16:00 – 19:00 Welcome reception

Monday 7 July 2025

08:15 – 08:45 Registration and Poster hangup

08:45 – 09:00 Conference Welcome - Peter Dörmann & Benni Franke

09:00 – 09:40 Opening Session

Chair: Frédéric Domergue, CNRS Bordeaux, DE

09:00 – 09:40 Key Note Lecture

*The rise and fall of wax accumulation in the black cottonwood *Populus trichocarpa**

Eliana Gonzales-Vigil - University of Toronto, CA

09:40 – 10:25 Flash Talks Session

Chairs: Frédéric Domergue, CNRS Bordeaux, FR &

Rochus Benni Franke, University of Bonn, DE

09:40 – 10:25 **Poster Flash Talks**

All Poster Presenter in the Order of Poster Numbers

10:25 – 10:55

Coffee break

10:55 – 12:35 Session 1 - Membrane Lipids: Structure and Function

Chair: Peter Dörmann, University of Bonn, DE

10:55 – 11:35 Key Note Lecture

Why glycolipids in the thylakoid membranes?

Koichiro Awai - Shizuoka University, JP

11:35 – 11:50

*SAR studies of synthetic phosphatidylglycerols for growth and photosynthesis of *Synechocystis sp. PCC 6803**

Masato Abe - Ehime University, JP

11:50 – 12:05

*Investigating a chloroplast-localized DEFECTIVE IN ANther DEHISCENCE1-LIKE LIPASE hetero-oligomeric complex in *Arabidopsis thaliana**

Alyssa Clews - University of Guelph, CA

12:05 – 12:20

Betaine Lipids overexpression in higher plants

Juliette Jouhet - CEA Grenoble, FR

12:20 – 12:35

*Loss of fatty acid 2-hydroxylation alters plasma membrane composition in the *Arabidopsis* autoimmune *fah1 fah2* mutant*

Lenin Daniel - University of Göttingen, DE

12:35 – 13:35 **Lunch**

13:35 – 14:45 Session 2 - Lipid Biotechnology and Technologies in Lipid Research (Part I)
Chair: Ida Lager, SLU Alnarp, SE

13:35 – 14:00 Early Career Scientist Lecture
Biosynthesis, function and biotechnological application of the glycine-glucolipid in the marine bacterium *Alcanivorax borkumensis*
Jiaxin Cui - University of Bonn, DE

14:00 – 14:15 *Genomic and genetic insights into the diversity of seed oil fatty acid composition in *Camelina Sativa**
Chaofu Lu - Montana State University, US

14:15 – 14:30 *Genome- and transcriptome-wide association studies provide insights into the genetic basis of natural variation of seed oil content in *Brassica napus**
Shan Tang - Yazhouwan National Laboratory, CN

14:30 – 14:45 *CRISPR/Cas9 induced LEAFY COTYLEDON 1 gene duplication in oilseed rape*
Peter Eastman - Rothamsted Research, UK

14:45 – 15:30 **Coffee break**

15:30 – 16:55 Session 3 - Diverse Lipids in Development, Physiology and Evolution
Chair: Till Ischebeck, University of Münster, DE

15:30 – 16:10 Key Note Lecture
Investigation of an important gene affecting development, seed production and lipid accumulation in *Brassica napus*
Pan Liao - Hongkong Baptist University, HK

16:10 – 16:25 *Elucidating the molecular mechanism underlying the function of 2-Cys peroxiredoxins in chloroplast lipid unsaturation in *Arabidopsis thaliana**
M. Luisa Hernandez - Universidad de Sevilla, ES

16:25 – 16:40 *The requirement for complex phosphosphingolipids (GIPCs) for normal growth and development does not universally include sugar headgroup specificity*
Tegan Haslam - University of Göttingen, DE

16:40 – 16:55 *Towards Comprehensive Lipid Quantification in Plants*
Katharina Gutbrod - University of Bonn, DE

16:55 – 18:30 Poster Session – Odd Numbers

Tuesday 8 July 2025

08:45 – 10:25 Session 4 - Lipid Biotechnology and Technologies in Lipid Research (Part II) Chair: Ivo Feussner, University of Göttingen, DE

- 08:45 – 09:25 Keynote Lecture
Tracing tobacco stigma estolide oil biosynthesis through functional genomics and isotope labeling
Isabel Molina - Algoma University, CA
- 09:25 – 09:40 *Regulation of fatty acid elongation enhances the production and accumulation of hydroxy fatty acids in Arabidopsis thaliana*
Hyun Uk Kim - Sejong University, KR
- 09:40 – 09:55 *Suber-Loop-lines : Unlocking the biotechnological potential of suberin*
Vanessa Reyes-Loaiza - CRAG (Centre for Research in Agricultural Genomics), ES
- 09:55 – 10:10 *Lipoxygenases in soybean seeds: use of molecular markers and enzymatic assays as tools for breeding*
Andrea Irias Mata - University of Costa Rica, CR
- 10:10 – 10:25 *Functional identification and synergistic effect study of critical genes required for highly efficient dihydroxy fatty acid biosynthesis and accumulation in O. limprichtianus and O. violaceus seeds*
Chunyu Zhang - Huazhong Agricultural University, CN

10:25 – 10:55 **Coffee break**

10:55 – 12:35 Session 5 - Lipid Signaling and Lipids at the Plant Environment Interface Chair: Katrin Philippar, Saarland University, DE **(Part I)**

- 10:55 – 11:35 Key Note Lecture
Cuticular wax biosynthesis is enhanced by light-triggered photoreceptor degradation
Mi Chung Suh - Sogang University, KR
- 11:35 – 11:50 *Cuticle deposition as key component of leaf development and adaptation*
Lucca Piccinini - CRAG (Centre for Research in Agricultural Genomics), ES
- 11:50 – 12:05 *ROP6-mediated auxin signaling relies on plasma membrane lipid interleaflet coupling*
Matheus Montrazi - CNRS Bordeaux, FR
- 12:05 – 12:20 *Lipid extracts from Botrytis cinerea activate an immune response in Arabidopsis thaliana.*
Dikki Bomzan - CNRS UMR 5200 Bordeaux, FR
- 12:20 – 12:35 *Regulation of Arabidopsis phosphatidylinositol 4-kinase $\beta 1$ by allosteric lipid binding and by MAPK-mediated phosphorylation*
Ingo Heilman - Martin Luther University Halle-Wittenberg, DE

12:35 – 13:35 **Lunch**

**13:35 – 14:45 Session 5 - Lipid Signaling and Lipids at the Plant Environment Interface
Chair: Juliette Jouhet, CEA Grenoble, FR (Part II)**

- 13:35 – 14:00** EMBO Global Investigator Lecture
ZINC FINGER PROTEIN2 suppresses funiculus lignification to ensure seed loading efficiency in Arabidopsis
Wei Ma - Nanyang Technological University, SG
- 14:00 – 14:15 *Role of Inositol Pyrophosphates in Phosphate Signalling and Beyond*
Gabriel Schaaf - University of Bonn, DE
- 14:15 – 14:30 *GLYCEROPHOSPHODIESTER PHOSPHODIESTERASE4 (GDPD4) produces ethanolamine and modulates salt stress response in Arabidopsis*
Yuki Nakamura - RIKEN Center for Sustainable Resource Science, JP
- 14:30 – 14:45 *Structural characteristics of a fatty acid amide hydrolase (FAAH) isoform from Medicago truncatula.*
Kent Chapman - University of North Texas, US

14:45 – 15:30 **Coffee break**

**15:30 – 16:55 Session 6 - Lipid Transport and Lipid-Protein Interactions
Chair: Tegan Haslam, University of Göttingen, DE**

- 15:30 – 16:10** Key Note Lecture
Bridging the Gap: Uncovering Membrane Contact Sites among Organelles in Plant Cells
Federica Brandizzi - Michigan State University, US
- 16:10 – 16:25 *Multilayered protein-lipid interactions drive plasma membrane association of AtSFH1, a SEC14-like lipid transfer protein regulating root hair development*
Marilla Kamleitner - University of Bonn, DE
- 16:25 – 16:40 *Structure and function of FAX proteins – fatty acid/lipid transport in the light of land plant evolution*
Katrin Philippar - Saarland University, DE
- 16:40 – 16:55 *Arabidopsis root lipid droplets are hubs for membrane homeostasis under heat stress, and triterpenoid synthesis and storage*
Janis Dabisch - University of Münster, DE

16:55 – 18:30 Poster Session – Even Numbers

Wednesday 9 July 2025

08:45 – 10:25 Session 7 - Lipids in Energy Storage and Seed Biology (Part I)

Chair: José Martínez-Rivas, Instituto de la Grasa, Sevilla, ES

- 08:45 – 09:25 Key Note Lecture
Leveraging phenotypic plasticity in seed oil content for climate-adapted breeding and production of rapeseed
Lian Gou - Yazhouwan National Laboratory, CN
- 09:25 – 09:40 *Distinct and opposite enantio-specificities of Arabidopsis DGAT1 and DGAT2 towards diacylglycerol reveal a non-redundant role in triacylglycerol metabolism*
Chinnu Ann Jaison - Swedish University of Agriculture, SE
- 09:40 – 09:55 *Contribution of the different sunflower DGATs to seed oil synthesis*
Joaquin J. Salas - Instituto de la Grasa (CSIC) Seville, ES
- 09:55 – 10:10 *Phase separation of MYB73 regulates seed oil biosynthesis in Arabidopsis*
Que Kong - Nanyang Technological University, SG
- 10:10 – 10:25 *Suberin and Cuticle: Deep dive into the assembly of essential seed barriers.*
Fabien Nirina Ramamonjy - CRAG (Centre for Research in Agricultural Genomics), ES

10:25 – 10:55 **Coffee break**

10:55 – 12:40 Session 7 - Lipids in Energy Storage and Seed Biology (Part II)

Chair: Peter Eastmond, Rothamsted Research, Harpenden, UK

- 10:55 – 11:10 *Unexpected differential lipid metabolic adaptations due to engineering the accumulation of medium chain fatty acids in Brassicaceae oilseed crops*
Philip Bates - Washington State University, US
- 11:10 – 11:25 *Elevating Plants Lipid Droplet Production Using Viral Proteins: A New Approach to Generate Energy-Rich Plant Biomass.*
Lionel Faure - Texas Womens University, US
- 11:25 – 11:40 *Phosphatidic acid phosphatase (PAH/PAP) from Nannochloropsis oceanica Enhances Triacylglycerol and Reveals Phosphorylation-Dependent Regulation Production in Diverse Model Systems*
Nibras Belgaroui - Nicolaus Copernicus University, PL
- 11:40 – 11:55 *Nonpolar lipids in Cyanobacteria: Role of Multifunctional Acyltransferases*
Amita Shajil Das - University of Bonn, DE
- 11:55 – 12:10 *Novel Bifunctional Membrane Bound O-Acyltransferases (MBOATs) That Synthesize Triacylglycerols and Wax Esters*
Timothy Durrett - Kansas State University, US
- 12:10 – 12:25 *Complete replacement of oil producing acyltransferases with heterologous DGAT1 enzymes in Arabidopsis*
Sean McGuire - Washington State University, US

12:25 – 12:40 *Increasing vitamin E content to improve the virgin olive oil nutritional quality: Transcriptional analysis of the phytyl diphosphate supply for tocopherol biosynthesis in olive fruit*
Jose M. Martinez-Rivas - Instituto de la Grasa (CSIC) Seville, ES

12:40 – 13:40 **Lunch**

13:40 – 16:55 Session 8 - Abiotic Interactions and Non-glycerolipids: Sterols and Sphingolipids

Chair: Ingo Heilmann, Martin Luther University Halle-Wittenberg, DE

13:40 – 14:05 Early Career Scientist Lecture
LPEAT2-mediated Regulation of Temperature Stress Adaptation in Camelina sativa
Sylwia Klińska-Bączor - University of Gdansk, PL

14:05 – 14:20 *De novo origin of early cold-triggered PA-accumulation in A. thaliana*
Emy Latul - Amsterdam University, NL

14:20 – 14:35 *The genetic basis of drought-induced ABA accumulation reveals a key role of lipid draft-regulatory protein BnaREM1.3 in ABA import to guard cells in Brassica napus*
Xuan Yao - Yazhouwan National Laboratory, CN

14:35 – 14:50 *Arabidopsis thaliana adapts its sphingolipid composition to different temperatures*
Frank Waller - University of Würzburg, DE

14:50 – 15:05 *Lipid droplets as key hubs for terpenoid synthesis and storage*
Till Ischebeck - University of Münster

15:05 – 15:35 **Coffee break**

15:35 – 16:15 Key Note Lecture
Structure-Guided Interrogation of Sphingolipid Homeostatic Regulation
Edgar Cahoon - University of Nebraska, US

16:15 Closing Remarks - Peter Dörmann & Benni Franke

17:55 **Gather together outside the GSI entrance to travel to the boat by public transport**

18:40 – 23:00 Dinner Cruise

18:40 – 19:00 Boarding
19:00 Departure
23:00 Arrival

Thursday 10 July 2025

Breakfast
Departure / Private Extension

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