

# The 9<sup>th</sup> Asian-Oceanian Symposium on Plant Lipids

October 10-13

Saint Ignatius House (Bldg. #11), Sogang University, Seoul, Korea

## Program

Day 1 (Tuesday 10, October 2023)

Saint Ignatius House (Bldg.#11)

Registration [16:00-19:00 ] with Catering Finger Foods & Coffee & Tea

Poster Put-Up and Discussion [16:00-19:00] with Catering Finger Foods

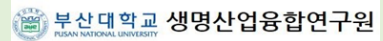
Day 2 (Wednesday 11, October 2023)

8:50-9:00 Opening Remark & Welcome Message

Session 1 (09:00-10:40) Phospholipid and Galactolipids

(Chair: AWAI, Koichiro\_Shizuoka U.)

Co-organized by



**S1-1 09:00~09:30** (30 min) NISHIDA, Ikuo (Saitama U, Japan) Differential responses of male and female gametophytes to the genetic disruption of the CDP-choline pathway to phosphatidylcholine biosynthesis in *Arabidopsis thaliana*

**S1-2 09:30~09:55** (25 min) NAKAMURA, Yuki (RIKEN, Japan) ER-chloroplast contact in regulating ER glycerolipid biosynthesis

**S1-3 09:55~10:20** (25 min) WADA, Hajime (U. of Tokyo, Japan) Deacylation of lipids accelerates the recovery process of photo-damaged photosystem II complex

**S1-4 10:20~10:40** (20 min) YAO, Hong-Yan (Fudan U, China) *Arabidopsis* Sec14 proteins (SFH5 and SFH7) mediate inter-organelle transport of phosphatidic acid and regulate chloroplast development

Coffee Break (10:40-11:00)

Session 2 (11:00-12:40): Sphingolipids and Extracellular Lipids

(Chair: LI-BEISSON, Yonghua\_CEA)

Co-organized by



- S2-1 11:00~11:30** (30 min) LEE, Youngsook (POSTECH, Korea) The lipid research at Plant Cell Biology Lab of POSTECH
- S2-2 11:30~11:55** (25 min) CAHOON, Edgar (UNL, USA) The long and short of sphingolipid homeostatic regulation in plants
- S2-3 11:55~12:20** (25 min) FRANKE, Rochus (U. of Bonn, Germany) Crosstalks supporting and limiting surface lipid deposition - small steps towards the structure of the suberin polyester
- S2-4 12:20~12:40** (20 min) LU, Shiyou (Hubei U, China) Fine-tuning KCS3 and KCS12 activity in *Arabidopsis* is essential for sustaining cuticle integrity

**Lunch (12:40-14:20)**

**Session 3 (14:20-16:00) Plant Lipids in Response to Biotic and Abiotic Stresses**  
(Chair: CHYE, Mee Len\_U of Hong Kong)

Co-organized by



장수매양바이오역  
신인력양성교육연

- S3-1 14:20~14:50** (30 min) KACHROO, Pradeep (U of Kentucky, USA) Systemic signaling in plants; from cuticle to RNA
- S3-2 14:50~15:15** (25 min) MONGRAND Sébastien (CNRS, France) Role of lipids in the reconstitution of plant plasma membrane nanodomains: the case of group 1 REMORIN, a protein involved in plant immunity
- S3-3 15:15~15:40** (25 min) SHIMOJIMA, Mie (TIT, Japan) Membrane lipid remodeling under phosphate starvation and low-temperature conditions in *Marchantia polymorpha*
- S3-4 15:40~16:00** (20 min) PARK, Hee Jin (CNU, Korea) Lipid modification of SOS3 ensures floral transition under saline stress

**Poster presentation [odd number] (16:00-17:15), [even number] (17:15-18:30)**  
**with Coffee & Tea**

**Day 3 (Thursday 12, October 2023)**

**Session 4 (08:45-10:10): Microbial, Algae, and Early Vascular Plant Lipids**  
(Chair: SHIMOJIMA, Mie\_Tokyo Tech,)

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Plant Biological Rhythm Research Center

- S4-1 08:45~09:10** (25 min) LI-BEISSON, Yonghua (CEA, France) Recent progress on our understanding of algal lipid droplet: knowns and unknowns
- S4-2 09:10~09:30** (20 min) YAMAOKA, Yasuyo (Catholic U, Korea) Adapting to stress: unraveling lipid metabolism regulation in microalgae *Chlamydomonas* and aquatic plant duckweeds
- S4-3 09:30~09:50** (20 min) KONG, Fantao (DUT, China) Enhanced triacylglycerol accumulation through genetic engineering lipid transporters and regulators in microalgae under standard growth conditions
- S4-4 09:50~10:10** (20 min) ZHOU, Xue-Rong (CSIRO, Australia) Variants of *Ostreococcus tauri*  $\Delta 6$ -desaturase revealed the important regions toward activity
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### Coffee Break (10:10-10:30)

### Session 5 (10:30-12:00) Lipase and Oxylipins

(Chair: DÖRMANN, Peter\_U of Bonn)


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Plant Biological Rhythm Research Center

- S5-1 10:30~10:55** (25 min) LEE, Ok Ran (CNU, Korea) Phospholipase-mediated *in planta* haploid inducer, the cornerstone technology in plant breeding
- S5-2 10:55~11:20** (25 min) MANO, Jun'ichi (Yamaguchi U, Japan) Acrolein and related  $\alpha, \beta$ -unsaturated carbonyls can regulate stomata aperture by modulating both abscisic acid and blue light signaling pathways
- S5-3 11:20~11:40** (20 min) LUNG, Shiu-Cheung (U of Hong Kong, Hong Kong) Type-1 lipooxygenase dissociates from Class II acyl-CoA-binding proteins to trigger salt-stress response in soybean
- S5-4 11:40~12:00** (20 min) FAN, Ruyi (HAU, China) Insights into the mechanism of phospholipid hydrolysis by plant non-specific phospholipase C
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### Lunch (12:00-13:50) and Board Member Meeting for ASPL

### Session 6 (13:50-15:30) Lipids in Plant Development

(Chair: NAKAMURA, Yuki\_RIKEN)

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식물 건강성 연구센터

- S6-1 13:50~14:20** (30 min) AHN, Ji Hoon (Korea U, Korea) Florigen and membrane phospholipids: how they regulate temperature-responsive flowering
- S6-2 14:20~14:45** (25 min) LEE, Yuree (SNU, Korea) Deciphering cellular reprogramming for surface barrier restoration in *Arabidopsis*
- S6-3 14:45~15:10** (25 min) KIM, Sangchul (U of Missouri-St. Louis & DDPSC, USA) Reciprocal regulation between circadian clock and lipid metabolism in plants
- S6-4 15:10~15:30** (20 min) KIM, Yu-Jin (PNU, Korea) Role of lipids on rice male reproductive development

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### Coffee Break (15:30-15:50)

### Session 7 (15:50-17:10) Secondary Metabolites and their Application

(Chair: LEE, Ok Ran \_CNU)

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- S7-1 15:50~16:15** (25 min) DÖRMANN, Peter (U of Bonn, Germany) Genetic variability of carotenoid (provitamin A) and tocochromanol (vitamin E) metabolism in African oil palm (*Elaeis guineensis* Jacq.)
- S7-2 16:15~16:35** (20 min) KIM, Sang-Gyu (KAIST, Korea) Ecological function of inducible lignin in stem
- S7-3 16:35~16:55** (20 min) KIM, Hyojin (UNL, USA) Learning from nature for strategies to maximize production and purity of the high value carotenoid astaxanthin in oilseeds
- S7-4 16:55~17:10** (15 min) LEE, Saet Buyl (RDA, Korea) Engineering for flavonoid production in *Nicotiana benthamiana* using synthetic biology

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### Session 8 (17:10-18:30) Multi-Omics and Oil Crops

(Chair: ZHOU, Xue-Rong\_CSIRO)

Co-organized by



- S8-1 17:10-17:35** (25 min) GUO, Liang (HAU, China) Mining the seed oil content-related genes by multi-omics analysis in rapeseed
- S8-2 17:35~17:55** (20 min) TAN, Xiao-Li (Jiangsu U, China) A new cold tolerant germination rapeseed germplasm is associated with seed fatty acid profile
- S8-3 17:55~18:15** (20 min) LEE, Kyeong-Ryeol (RDA, Korea) Effect of diacylglycerol acyltransferases on the seed oil content and acyl preference in *Camelina sativa*

**S8-4 18:15~18:30** (15 min) LU, Shaoping (HAU, China) Regulation of seed oil accumulation by lncRNAs in *Brassica napus*

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**Banquet (19:00 ~ 22:00)**

**Day 4 (Friday 13, October 2023)**

**Session 9 (08:45-10:20) Fatty acids, Lipid Droplets and Oils**

(Chair: CHEN, Grace\_USDA)

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New Breeding Technology Center  
차세대농작물신육종  
기술개발사업단

**S9-1 08:45~09:10** (25 min) BEISSON, Fred (CNRS, France) Photoconversion of fatty acids to hydrocarbons in algae

**S9-2 09:10~09:35** (25 min) BATES, Phil (WSU, USA) Dynamic seed oil assembly: acyl and stereochemical selective enzymes remodel triacylglycerol fatty acid composition after initial oil synthesis

**S9-3 09:35~10:00** (25 min) MA, Wei (NTU, Singapore) New perspectives on the growing complexity of WRINKLED1 in plant lipid metabolism

**S9-4 10:00~10:20** (20 min) RUAN, Chengjiang (DMU, China) Full transcriptome sequencing screening key regulation factor regulating lipid biosynthesis in developing seeds of yellowhorn (*Xanthoceras sorbifolium*)

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**Coffee Break (10:20-10:40)**

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**Session 10 (10:40-12:10) Lipid Metabolism and Biotechnology**

(Chair: CAHOON, Edgar\_UNL)

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기술개발사업단

**S10-1 10:40~11:05** (25 min) CHEN, Grace (USDA, USA) Biotechnology for Industrial materials production: current progress on improving hydroxy fatty acid content in *Lesquerella* (*Physaria fendleri*)

**S10-2 11:05~11:25** (20 min) ABDUL MASANI, Mat Yunus (ABBC, Malaysia) The current progress of CRISPR/CAS9 technology development in oil palm

**S10-3 11:25~11:40** (15 min) XIONG, Yao (HAU, China) Overexpression of CIDEs improves seed oil content of *Brassica napus*

**S10-4 11:40~12:10** (30 min) SINGH, Surinder (CSIRO, Australia) Update on the development of plant-based long-chain omega-3 oils

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**Closing Remark (12:10 ~ 12:50)**

**Poster Take-Down Before 12:00**

**Lunch (12:50-14:00)**

**Excursion (14:00 ~21:00)**