Sunday 8th July

19:00-21:00	Registration
21:00-22:30	Opening Mixer

Monday 9th July

8:45-9:00 Opening Session
9:00-11:00 **Session 1 "New methods and technologies"**
Yonghua Li-Beisson

S1 O1 Diagnosing bottlenecks to the accumulation of unusual fatty acids in transgenic seeds. P.D. Bates and John Browse. Institute of Biological Chemistry, Washington State University, Clark Hall, Pullman, WA 99164-6340, USA.

S1 O2 Plant lipidomics: talkin 'bout a revolution!. Richard P. Haslam, L.V. Michaelson and J.A. Napier. Biological Chemistry, Rothamsted Research, Harpenden, U.K.

S1 O3 Glycerolipid metabolic switching in plant and algal developmental processes. Yuki Nakamura. Institute of Plant and Microbial Biology, Academia Sinica, Taipei, Taiwan.

S1 O4 Mass-spectrometry based high-resolution metabolite imaging to unravel the surface lipids of Arabidopsis. Basil J. Nikolau, Y.-J. Lee and Z. Song. Iowa State University, Ames, IA50011, USA.

S1 O5 Advanced engineering of lipid pathways in *Nicotiana benthamiana* leaves using a draft genome assembly and the V2 viral silencing-suppressor protein. F. Naim, K. Nakasugi, E. Hilario, J. Taylor, S. Singh, R. Crowhurst, R. Hellens, P. Waterhouse and Craig Wood. CSIRO Plant Industry, Canberra Australia. University of Sydney, Sydney Australia. Institute of Plant and Food Research, New Zealand.

S1 O6 Non-invasive solution: advantages and challenges of nuclear magnetic resonance (NMR) application for oil seed crops. Ljudmylla Borisjuk (1), T. Neuberger (2) and H. Rolletschek (1). (1) Leibniz-Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben, Germany, (2) Department of Bioengineering, Pennsylvania State University, University Park, PA 16802, USA.

11:00-11:30 Coffee Break

11:30-13:30 **Session 2 "Fatty acid biosynthesis and modification"**
Penny Von Wettstein-Knowles

S2 O1 Regulation of fatty acid synthesis in Canola and understanding desaturase regioselectivity. John Shanklin, C. Andre and E. Whittle (BNL); J. Guy, M. Moche, J. Lengqvist, and Y. Lindqvist, (KI) ; and R. Haslam, (RR). Brookhaven National Laboratory, Upton, NY 11973, USA. Karolinska Institute Stockholm, Sweden. Rothamstead Research, UK.

S2 O2 Alkamide biosynthesis in Echinacea. Robert E. Minto (1), M.R. Shepard (1), L. Rizshsky (2), H. Jin (2), A.S. Ransdell (1), H.W. Scott (1), and B.J. Nikolau (2). (1) Department of Chemistry and Chemical Biology, Indiana University Purdue University – Indianapolis, Indianapolis, USA; (2) Department of Biochemistry, Biophysics & Molecular Biology, Iowa State University, Ames, USA.

S2 O3 Members of the WRINKLED clade orchestrate tissue-specific regulation of fatty acid synthesis in *Arabidopsis thaliana*. Sebastien Baud. Jean-Pierre Bourgin Institute, INRA Versailles, Versailles, France.

S2 O4 Characterization of a bifunctional protein from *Tetrahymena* involved in ether lipid biosynthesis. F. Dittrich-Domergue, L. Fouillen, S. Pascal, J. Joubès, R. Lessire and Frederic Domergue. Laboratoire de Biogenèse Membranaire. Univ. Bordeaux Ségalen, Bordeaux, France.

S2 O5 A new pathway for the synthesis of the very long chain mono-unsaturated fatty acid components of Arabidopsis membrane lipids. M. Dauk, H. Ramadan, H. Yang, I. Ramirez, L. Forseille and Mark Smith. National Research Council Canada, Saskatoon, Canada.

S2 O6 Acyl carrier protein thioesterase activity (FATA) is essential for embryo development in *Arabidopsis thaliana*. Meike Siebers (1), V. Svetlichnyy (2) and P. Dörmann (1). (1) Institute for Molecular Physiology and Biotechnology of Plants, University of Bonn, Bonn, Germany. (2) Institute for the Reproduction of Farm Animals Schönow Inc., Germany.

13:30-15:00	Lunch
15:00-16:00	Poster Session
16:00-16:30	Coffee Break
16:30-18:30	**Session 3 "Chloroplast lipid metabolism"** Peter Dörmann

S3 O1 Dynamic changes in glyceroipid metabolism under phosphate-starved conditions. M. Shimojima (1), Y. Madoka (1), Y. Shimomura (3), M. Murakawa (3), K. Yamamichi (2), R. Koizumi (3), K. Endo (4), K. Ozaki (4) and Hiroyuki Ohta (1). (1) Center for Biol. Resour. Inform., Tokyo Tech. (2) Biomaterial Anal.Center, Tokyo Tech. (3) Grad School Biol. Sci., Tokyo Tech. (4) Global R&D, Biol. Science, Kao Corp., Japan.

S3 O2 Identification of the missing epimerase involved in galactolipid synthesis in cyanobacteria – Are galactolipids necessary for the thylakoid

membranes? Koichiro Awai (1), H. Ohta (2) and N. Sato (3). (1) Division of Global Research Leaders, Shizuoka University, Japan. (2) Center for Biological Resources and Informatics, Tokyo Institute of Technology, Yokohama, Japan. (3) Department of Life Sciences, Graduate School of Arts and Sciences, University of Tokyo, Tokyo, Japan.

S3 O3 Requirement of phosphatidylglycerol for development of embryo and chloroplasts in Arabidopsis. Hajime Wada, R. Tanoue, K. Katayama, S. Tanabashi, M. Kobayashi, N. Nagata, H. Akbari and M. Frentzen. Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo, Tokyo, Japan. Faculty of Science, Japan Women's University, Tokyo, Japan. Institute for Biology I, RWTH Aachen University, Aachen, Germany.

S3 O4 Updating the galactolipid synthesis model. Asdrúbal Burgos, J. Szymanski, and L. Willmitzer. Max Planck Institute for Molecular Plant Physiology, Potsdam-Golm, Germany.

S3 O5 Search for genes involved in membrane lipid homeostasis in Arabidopsis thaliana based on a screening of a collection of EMS mutants resisting to galvestine-1, an inhibitor of galactolipid synthesis. Laurence Boudière, C. Cataye, J. Jouhet, D. Falconet, C. Carles, R. Blanvillain, L. Nussaume, T. Desnos, J. Cintrat, B. Rousseau, R. Lopez, M.A. Block and E. Maréchal. LPCV CEA Grenoble, Grenoble, France.

S3 O6 Biophysic properties of biomimetic membranes obtained by self-assembly of natural chloroplast lipids. A. De Ghellinck (1), C. Cataye (2), B. Demé (1), G. Fragneto (1), M.A. Block (2), E. Maréchal (2) and Juliette Jouhet (2). (1) Institut Laue-Langevin, Grenoble, France. (2) Laboratoire de Physiologie Cellulaire Végétale, CNRS, CEA, INRA, Université Joseph Fourier, Grenoble, France.

Tuesday 10th July

9:00-11:00 **Session 4 "Storage lipids: accumulation and modification"**
Mee-Len Chye

S4 O1 Molecular biology of triacylglycerol biosynthesis in developing flax seed. X. Pan, A.D. Wickramarathna, R.M.P.Siloto and Randall J. Weselake. Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.

S4 O2 Accumulating triacylglycerol in leaves via the monoacylglycerol acyltransferase pathway. Surinder Singh, J. Petrie, T. Vanhercke and P. Shrestha. Food Futures National Research Flagship and CSIRO Plant Industry, Canberra, Australia.

S4 O3 Phosphatidylcholine diacylglycerol exchange and acyl-editing are major mechanisms affecting fatty acid composition in seed triacylglycerols. Chaofu Lu, J. Browse, P. Bates, A. Snapp, Z. Hu, Z. Ren and A. Carlsson. Montana State University, Bozeman, USA. Washington State University, Pullman, USA. Swedish University of Agricultural Sciences, Sweden.

S4 O4 Olive pollen and seeds as models for studies on lipid mobilization machinery during germination process. Agnieszka Zienkiewicz (1,2), K. Zienkiewicz (1,3), J.D. Rejón (1), J.D. Alché (1), A.J. Castro (1) and M.J. Rodríguez-García (1). (1) Department of Biochemistry, Cell and Molecular Biology of Plants, Estación Experimental del Zaidín, CSIC, Granada, Spain. (2) Chair of Plant Physiology and Biotechnology, Department of Physiology and Molecular Biology of Plants, Nicolaus Copernicus University, Torun, Poland. (3) Department of Cell Biology, Nicolaus Copernicus University, Torun, Poland.

S4 O5 How to design new sunflower oils: triacylglycerols assembly target. Monica Venegas-Calerón, J.A. Aznar-Moreno, M. Payá-Milans, J. Pérez-Hormaeche, J.D. Fernández-García, J.J. Salas, R. Garcés and E. Martínez-Force. GGBLS, Instituto de la Grasa, CSIC, Seville, Spain.

S4 O6 New oil body associated proteins. I. López-Ribera, J.L. La Paz, N. García-Muniz, M. Miquel, T. Jouenne and **Carlos M. Vicient**. CRAG-Center of Agrigenomics Research (CSIC-IRTA-UAB-UB), Bellaterra (Cerdanyola del Vallés), Barcelona, Spain.

11:00-11:30 Coffee Break

11:30-13:30 **Session 5 "Surface lipids/Extracellular lipid metabolism"**
René Lessire

S5 O1 Dissecting the alkyl hydroxycinnamate biosynthetic pathway. Dylan K. Kosma (1), A. Rice (1), I. Molina (2), O. Rowland (3), F. Domergue (4), J.B. Ohlrogge (1) and M. Pollard (1). (1) Department of Plant Biology, Michigan State University, East Lansing, Michigan, USA. (2) Department of Biology, Algoma University, Sault Ste. Marie, Ontario, Canada. (3) Laboratoire de Biogenèse Membranaire, Université Victor Ségalen Bordeaux 2, CNRS, Bordeaux, France. (4) Department of Biology and Institute of Biochemistry, Carleton University, Ottawa, Ontario, Canada.

S5 O2 Three suberin biosynthetic genes in potato: how they contribute to the polymer?. O. Serra (1), P. Boher (1), S. Chatterjee (2), R.E. Stark (2), M. Molinas (1) and Merce Figueras (1). (1) Cork Laboratory, University of Girona, Girona, Spain. (2) Department of Chemistry, City College of New York, Graduate Center and Institute for Macromolecular Assemblies, City University of New York, New York, USA.

S5 O3 Reconstitution of plant alkane biosynthesis in yeast demonstrates that Arabidopsis CER1 and CER3 are core components of a VLC-alkane synthesis complex. Amélie Bernard(1,2), F. Domergue (1,2), S. Pascal (1,2), R. Jetter (3), C. Renne (4), J.-D. Faure (4), R.P. Haslam (5), J.A. Napier (5), R. Lessire (1,2) and J. Joubès (1,2). (1) Université de Bordeaux, Laboratoire de Biogenèse Membranaire, Unité Mixte de Recherche 5200, Bordeaux, France. (2) Centre National de la Recherche Scientifique, Laboratoire de Biogenèse Membranaire, Unité Mixte de Recherche 5200, Bordeaux, France. (3) Departments of Botany and Chemistry, University of British Columbia, Vancouver, Canada. (4) Institut Jean-Pierre Bourgin, Unité Mixte de Recherche 1318, Institut National de la Recherche Agronomique AgroParisTech, Centre de Versailles-Grignon, Versailles, France. (5) Rothamsted Research, Harpenden, United Kingdom.

S5 O4 A bifunctional AP2/ERF-type transcription factor represses cuticular wax biosynthesis and activates dark-inducible genes under dark conditions in Arabidopsis. Y.S. Go (1), S.B. Lee (2), H. J. Kim (2), J.Y. Kim(2) and Mi Chung Suh (2). Departments of (1) Plant Biotechnology and (2) Bioenergy Science and Technology, Chonnam National University, Gwangju, Korea.

S5 O5 Arabidopsis ECERIFERUM2 is a component of the fatty acid elongation machinery required for fatty acid extension to exceptional lengths. Tegan M. Haslam, A. Manas Fernandez and L. Kunst. University of British Columbia, Vancouver, BC, Canada.

S5 O6 Biosynthesis and functions of free and combined fatty alcohols associated with suberin. Sollapura J. Vishwanath (1), F. Domergue (2), D.K. Kosma (3), I.P. Pulsifer (1) and O. Rowland (1). (1) Department of Biology and Institute of Biochemistry, Carleton University, Ottawa, Ontario, Canada. (2) Laboratoire de Biogenèse Membranaire, Université Victor Ségalen Bordeaux 2,

CNRS-UMR 5200, Bordeaux, France. (3) Department of Plant Biology, Michigan State University, East Lansing, MI, USA.

13:30-15:00 Lunch

15:00-16:00 **Terry Galliard Lecture**

Conserved functions of oxylipins in flowering and non-flowering plants. Ivo Feussner. Georg-August-University, Albrecht-von-Haller-Institute for Plant Sciences, Department of Plant Biochemistry, Göttingen, Germany.

16:00-16:30 Coffee Break

16:30-18:30 **Session 6 "Oxylipins"**
Ivo Feussner

S6 O1 Oxylipin metabolites of the polyunsaturated acylethanolamide, N-linolenoylethanolamine, specifically mediate chloroplast disassembly in cotyledons of Arabidopsis seedlings. J. Keereetaweep (1), E.B. Blancaflor (1,2) and Kent D. Chapman (1). (1)University of North Texas, Center for Plant Lipid Research, Denton, USA. (2) Samuel Roberts Noble Foundation, Plant Biology Division, Ardmore, USA.

S6 O2 bHLH transcriptional factors MYL1, MYL2 and MYL3 modulate jasmonate metabolism and anthocyanin production. Yuko Sasaki-Sekimoto (1), Y. Jikumaru (1), H. Saito (2), S. Masuda (3), Y. Kamiya (1), H. Ohta (3) and K. Shirasu (1). (1) RIKEN Plant Science Center, 1-7-22 Suehiro-cho Tsurumi-ku Yokohama, Japan. (2) Graduate school of Bioscience and Biotechnology, Tokyo Institute of Technology,4259 Nagatsuta-cho Yokohama, Japan. (3) Center for Biological Resources and Informatics, Tokyo Institute of Technology, 4259 Nagatsuta-cho Yokohama, Japan.

S6 O3 Factors affecting hydroperoxide lyase performance in the synthesis of oxylipin volatiles responsible for virgin olive oil quality. A. Sanchez-Ortiz, A.G. Perez and Carlos Sanz. Department of Physiology and Technology of Plant Products. Instituto de la Grasa (CSIC), Seville, Spain.

S6 O4 Air-transferred oxylipin volatiles from herbivore-infested tomato plants change uninfested conspecific plants to be defensive. Koichi Sugimoto, K. Matsui, R. Ozawa and J. Takabayashi. Center for Ecological Research, Kyoto University, Otsu, Shiga, Japan. Graduate School of Medicine, Yamaguchi University, Yamaguchi, Japan.

S6 O5 MGDG with C12 and C10 oxo acids are formed after tissue disruption in Arabidopsis. A. Nakashima, Y. Iijima, H. Tasaka, K. Aoki, D. Shibata and Kenji Matsui. Graduate School of Medicine, Yamaguchi University, Yamaguchi, Japan.

Kazusa DNA Research Institutes, Kisarazu, Chiba, Japan. Kanagawa Institute of Technology, Kanagawa, Japan.

S6 O6 Oxylipin pathways in marine diatoms: occurrence, regulation and ecological role. Giuliana d'Ippolito, A. Cutignano, C. Gallo and A. Fontana. Istituto di Chimica Biomolecolare (ICB) CNR, Pozzuoli (Napoli), Italy.

Wednesday 11th July

9:00-10:30 **Session 7 "Isoprenoids"**
Damaso Hornero Mendez

S7 O1 Isoprenoid precursor availabilities modulate protein prenyltransferase substrate specificities and activities in plants in vivo. A. Hemmerlin (1), A. Huchelmann (1), M. Rohmer (2) and Thomas J. Bach (1). (1) Institut de Biologie Moléculaire des Plantes, CNRS UPR 2357, Département "Réseaux Métaboliques", Université de Strasbourg, Strasbourg, France. (2) Institut de Chimie, Laboratoire de Chimie et de Biochimie des Microorganismes, UMR CNRS/Université de Strasbourg 7177, Strasbourg, France.

S7 O2 Accumulation of fatty acid phytyl esters in Arabidopsis thaliana during senescence. Katharina vom Dorp (1), F. Lippold (2), V. Wewer (1), J. Lindberg Yilmaz (3), I. Lager (4), F. Kessler (5), S. Stymne (4) and P. Dörmann (1).
(1) Institute of Molecular Physiology and Biotechnology of Plants (IMBIO), University of Bonn, Bonn, Germany. (2) Aevotis GmbH, Potsdam, Germany. (3) Scandinavian Biotechnology Research AB, Alnarp, Sweden. (4) Swedish University of Agricultural Sciences (SLU), Department of Plant Breeding and Biotechnology, Alnarp, Sweden. (5) Laboratory of Plant Physiology, Institute of Biology, University of Neuchâtel, Neuchâtel, Switzerland.

S7 O3 Triterpene production in *Panax ginseng* C.A. Meyer and its modulation by HMG-CoA reductase and oxidosqualene cyclases. Y.-J. Kim, J. Oh, D.-C. Yang and Ok Ran Lee. Department of Oriental Medicinal Materials and Processing, College of Life Science, Kyung Hee University, Suwon, Korea.

S7 O4 Trisporoids composition in *Blakeslea trispora* under the lycopenogenesis stimulation. Olga A. Vereshchagina, A.S. Memorskaya and V.M. Tereshina. Winogradsky Institute of Microbiology, Russian Academy of Sciences, Moscow, Russia.

10:30-11:00 **Paul K. Stumpf Lecture**

The metabolic engineering of omega-3 long chain polyunsaturated fatty acids in transgenic plants – less is more. Noemí Ruiz-Lopez. Rothamsted Research, Harpenden, Herts, UK.

11:00-11:30 Coffee Break

11:30-21:00 **GENERAL EXCURSION**

Thursday 12th July

9:00-11:00 **Session 8 "Sphingolipids and sterols"**
Edgar Cahoon

S8 O1 56-Amino acid small subunits of serine palmitoyltransferase stimulate sphingolipid synthesis, impact mycotoxin sensitivity and are essential for pollen viability in Arabidopsis. A.N. Kimberlin (1), S. Majumder (2), M. Chen (1), G. Han (2), J.M. Stone (1), T.M. Dunn (2) and Edgar B. Cahoon (1). (1) Center for Plant Science Innovation and Department of Biochemistry, University of Nebraska-Lincoln, Beadle Center, Lincoln, Nebraska, USA. (2) Department of Biochemistry and Molecular Biology, Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA.

S8 O2 The effect of long chain base sphingolipids on rates of programmed cell death in stressed plant cells. Cara T. Daly, N.M. Islam, C.K.-Y. Ng and P.F. McCabe. School of Biology and Environmental Science, University College Dublin, Dublin, Ireland.

S8 O3 A novel protein anchor for lipid-specific plasma membrane raft targeting in plant cells. S. Raffaele, C. Popp, A. Perraki, J.-M. Crowet, J.-L. Cacas, I.K. Jarsch, T.F. Stratil, L. Lins, T. Ott and Sébastien Mongrand. Laboratoire de Biogenèse Membranaire, CNRS UMR 5200 / Université Bordeaux Segalen, Bordeaux Cédex, France.

S8 O4 The role of mannosylated sphingolipids in Arabidopsis: unexpected roles in both growth and defence. Johnathan A. Napier, J. Mortimer, S. Albrecht, P. Dupree, R.P. Haslam and L.V. Michaelson. Department of Biological Chemistry, Rothamsted Research, Harpenden, UK. Department of Biochemistry, University of Cambridge, Cambridge, UK.

S8 O5 Degradation of long-chain base 1-phosphate (LCBP) in Arabidopsis: functional characterization of LCBP phosphatase and LCBP lyase. Hiroyuki Imai, M. Kato, N. Shimada, N. Nakagawa and M. Ishiguro. Department of Biology, Konan University, Okamoto, Higashinada-ku, Kobe, Japan.

S8 O6 Quantification of free sterols, sterol esters, sterol glucosides and acylated sterol glucosides in plants by Q-TOF mass mpectrometry. Vera Wewer, I. Dombrink, K. vom Dorp and P. Dörmann. Institute for Molecular Physiology and Biotechnology of Plants, University of Bonn, Germany.

11:00-11:30 Coffee Break

11:30-13:30 **Session 9 "Lipid trafficking and signalling"**
Christoph Benning

S9 O1 Long chain acyl-CoA synthetase activities involved in lipid flux from ER to plastid. Martin Fulda and D. Jessen. Georg-August-University Goettingen, Germany.

S9 O2 Role of Arabidopsis acyl-CoA-binding proteins in lipid trafficking. Mee-Len Chye. School of Biological Sciences, The University of Hong Kong, Pokfulam, Hong Kong.

S9 O3 Phloem-mediated long-distance lipid signaling in plants. U. Benning, B. Tamot and Susanne Hoffmann-Benning. Michigan State University, Department of Biochemistry and Molecular Biology, East Lansing, MI, USA.

S9 O4 CGI-58 regulates triacylglycerol homeostasis and lipid signaling pathways in plants through interaction with the peroxisomal transport protein PXA1. S. Park (1), S.K. Gidda (2), C.N. James (3), P.J. Horn (3), N. Khuu (2), D.C. Seay (1,4), J. Keereetaweep (3), K.D. Chapman (3), R.T. Mullen (2) and John M. Dyer (1). (1)United States Department of Agriculture-Agricultural Research Service, US Arid-Land Agricultural Research Center, Maricopa, USA. (2)Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada. (3)Department of Biological Sciences, Center for Plant Lipid Research, University of North Texas, Denton, USA. (4)Department of Natural Sciences, Del Mar College, Corpus Christi, TX, USA.

S9 O5 The phosphatidate phosphohydrolase PAH is involved in ABA signaling and freezing stress response in Arabidopsis. Mie Shimojima (1), A. Numata (2), M. Ishi (2), T. Tsuzuki (3), Y. Yamaoka (4), Y. Madoka (1), T. Kinoshita (3), I. Nishida (4) and H. Ohta (1). (1) Center for Biological Resources and Informatics, Tokyo Institute of Technology, Japan. (2) Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Japan. (3)Division of Biological Science, Nagoya University, Japan. (4) Graduate School of Graduate School of Science and Engineering, Saitama University, Japan.

S9 O6 *pect1-4* mutation affects the cytochrome oxidase pathway capacity of mitochondrial respiration in *Arabidopsis thaliana*. M. Otsuru, Y. Yu, Y. Fujiki and Ikuo Nishida. Saitama University, Shimo-Okubo 255, Sakura-Ku, Saitama, Japan.

13:30-15:00	Lunch
15:00-16:00	Poster Session
16:00-16:30	Coffee Break
16:30-18:30	**Session 10 "Algal and fungal lipids"** John Harwood

S10 O1 High-throughput screening of lipid mutants in the model green microalgae *Chlamydomonas reinhardtii*. H.M. Nguyen, C. Cagnon, H. Goold, S. Cuiné, A. Beyly, P. Carrier, P. Auroy, F. Beisson, G. Peltier and Yonghua Li-Beisson. CEA/CNRS/Aix-Marseille Université, CEA Cadarache, France.

S10 O2 Lipid characterization of *Nitzschia lembiformis* and *Rhodomonas salina* grown in different media: a case study. Asher Wishkerman, R. Valmaña, A. Estevez, C. Ibáñez and R. Trobajo. IRTA-Sant Carles de la Rapita, Sant Carles de la Rapita, Tarragona, Spain.

S10 O3 Deciphering lipid biosynthesis in non-model microalgae to manipulate value-added compounds productivities. Inna Khozin-Goldberg, S. Leu, A. Zarka, N. Shtaida , S. Sitnik, F. Guihéneuf and S. Boussiba. Microalgal Biotechnology Laboratory, The Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel.

S10 O4 Improvement of polyunsaturated fatty acid productivity in oleaginous fungus *Mortierella alpina* 1S-4 by overexpression of its acyl-CoA synthetase genes. Eiji Sakuradani (1), T. Asaoka (1), H. Kikukawa (1), T. Okuda (1), A. Ando (1), M. Ochiai (2) and J. Ogawa (1). (1) Division of Applied Life Sciences, Graduate School of Agriculture, Kyoto University, Oiwakecho, Kitashirakawa, Sakyoku, Kyoto, Japan. (2) Suntory Business Expert Ltd, 1-1-1 Wakayamadai, Shimamotocho, Mishimagun, Osaka, Japan.

S10 O5 Phosphatidic acids in *Aspergillus niger* under heat shock. Vera M. Tereshina (1), A. S. Memorskaya (1) and E.R Kotlova (2). (1) Winogradsky Institute of Microbiology Russian Academy of Sciences, Moscow, Russian Federation. (2) Komarov Botanical Institute Russian Academy of Sciences, St. Petersburg, Russian Federation.

S10 O6 Triacylglycerol metabolism in the microalga *Chlamydomonas reinhardtii*. Christoph Benning (1), X. Li (2,3), B. Liu (1), R. Miller (3,4), B. Sears (3), C.-H. Tsai (2,3) and J. Warakanont (3). (1) Department of Biochemistry and Molecular Biology, (2) Department of Energy Plant Research Laboratory, (3) Department of Plant Biology, (4) Cell and Molecular Biology Program, Michigan State University, East Lansing, Michigan, USA.

Friday 13th July

9:00-11:00 **Session 11 "Plant lipid biotechnology"**
Johnathan Napier

S11 O1 Capturing genetic diversity for advanced biofuels in Camelina. Jillian Silva, U. Iskandarov, R. Cahoon and E. Cahoon. Center for Plant Science Innovation and Department of Biochemistry, University of Nebraska-Lincoln, Lincoln, NE, USA.

S11 O2 Enhanced production in yeast and substrate specificities of four variants of type 1 diacylglycerol acyltransferase from *Brassica napus*. Michael S. Greer, M. Truksa, S.-C. Lung, and R.J. Weselake. Alberta Innovates Phytola Centre, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.

S11 O3 Engineering "Super DGATs": targeted mutations in type-2 diacylglycerol acyltransferase lead to enhanced performance in multiple transgenic systems. Jay Shockey (1), R. Siloto (2), C. Mason (1), A.H.J. Ullah (1), K. Sethumadhavan (1), S. Boone (1) and R. Weselake (2). (1) USDA-ARS, Southern Regional Research Center, New Orleans, LA, USA. (2) Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.

S11 O4 Metabolic engineering of *Yarrowia lipolytica* for the production of omega 3 fatty acids: the role of different acyltransferases in influencing fatty acid desaturation, elongation, and lipid production. Naren Yadav, H. Zhang, Q. Zhu, Z. Xue, D. Xie, B.D. Tyreus, R. Short, P.L. Sharpe, R. Hong, X. Fan, B. Boonyaratanakornkit and C. Dellomonaco. Biochemical Sciences and Engineering, Central R&D, Dupont Co., Wilmington, DE, USA.

S11 O5 Metabolic engineering plant seeds with fish oil-like levels of DHA. James Petrie and S. Singh. CSIRO Food Futures National Research Flagship, Canberra, Australia.

S11 O6 The molecular basis of high and super-high oleic safflower seed oils. Craig Wood, Q. Liu, J. Cao, X.-R. Zhou, A. Green and S. Singh. CSIRO Plant Industry, Canberra, Australia.

11:00-11:30 Coffee Break

11:30-13:15 **Session 12 "Future developments"**
John B. Ohlrogge

S12 O1 Plant lipids in 2030. John B. Ohlrogge (1) and S. Stymne (2). (1) Department of Plant Biology, Michigan State University, East Lansing, MI, USA.

(2) Department of Plant Breeding and Biotechnology, Swedish University of Agricultural Sciences, Alnarp, Sweden.

S12 O2 Improved soybean seed quality traits for food, feed, fuel and industrial applications. Howard Damude, K. Meyer, Z. Li, S.C. Falco and A. Kinney. DuPont Pioneer, DuPont Experimental Station, Wilmington, DE, USA.

S12 O3 Comparison of transcriptome changes associated to oil accumulation in oil palm mesocarp and in oil seeds. F. Bourgis (1), A. Kilaru (2), X. Cao (3), E. Legrand (1), B. Beauvoit (4), M. Maucourt (4), C. Deborde (4), A. Moing (4), G.-F. Ngando-Ebongue (5), N. Drira (6), J. Ohlrogge (3) and Vincent Arondel (1). (1) Laboratoire de Biogenèse Membranaire, CNRS UMR5200, Université Bordeaux Segalen, Bordeaux, France. (2) Department of Biological Sciences, East Tennessee State University, Johnson City, USA. (3) Great Lakes Bioenergy Research Centre, Michigan State University, East Lansing, USA. (4) UMR 1332 Biologie du Fruit et Pathologie, Plateforme Métabolome du Centre de Génomique Fonctionnelle Bordeaux, INRA Université de Bordeaux, Villenave d'Ornon, France. (5) Centre de Recherches sur le Palmier à Huile (CEREPAH) de la Dibamba, IRAD, Douala, Cameroon. (6) Laboratoire de Biotechnologie Végétale, Faculté des Sciences de Sfax, Sfax, Tunisia.

S12 O4 RDR1 and SGS3, components of RNA-mediated gene silencing, are required for regulation of cuticular wax biosynthesis in developing inflorescence stems of Arabidopsis. Patricia Lam, L. Zhao, H.E. McFarlane, M. Aiga, V. Lam, T.S. Hooker and L. Kunst. Department of Botany, University of British Columbia, Vancouver, British Columbia, Canada.

S12 O5 Transgenic nutritional enhancement: the production of omega-3 long chain polyunsaturated fatty acids in plants. O. Sayanova, N. Ruiz-Lopez, R. Haslam, S. Usher, M. Venegas-Calerón and Johnathan A. Napier. Department of Biological Chemistry, Rothamsted Research, Harpenden, UK.

13:15-13:30 Closing Session

13:30-15:00 Lunch