



May 6–9 | Minneapolis Convention Center | Minneapolis, Minnesota, USA

Live Stream Information

This information is subject to change.

Live Stream Channels

- <u>https://www.facebook.com/AOCSFan</u>
- https://www.youtube.com/user/AOCS1909

Program Guide

http://annualmeeting.aocs.org/Documents/AnnualMeeting/AM18%20PROGRAM-w.pdf

Live Steam Schedule

Sunday, May 6th | 4 p.m.–5:30 p.m. CST Welcome Plenary

Welcome Plenary Session featuring the ISF Kaufmann Memorial Lecture4 p.m.-5:30 p.m. CST | Livestream https://www.facebook.com/AOCSFan

Join us as we recognize the achievements of our members and learn what Society leaders are planning for the year ahead. AOCS President Neil Widlak and AOCS President-elect Len Sidisky will each deliver a brief address, Society and Scientific awards will be presented, and routine AOCS business will be conducted.

ISF Kaufmann Memorial Lecture

Fish oil oxidation: What is the problem?

Dr. Kazuo Miyashita, Professor, Department of Bio-resources Chemistry, Faculty of Fisheries Sciences, Hokkaido University, Japan.

Plenary Lecture

Positioning Plant Proteins to Consumers: What Innovations are Needed Along the Value Chain? Dr. James D. House, Professor and Head of the Department of Food and Human Nutritional Sciences, Faculty of Agricultural and Food Sciences, University of Manitoba, Canada. **Tentative as of 5/2*

> Monday May 7th | 7:55 a.m.–10 a.m. CST Concurrent Hot Topic Symposia

3-MCPD and Glycidol Esters — What Now?

7:55 a.m.-10 a.m. CST | Livestream https://www.facebook.com/AOCSFan

7:55 a.m.	Opening Remarks.	
8 a.m.	A Reflection on Ten Years of Research around 3-MCPD and Glycidyl Esters in Fats and Oils. Karel Hrncirik, Unilever, The Netherlands	
8:20 a.m.	Break	
8:40 a.m.	Approaches for the Mitigation of 3-MCPD Esters and Glycidyl Esters in Baby Food.	
	Constantin Bertoli, Néstle, Switzerland	
*Tentative as of 5/2		
9 a.m.	Mitigation Strategies for 3-MCPD Esters and Glycidol Esters during Vegetable Oil Refining. Nils Hinrichsen, ADM, Germany	
9:20 a.m.	Break	
9:40 a.m.	Panel Discussion, Q & A.	
Healthy Oils: The New Functional Ingredient?		
7:55 a.m.–10 a.m. CST Livestream <u>https://www.youtube.com/user/AOCS1909</u>		
7.55 a.m. 10 a.m. CST Elvestream <u>https://www.youtube.com/user/A0CS1905</u>		
7:55 a.m.	Opening Remarks.	

8 a.m. How New Food Policies and Label Regulations Could Reset Consumer Perception of Oils. Patricia Kearney, PMK Associates, Inc., USA

8:25 a.m.	The Latest Nutrition Science Suggests a New Role for Fats and Oils. Cyril Kendall,
	Department of Nutritional Sciences, University of Toronto, Canada
*Tentative as of 5/2	
8:50 a.m.	Food Chain Innovations that Address the Latest Consumer and Food Manufacturing
	Trends. David Dzisiak, Commercial Leader Grains & Oils, Dow AgroSciences, USA
*Tentative as of 5/2	
9:15 a.m.	Meeting the Challenge of New Consumer Demands. Naina Shah, Global R&D, PepsiCo,
	USA
9:40 a.m.	Q & A Panel.
	Monday May 7 th 10:05 a m -12:10 n m CST

Monday May 7th | 10:05 a.m.–12:10 p.m. CST Concurrent Special Session and Hot Topic Symposium

Awards Session

10:05 a.m. – 12:10 p.m. CST | Livestream https://www.facebook.com/AOCSFan

Transformation of a Synthetic Chemist into an Oil Alchemist

Alton E. Bailey Award Dharma Kodali, University of Minnesota, USA

From Canola to Hempseed Oil: A Long Fat Journey

Stephen S. Chang Award N. A. Michael Eskin, University of Manitoba, Canada *Tentative as of 5/2

Dietary Fat Phobia – Dispelling the Myth That All Fats Are Bad

Supelco AOCS Research Award Alice H. Lichtenstein, Tufts University, USA *Tentative as of 5/2

State of the Industry: Navigating a Post-PHO Landscape

10:05 a.m. – 12:10 p.m. CST | Livestream https://www.youtube.com/user/AOCS1909

- 10:05 a.m. **Opening Remarks.** Richard Galloway, QUALISOY, USA
- 10:10 a.m. **Overview of PHO Alternatives.** Robert Collette, Institute of Shortening and Edible Oils, USA
- 10:30 a.m. State of the Baking Industry. Joshua Tuinstra, Stratas Foods, LLC, USA
- 10:50 a.m. State of the Foodservice Industry. Michael Seidel, Performance Food Group, USA

- 11:10 a.m. Effect of Trait-enhanced Oils on the Risk Factors Used to Define Metabolic Syndrome. David Baer, Research Leader, USDA, ARS, Beltsville Human Nutrition Research Center, USA
- Panel Discussion, Q & A. 11:30 a.m.

Monday May 7th | 1:55 p.m.–5:00 p.m. CST Afternoon Concurrent Sessions

Spectroscopic, Spectrometric and Chemometric Methods for Lipid Analysis 1:55 p.m.-3:20 p.m. CST | Livestream https://www.youtube.com/user/AOCS1909

- Introduction. 1:55
- 2:00 Break
- 2:20 Vibrational Spectroscopy and Chemometric Procedures for the Rapid Assessment of Olive Oil Authenticity. Magdi Mossoba, Sanjeewa R. Karunathilaka, Cynthia Srigley, Kyungeun Lee, Lea Brückner, and Betsy J. Yakes, US Food and Drug Administration, USA

*Tentative as of 5/2

Automated Multicomponent Phospholipid Analysis using 31P NMR Spectroscopy: Example of 2:40 Vegetable Lecithin and Krill Oil. Bernd W.K. Diehl and Yulia B. Monakhova, Spectral Service AG, Germanv

*Tentative as of 5/2

Analysis and Detection of Olive Oil Adulteration using Fourier Transform Near-Infrared 3:00 Spectroscopy. Ariel Bohman, Kathryn J. Lawson-Wood, and Robert Packer, PerkinElmer, USA; PerkinElmer, UK

*Tentative as of 5/2

Lipidomic Analysis

3:35 p.m.–5:00 p.m. CST | Livestream https://www.youtube.com/user/AOCS1909

- 3:35 Introduction.
- 3:40 Lipidomic Profiling – An Integral Technology for Research and Development. Elizaveta Freinkman, Metabolon, Inc., USA
- 4:00 Break
- A Rapid Non-destructive Method for Determining Quality Parameters of Edible Oils. Kathryn J. 4:40 Lawson-Wood, Ariel Bohman, and Robert Packer, PerkinElmer, UK; PerkinElmer, USA

Processing ABC — Part I

1:55 p.m.–4:20 p.m. CST | Livestream https://www.facebook.com/AOCSFan

1:55 Introduction.

2:00 Advancements in Vegetable Oil Extraction and Oil Processing. Mohammad S. Alam, Texas A&M University, USA

*Tentative as of 5/2

- 2:20 Screw Press Technology for Oil Extraction. Eric D. Stibora, Anderson International, USA
- 2:40 **Pilot Plant Concept "EthaNa" for Ethanolic Extraction of Dehulled Canola Seeds.** Gunter Börner and Bernd Steinhauer, B+B Engineering GmbH, Germany
- 3:00 Energy Optimization in Soybean Processing. Mohamed Abid, Solex Thermal Science Inc., Canada

*Tentative as of 5/2

3:20 Oilseed Conditioning and Effects on Extraction. William C. Morphew, Crown Iron Works, USA *Tentative as of 5/2

3:40 Solvent Extraction Overview. Timothy G. Kemper, Desmet Ballestra, USA

Tuesday May 8th | 7:55 p.m. – Noon CST Morning Concurrent Sessions

Analysis of Fats and Oils Applying Advanced Lipid Analysis Techniques 7:55 a.m.–10:00 p.m. CST | Livestream <u>https://www.youtube.com/user/AOCS1909</u>

- 7:55 Introduction.
- 8:00 Use of Countercurrent Chromatography (CCC) for the Preparative Isolation of Lipid Compounds. Walter Vetter, Marco Müller, Katharina Wasmer, Andrea Goncalves Peca, and Medisa Muric, University of Hohenheim, Germany
- 8:20 Break
- 8:40 Comprehensive Dual Liquid Chromatography with Quadruple Mass Spectrometry, LC2MS4, for Jacaranda Mimosifolia Triacylglycerols. William C. Byrdwell, USDA, ARS, BHNRC, FCMDL, USA
- 9:00 Development of Lipidomics-based Reference Materials and Reference Data for Oils. John A. Bowden, National Institute of Standards and Technology, Marine Biochemical Sciences Group, USA *Tentative as of 5/2

9:20 Break

9:40 **The Hybrid Search: A New Mass Spectral Library Search Approach for Compound Classification.** Arun S. Moorthy, Brian T. Cooper, William E. Wallace, and Stephen E. Stein, National Institute of Standards and Technology, USA; University of North Carolina at Charlotte, USA

Olive Oil, including Sensory Analysis

10:15 a.m. – 10:40 a.m. CST | Livestream https://www.facebook.com/AOCSFan

10:15 Introduction.

10:20 **Contribution of Flavor Compounds to Explain New Sensory Defects in Virgin Olive Oil: The Example of "Frostbitten Olives".** Diego L. García González, Inmaculada Romero, Ramón Aparicio- Ruiz, Noelia Tena, Ana Lobo, María Teresa Morales, and Aparicio Ramón, Instituto de la Grasa (CSIC), Spain; University of Seville, Spain

Omega-3 Fatty Acids: Health Benefits and Dietary Recommendations

11 a.m.–Noon| Livestream <u>https://www.facebook.com/AOCSFan</u>

Organized by: The Council for Agricultural Science and Technology (CAST) CASTMuch scientific and public attention has focused on a group of dietary fatty acids called the omega-3 polyunsaturated fatty acids. This attention has developed because of the many potential human health benefits that have been proposed for this class of dietary lipids. This presentation by Donald C. Beitz, Departments of Animal Science and of Biochemistry, Biophysics, and Molecular Biology, Iowa State University, USA, will emphasize the health benefits, food sources, and dietary recommendations of the omega-3 polyunsaturated fatty acids.

Dietary Lipids and the Gut Microbiota

7:55 a.m. – 10:20 a.m. CST | Livestream https://www.youtube.com/user/AOCS1909

7:55 Introduction.

8:00 Effect of Diet on the Gut Microbiota. Joanne Slavin, University of Minnesota, USA *Tentative as of 5/2

- 8:20 Interaction Between Diets and Gut Commensal Bacteria in the Regulation of Immunological Health and Diseases. Jun Kunisawa, NIBIOHN, Japan
- 8:40 Role of Bile Acid in Gut Microbiota Alterations in Rats Fed a High-fat Diet. Atsushi Yokota, Masamichi Watanabe, Satoshi Ishizuka, and Satoru Fukiya, Research Faculty of Agriculture, Hokkaido University, Japan

*Tentative as of 5/2

9:00 Correlation Between Dietary Lipid, Gut Microbiota and Health. Jun Ogawa, Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto University., Japan; Res. Unit Physiol. Chem. Kyoto University, Japan AnnualMeeting.aocs.org

9:20 Break

10:00 Effects of Fatty Acid Metabolites by a Gut Lactic Acid Bacterium on Lipid Metabolism in NASH Model Mice. Neng Tanty Sofyana, Jiawen Zheng, Yuki Manabe, Yuta Yamamoto, Shigenobu Kishino, Jun Ogawa, and Tatsuya Sugawara, Kyoto University, Japan; Dept. of Anatomy and Cell Biology, Wakayama Medical University; Div. Applied Life Sciences, Graduate School of Agriculture, Kyoto University, Japan; Laboratory of Marine Bioproduct of Technology, Division of Applied Bioscience, Japan

Tuesday May 8th | 2:35 p.m. – 5:40 p.m. CST Afternoon Concurrent Sessions

Bioprocessing for New/Value-added Protein Utilization: Digestibility Issues/Analytical Measurements

2:35 p.m. – 4:00 p.m. CST | Livestream https://www.youtube.com/user/AOCS1909

- 2:35 Introduction
- 2:40 Matrix Effect on the in vitro Immunodetection of Food Allergens. Qinchun Rao, Xingyi Jiang, and Behnam Keshavarz, Florida State University, USA
- 3:00 Protein Quality Evaluation in Protein Enhanced Formulations Including Those Based on Oilseed Based Proteins. Sneh Bhandari, Merieux Nutrisciences, USA
- 3:20 Simultaneous Quantification of Hydrolysis Degree, Protein and Mean Weight of Peptides Released during Enzymatic Proteolysis. Sophie Beaubier, Irina Ioannou, Xavier Framboisier, Olivier Galet, and Romain Kapel, LRGP - UMR CNRS 7274, France; Reaction and Process Engineering Laboratory UMR-7274, France; Avril Group, France *Tentative as of 5/2

3:40 Nutritional Evaluation of Modified Carinata Meals in Finfish. Tom Kasiga and Michael Brown, Dept. of Natural Resource Management, South Dakota State University, USA *Tentative as of 5/2

Bioprocessing for New/Value-added Protein Utilization: Technologies 4:15 p.m. – 5:40 p.m. CST | Livestream <u>https://www.youtube.com/user/AOCS1909</u>

4:15 Introduction

4:20 Fungal Fermentation of Rapeseed Meal for Better Animal Feed.

Bo Hu, University of Minnesota, USA

*Tentative as of 5/2

4:40 Break

5:20 **Production of Proteins from Partially De-oiled Mustard Flour.** Levente L. Diosady and Bih King Chen, Dept. of Chemical Engineering, University of Toronto, Canada

Effect of New Processing Technologies on Lipid Oxidation

2:35 p.m. – 4:00 p.m. CST | Livestream https://www.facebook.com/AOCSFan

- 2:35 Introduction.
- 2:40 Oxidative Stability of Tomato-based Matrices Enriched with n-3-LC-PUFA Derived from Microalgae. Lore Gheysen, Nele Lagae, Jolien Devaere, Koen Goiris, Luc De Cooman, and Imogen Foubert, Katholieke Universiteit Leuven Kulak, Belgium; Katholieke Universiteit Leuven, Technology Campus Ghent, Belgium

*Tentative as of 5/2

- 3:00 Oxidation and Hydrolysis of Lipids in Marine Edible Shellfishes During Hot Drying Process. Dayong Zhou, Zhongyuan Liu, Kaiqi Gang, Fereidoon Shahidi, and Tong Wang, Dalian Polytechnic University, China; College of Food Science & Technology, Dalian Polytechnic University, China; School of Food Science and Technology, Dalian Polytechnic University, China; Memorial University of Newfoundland, Canada; Iowa State University, USA
- 3:20 Effect of SprayDried Flavonoid Microparticles on Oxidative Stability of Methyl Linoleate as Lipid Model System. Manuel J. Palma, Gloria Márquez-Ruiz, Paula García, Francisca Holgado, Cristina Vergara, Begoña Giménez, and Paz S. Robert, Universidad de Chile, Chile; Instituto de Ciencia y Tecnología de Alimentos y Nutrición (ICTAN-CSIC), Spain; Departamento de Ciencia de los Alimentos y Tecnología Química, Facultad de Ciencias Químicas y Farmacéuticas, Universidad de Chile, Chile; Instituto de Ciencia y Tecnología de Alimentos y Nutrición (ICTAN-CSIC); Departamento de Ciencia y Tecnología de los Alimentos, Facultad Tecnológica, Universidad de Santiago de Chile, Chile; Universidad de Chile, Chile
- 3:40 The Impact of Diacylglycerol on Association Colloids Formation and Lipid Oxidation. Mizue Ouchi, Eric A. Decker, and D. Julian McClements, Kao Corporation, Japan; University of Massachusetts Amherst, USA *Tentative as of 5/2

Manufacture and Stabilization of W/O and O/W Emulsions for Optimal Shelf-life

4:15 p.m. – 5:40 p.m. CST | Livestream https://www.facebook.com/AOCSFan

- 4:15 Introduction
- 4:20 Stability and Functionality of Colloidosomes as Delivery Systems for Small Molecules. Umut Yucel, Kansas State University, USA

- 4:40 Impact of Phospholipids and Tocopherols on the Oxidative Stability of Soybean Oil-in-Water Emulsions. Gautam Samdani, D. Julian McClements, and Eric A. Decker, University of Massachusetts Amherst, USA
- 5:00 Effect of Droplet Size and Interfacial Crystallization on the Rheology of Fat Crystal-stabilized Water-in-Oil Emulsions. Dérick Rousseau and Ruby R. Rafanan, Ryerson University, Canada *Tentative as of 5/2
- 5:20 **Label Friendly EDTA Alternative for Oxidative Stability Improvement in Food Emulsions.** Lan Ban, Yvonne Gildemaster, and Joan Randall, Kemin Food Technologies, USA

Wednesday May 9th | 7:55 p.m. – Noon CST Morning Concurrent Sessions

Trace Contaminants, including Processing Contaminants

7:55 a.m. – 11:40 p.m. CST | Livestream <u>https://www.youtube.com/user/AOCS1909</u>

- 7:55 Introduction.
- 8:00 Comparison of Analytical Methodologies for the Analysis of Bound MCPD and Glycidol in Edible Oils and Infant Formula. Jessica K. Beekman, Kaitlin Grassi, Shaun MacMahon, Jan Kuhlmann, Adam Becalski, Greg Jaudzems, and Fabien Robert, US Food and Drug Administration, USA; SGS Germany GmbH, Germany; Health Canada, Canada; Nestle Quality Assurance Center, USA
- 8:20 Break
- 8:40 Recent Status of EU-regulation on 3-MCPD and Glycidol in Oils/ Fats, Infant Formulae and Analytical Solutions Available. Jan Kuhlmann, SGS Germany GmbH, Germany
- 9:00 Break
- 10:00 The Importance of Aligning Analytical Limits with Health-based Guidance Values: Processformed Compounds Case Study. Paul R. Hanlon, Abbott Nutrition, USA
- 10:40 Healthy but also Flavorful Food: Mitigation Strategies for Foodborne Toxicants Combined with Sensory Properties Accepted by Consumers. Michael Granvogl, Technical University of Munich, Germany

*Tentative as of 5/2

11:00 MOSH/MOAH and Plasticizers: Status quo of Analysis and Activities of the Authorities in the EU. Jan Kuhlmann, SGS Germany GmbH, Germany

11:20 Immuno Magnetic Solid Phase Extraction Combined with Cleanup to Determine Aflatoxin B1

in Vegetable Oils. Hongshun Yang and Xi Yu, National University of Singapore, Singapore *Tentative as of 5/2

Pulse Proteins

7:55 a.m. – Noon CST | Livestream https://www.facebook.com/AOCSFan

7:55 Introduction.

8:00 Global Market Trends for New Pulse Product Development. Tanya Der, Pulse Canada, Canada *Tentative as of 5/2

- 8:20 Cropping Location and Year Affect Protein Content and Amino Acid Score of Different Lentil Varieties. Matthew G. Nosworthy, Jason Neufeld, Tom Warkentin, and James D. House, University of Manitoba, Canada; Crop Development Centre/Dept. of Plant Sciences, University of Saskatchewan, Canada
- 8:40 Break
- 9:00 **Functional and Sensory Characterization of Pre-treated Yellow- Eyed Beans.** Marcia English, Saint Francis Xavier University, Canada
- 9:20 Pulse Ingredients as an Alternative to Soy in the Production of Meat Analog via High Moisture Extrusion Cooking. Jenni Harrington, Buhler Inc., USA

*Tentative as of 5/2

- 9:40 Break
- 10:20 Wet Fractionation of Lentil and Faba Bean for Protein Ingredient Production: Effect of Processing Factors on Ingredient Quality and Functionality. Anusha Samaranayaka, Rick Green, Michael Nickerson, and Shannon Hood-Niefer, 1POS Bio-Sciences, Canada; University of Saskatchewan, Canada; Saskatchewan Food Industry Development Centre Inc., Canada
- 10:40 Nanoparticles Prepared from Desolvation of Pea Protein Concentrates as a Potential Stabilizer for Pickering Emulsions. Chi Diem Doan and Supratim Ghosh, University of Saskatchewan, Canada
- 11:00 Effect of the Carriers on the Microstructure and Functionality of Spray Dried Pea Protein Isolate. Yang Lan and Jiajia Rao, North Dakota State University, USA
- 11:20 Break
- 11:40 Panel Discussion: Current Trends and Future Direction of Pulse Research and Development.

Marine Oils and Other Products

1:55 p.m. – 5:00 p.m. CST | Livestream https://www.facebook.com/AOCSFan

- 1:55 Introduction.
- 2:00 Oxidative Status and Nutrient Label Claim Accuracy of the Top 50 Selling Omega-3 Products in the US. Adam Ismail, Global Organization for EPA and DHA Omega-3s, USA
- 2:20 Break
- 2:40 An Examination of Marine and Vegetable Oil Oxidation Data from a Multi-Year, Third-Party Database. Anna A. De Boer, Adam Ismail, Keri Marshall, Gerard Bannenberg1, Kevin L. Yan, and William J. Rowe, Nutrasource, Canada; Global Organization for EPA and DHA Omega-3s, USA; DSM Nutritional Products, USA
- 3:00 Chemical Changes During the Acute Oxidations of Fish Oils. Austin S. Phung, Selina C. Wang, Adam Ismail, Gerar Bannenberg, and Ameer Taha, University of California-Davis, Olive Center, USA; Global Organization for EPA and DHA Omega-3s, USA; University of California, Davis, USA *Tentative as of 5/2
- 3:20 Break
- 4:00 Analysis of Omega-3 Polyunsaturated Fatty Acids (PUFA) in Phospholipid Oils: A Design of Experiment Approach for Method Optimization. Cynthia Srigley and Isa C. Orr-Tokle, US Food and Drug Administration, USA

*Tentative as of 5/2

- 4:20 Evaluation of an Ultra Inert WAX-phase Column for the Analysis of Fatty Acids and FAMEs. Gustavo Serrano Izaguire, Allen Vickers, Yun Zou, and Daron Decker, Agilent, USA *Tentative as of 5/2
- 4:40 **Trans-fat Determination by Gas Chromatography Vacuum Ultraviolet Detection.** Jonathan Smuts and Barbara A. Mitchell, 1VUV Analytics, USA; Covance Labs, Inc., USA

Surfactant Synthesis and Fundamental Properties

1:55 p.m. – 4:40 p.m. CST | Livestream <u>https://www.youtube.com/user/AOCS1909</u>

- 1:55 Introduction.
- 2:00 Alkyldimethyl Amine Oxides Determination of pKa and Elucidation of Micelle Structure with FT-IR Spectroscopy. David Scheuing, Clorox, USA

2:40 Break

- 3:00 Solving a Hard Problem: Oleofuran Surfactants for Hundredfold Improved Hard Water Stability. Christoph Krumm, Kristeen Joseph, Dae Sung Park, and Paul J. Dauenhauer, Sironix Renewables, USA; University of Minnesota, USA
- 3:20 Break
- 3:40 Low Foaming Nonionic Surfactants with High Bio-Based Content. Scott Jaynes, Croda, Inc., USA
- 4:00 Break
- 4:20 Foam Properties of Alcohol Ethoxylates, Ether Sulfates and Ether Carboxylates. Tamra Weemes, Thu Nguyen, and Jamie Thibodeaux, Sasol Performance Chemicals, USA *Tentative as of 5/2