Health and Nutrition (H&N) Interest Area
Tentative Technical Program

This list of presentations is not final and subject to change.

**Health and Nutrition 2018 Session Planning Roundtable**
Monday, May 1 at 12:45 pm

All meeting attendees are invited to attend Roundtable discussions and assist in developing the technical program for the 2018 AOCS Annual Meeting. AOCS and the Annual Meeting Program Committee greatly value your input! *Division membership is not required to participate.*

*The presenter is the first author or otherwise indicated with an asterisk (*).*

**Monday Afternoon**

**H&N 1: N-6 PUFA: They Are Not as Bad as You Think**
*Chairs: Martha Belury, Ohio State University, USA; and Matthew Picklo, USDA, ARS, Grand Forks Human Nutrition Research Center, USA*

*Are All Fatty Acids Created Equal?* David W.L. Ma, University of Guelph, Canada

*The Relation Between Omega-6 Fatty Acids and Inflammation.* Philip Calder, University of Southampton, UK

*N-6 Polyunsaturated Fatty Acid Intake and Health Outcomes in Epidemiological Studies.* Dong Wang, Harvard T.H. Chan School of Public Health, USA

*Omega-6 and Omega-6 Fatty Acids: Focus on Ratios or Levels?* William S. Harris, University of South Dakota School of Medicine, USA

**Tuesday Morning**

**H&N 2: Medium Chain Triglycerides and Health**
*This session is sponsored in part by Nestlé Purina Pet Care Research*
*Chairs: Fabiola Dionisi, Nestlé Research Center, Switzerland; and Robert Ward, Utah State University, USA*

*Medium Chain Triglyceride in Food Fats and Their Metabolism.* J. Thomas Brenna, Cornell University, USA

*Brain Fatty Acid Beta-Oxidation. If it Isn’t a Source of ATP, What is it For?* Richard P. Bazinet, University of Toronto, Canada

*Octanoic Acid and Ghrelin Octanoylation: Origin of C8:0, Mechanisms, and Physiological Effects.* Vincent Rioux, Agrocampus Ouest, France
Dietary Medium Chain Saturated Fat Reduces Obesity-induced Outcomes in Mice. Matthew J. Picklo*1, Petr Zacek2, Michael Bukowski3, LuAnn K. Johnson1, Joseph Idso3, and Susan K. Raatz1, 1USDA, ARS, Grand Forks Human Nutrition Research Center, USA; 2US Food and Drug Administration, USA; 3USDA, ARS, USA

The Ketogenic Effect of MCT: Implications for Attenuating the Impact of Alzheimer’s Disease. Stephen C. Cunnane, Research Center on Aging, Canada

MCT Oil for Weight Management: Can Coconut Oil Do the Same? Marie-Pierre St-Onge, Columbia University, USA

Tuesday Afternoon

H&N 3: Brain, Behavior, and Omega-3s - This session organized jointly by AOCS and ISSFAL
This session sponsored in part by Australian Oilseeds Federation, GOED Omega-3, Sanmark LLC, and Young Living Essential Oils.
Chairs: Alex Kitson, Pepsico Foods, Canada; and Richard Bazinet, University of Toronto, Canada

Long-chain Polyunsaturated Fatty Acids and Infant Formula: A Case Study in Bench to Cradle Translation. J. Thomas Brenna, Cornell University, USA

How Does Docosahexaenoic Acid Enter the Brain? Updates and Implications for Adults and Infants. Richard P. Bazinet, University of Toronto, Canada

Linoleic Acid Regulates Neurotransmission Through its Oxidized Metabolites. Ameer Taha, University of California, Davis, USA

Omega-3 Fatty Acids Decrease the Neuroinflammatory Response to Amyloid-β in a Mouse Model of Alzheimer’s Disease. Kathryn E. Hopperton, University of Toronto, Canada

Wednesday Morning

H&N 4: Infant Formula Optimization - This session organized jointly by AOCS and ISSFAL
This session sponsored in part by Australian Oilseeds Federation, DSM Nutritional Products, GOED Omega-3, Sanmark LLC, and Young Living Essential Oils.
Chairs: Merritt Drewery, Louisiana State University, USA; and Carol Lammi-Keefe, Louisiana State University, USA

Evolution of the Infant Formula Industry: A Historical Perspective. Carol Lammi-Keefe and Merritt Drewery*, Louisiana State University, USA

Importance of the Regiospecific Distribution of Long Chain Saturated Fatty Acids on Gut Comfort, Fat, and Calcium Absorption in Infants. Valerie Petit, Laurence Sandoz, and Clara Lucia Garcia-Rodenas, Nestlé, Switzerland

Protein Source as a Way to Optimize Sphingomyelin Levels in Infant Formula Closer to Breastmilk. Gisella Mutungi, Nora Schneider, and Cian Moloney, 1Nestlé, USA; 2Nestlé, Switzerland; 3Nestlé, Ireland
Long Chain Polyunsaturated Fatty Acids in Infant Formula: Essential Nutrients for Optimal Development. Eric L. Lien, University of Illinois, USA

Structured Triglycerides in Infant Formula: Development of Fat Blends with Numerous Benefits. Eric L. Lien, University of Illinois, USA

Lipid Characterization in Breast Milk. Francesca Giuffrida, Nestlé, Switzerland

Fatty Acids Composition in Feeds and Plasma of Canadian Premature Infants. Zakir Hossain¹, Dylan MacKay², and James Friel²; ¹Bangladesh Agricultural University, Bangladesh; ²Manitoba University, Canada

4-D(x, y, z, t) Imaging of Lipases During Simulated Neonatal Digestion of Milk Fat Globules Using Synchrotron SOLEIL DISCO Beamline. Claire Bourlieu*¹, Amélie Deglaire², Stéphane Pezennec², Juliane Floury², Steven Le Fuenten³, Pierre Villeneuve⁴, Frédéric Carrière⁵, Didier Dupont², Said Bouhallab², Frédéric Jamme⁶, and Véronique Vié⁷; ¹UMR IATE - INRA/CIRAD/UM2/SupAgro, France; ²INRA-Agrocampus Ouest UMR 1253 STLO, France; ³UMR 782 INRA-AgroParisTech GMPA, France; ⁴CIRAD/INRA, UMR 1208 IATE, France; ⁵CNRS, Aix Marseille University, UMR 7282 Interfacial Enzymology and Physiology of Lipolysis, France; ⁶Synchrotron SOLEIL, France; ⁷Institute of Physics Rennes, University of Rennes 1, France

EAT 4/H&N 4.1: Lipid Structure and Health

Chairs: Ignacio Vieitez, UdelaR, Uruguay; and Amanda Wright, University of Guelph, Canada

The Role of Food Structure in Lipid Digestibility and Bioavailability. Harjinder Singh, Massey University, New Zealand

Effect of the Interactions Between Sorbitan Monostearate and Candelilla Wax on Soybean Oil Gelation. Carolina M. Teixeira¹, Thais V. Sarau¹, Roberta C. Silva², Luiz A. Gioielli¹, and Juliana N.R. Ract*¹; ¹University of Sao Paulo, Brazil; ²Utah State University, USA

Effect of Palmitic Acid’s sn-position and Solid Fat Content on Fasting Lipid Profile in Mice. Tong Wang, Iowa State University, USA

Effects of Liquid Coconut Oil vs. Oleogel on Human Blood Triglycerides, Glucose, Insulin, and Appetite. Sze-Yen Tan¹, Elaine W.Y. Peh¹, Alejandro G. Marangoni¹, and Christiani J. Henry¹; ¹Singapore Institute for Clinical Sciences, Singapore; ²University of Guelph, Canada

Structuring Lipids for Possible Infant and Prenatal Maternal Nutrition. Casimir C. Akoh, University of Georgia, USA

High Oleic Palm Olein. Noor Lida Habi Mat Dian¹, Miskandar Mat Sahri¹, Tan Chin Ping², and Lai Oi Ming²; ¹Malaysian Palm Oil Board, Malaysia; ²Universiti Putra Malaysia, Malaysia

Sequential Crystallization of High and Low Melting Waxes to Improve Oil Structuring in Wax-based Oleogels. Iris Tavernier¹, Chi Dien Doan², and Koen Dewettinck¹; ¹Ghent University, Belgium; ²Laboratory of Food Technology & Engineering, Ghent University, Belgium

Antioxidant Capacity of Different Bioactives in an Oil-like-Structured Heterogeneous Medium Designed for Food Applications. Maria Chatzidaki¹, Maria Zoumpanioti¹, Giorgos Sotiropoulos¹, Erwann Durand², Jerôme
Sonocrystallization of Interesterified and Physical Blends of High Oleic Sunflower Oil (HOSO) and Tristearin.
Jeta V. Kadamne\textsuperscript{1}, Ebenezer A. Ifeduba\textsuperscript{2}, Casimir C. Akoh\textsuperscript{2}, and Silvana Martini\textsuperscript{1}, \textsuperscript{1}Utah State University, USA; \textsuperscript{2}University of Georgia, USA

**Wednesday Afternoon**

**ANA 5 / H\&N 5: Impact of Oil Processing on Health Outcomes** - This session organized jointly by AOCS and ISSFAL

*This session sponsored in part by Australian Oilseeds Federation, GOED Omega-3, Sanmark LLC, and Young Living Essential Oils.*

*Chairs: J. Thomas Brenna, Cornell University, USA; and Sean Liu, USDA, ARS, USA*

**Introduction: Oil Processing or Fatty Acid Composition, What’s More Important?** J. Thomas Brenna, Cornell University, USA

**Impact of Industrial Processing and Mitigation on MCPD/Glycidyl Ester Concentrations in Oils and Foods.** Jessica K. Leigh and Shaun MacMahon, US Food & Drug Administration, USA

**A Novel Method to Assess Health Effects of Oils: Virgin and Refined Coconut Oil.** Ruijie Liu\textsuperscript{1,2}, Can Shi\textsuperscript{2}, Elizabeth Mendralla\textsuperscript{2}, Kumar S.D. Kothapalli\textsuperscript{2}, Xingguo Wang\textsuperscript{2}, and J. Thomas Brenna\textsuperscript{2}, \textsuperscript{1}Jiangnan University, China; \textsuperscript{2}Cornell University, USA

**Plasticiser Residues in Edible Oils and Fats—Relevance and Analysis.** Jan Kuhlmann, SGS Germany GmbH, Germany

**Analysis of Heavy Metals in Rice Bran Oil by Inductively Coupled Plasma (ICP) Spectrometry.** Robert O. Dunn\textsuperscript{1}, Erica L. Bakota\textsuperscript{2}, and Sean Liu\textsuperscript{1}, \textsuperscript{1}USDA, ARS, NCAUR, USA; \textsuperscript{2}Harris County Institute of Forensic Sciences, USA

**Quantifying Trans Fat in Foods: How Low Can We Really Go?** Cynthia Srigley, Sanjeewa R. Karunathilaka, and Magdi Mossoba, US Food and Drug Administration, USA

**2016 Monitoring of MCPD Derivatives and Glycidyl Esters in German Foods—Outcome and Applied Methods.** Jan Kuhlmann, SGS Germany GmbH, Germany

**H\&N 5.1: General Health and Nutrition**

*Chairs: Susan Raatz, USDA, ARS, Grand Forks Human Nutrition Research Center, USA; and Mathilde Fleith, Nestec Ltd., Switzerland*

**Association of Fatty Acid Intake with Weight Status in the US Population.** Susan K. Raatz, LuAnn K. Johnson, Matthew J. Picklo, and Lisa Jahns, USDA, ARS, Grand Forks Human Nutrition Research Center, USA

**Bioactive Lipids from Novel Medicinal Plants of the Tropical Rainforests of East Africa.** Fabien Schultz\textsuperscript{1}, Godwin Anywar\textsuperscript{2}, and Leif-Alexander Garbe\textsuperscript{3}, \textsuperscript{1}Technical University of Berlin, Neubrandenburg University of Applied Sciences, Germany; \textsuperscript{2}Makerere University, Uganda; \textsuperscript{3}Neubrandenburg University of Applied Sciences, Germany

**Effects of Stearic Acid on Blood Lipid Levels.** Mathilde Fleith, Nestec Ltd., Switzerland
Dietary Trans-vaccenic Acid Reduces Arthritic Severity in the Collagen-induced Arthritis Model. Mark E. Cook, Jake M. Olson*, Joni C. Baker, Sarah E. Clifford, and Jennifer Lor, University of Wisconsin-Madison, USA

Encapsulation and Delivery Pancreatic Lipase in Hydrogel Beads with Self-regulating Internal pH Microenvironments. Zipei Zhang, Ruojie Zhang, and David J. McClements, University of Massachusetts Amherst, USA

Novel Nano Delivery Vehicles for Solubilization and Enhanced Delivery of Cannabinoids. Nissim Garti, Hebrew University, Israel

Whey Protein can Modulate Body Fat-reducing Potential of Conjugated Linoleic Acid in Rats. Kazunori Koba¹, Yoshimi Arimoto¹, Koji Kawabata¹, Nozomi Tateiwa¹, Shun-ichi Matsuda², Toshio Iwata³, and Michihiro Sugano⁴, ¹University of Nagasaki, Japan; ²Fonterra (Japan) Limited, Japan; ³The Nisshin OilliO Group, Ltd., Japan; ⁴Professor Emeritus, Kyushu University, Japan

Whole Blood, Plasma, and Erythrocyte Acyl-lipids are Remodeled at Different Rates with Fish Oil Supplementation. Juan J. Aristizabal Henao¹, Ashley C. Patterson², Richard W. Smith¹, and Ken D. Stark³, ¹University of Waterloo, Canada; ²Mead Johnson Nutrition, USA

Effect of Positional Saturated Fatty Acids of Triacylglycerols on Fat Accretion in C57BL/6 Mice. Shiou Wah Gouk¹, Soek Sin Teh¹, Phooi Tee Voon¹, Tony Kock Wai Ng², Augustine Soon Hock Ong³, and Yuen May Choo¹, ¹Malaysian Palm Oil Board, Malaysia; ²International Medical University, Malaysia; ³Academy Science of Malaysia, Malaysia

H&N-P: Health and Nutrition Poster Session
Chairs: Mathilde Fleith, Nestec Ltd., Switzerland; Michelle Judge, University of Connecticut, USA; and Holiday Durham Zanetti, Nutrilite, Amway, USA

Dedicated Poster Session | Visit with the authors.
Tuesday, May 2 • 5:00–6:30 pm

**Posters will be available for viewing from Monday at 7:30 am until Wednesday at 3:00 pm.

Associations Between Red Blood Cell Fatty Acids and Cardiometabolic Risk Markers Differ in White vs. South Asian Canadian Adults Living in Ottawa. Isabelle Demonty¹, Cunye Qiao², Chao-Wu Xiao³, Eleonora Swist¹, Reiko Nagasaka², Carla Wood¹, and Walisundera M.N Ratnayake¹, ¹Nutrition Research Division, Bureau of Nutritional Sciences, Health Canada, Canada; ²Biostatistics and Modelling Division, Bureau of Food Surveillance and Science Integration, Health Canada, Canada; ³Food Chemistry and Functional Nutrition, Dept. of Food Science and Technology, Graduate School of Marine Science and Technology, Japan

Effects of Oil Prepared from a Scallop By-product on Liver Lipid Peroxidation in Mice. Ryota Hosomi¹, Toshifumi Tanizaki², Kenji Fukunaga², Syohei Mori³, Shingo Inoue³, Takuma Kawanami³, Koretaro Takahashi³, and Takeya Yoshioka¹, ¹Kansai University, Japan; ²Faculty of Chemistry, Materials and Bioengineering, Kansai University, Japan; ³Faculty of Fisheries Sciences, Hokkaido University, Japan; ⁴Hokkaido Industrial Technology Center, Japan

Enhancing Omega-3 Fatty Acids and Alpha-tocopherols in Caprine Milk by Feeding Rumen-protected Fish Oil Supplements. Jung Hoon Lee, Beruk Lemma, and Christina Alfred, Fort Valley State University, USA
Maternal Fatty Acid and Inflammatory Status Affects Infant Heart Rate and Heart Rate Variability. Merritt Drewery*1, Adriana V. Gaitán2, Derek Miketinas2, Steve B. Spedale3, Ericka Seidemann4, Karen Elkind-Hirsch4, and Carol Lammi-Keefe1. 1Louisiana State University, USA; 2Louisiana State University, USA; 3Infamedics, Woman's Hospital, USA; 4Woman's Hospital, USA

Dietary Exposure to Conjugated Linoleic Acid cis-9, trans-11 Prevents Collagen-Induced Arthritis. Jessica A. Muhlenbeck, Daniel E. Bütz, Jake M. Olson, Daniela Uribe-Cano, and Mark E. Cook. University of Wisconsin-Madison, USA

Effects of Dietary β-conglycinin on Insulin Sensitivity and Liver Lipid Concentration in OLETF Rats. Koji Kawabeta*1, Shizuka Hase-Tamaru1, Kazuhito Suruga1, and Kazunori Koba2. 1Graduate School of Human Health Science, University of Nagasaki Siebold, Japan; 2University of Nagasaki, Japan

Nanovehicles for Inhibition of the Formation of Advanced Glycation End Products (AGEs). Karina Latorre and Alejandra Medrano*, UdelaR, Uruguay

Kril Oil Supplementation Reduces Inflammatory Biomarkers in Healthy Women. Hyunsin H. Sung1, Andrew J. Sinclair2, and Xiao Q. Su*1. 1Victoria University, Australia; 2Deakin University, Australia

Bioactivity Assessment of Novel Non-conjugated Non-methylene Interrupted Dienoic Acids Isolated from Beef Fat. Payam Vahmani1, William J. Meadus2, Pascale Duff1, David C. Rolland1, and Michael E.R Dugan1. 1Lacombe R&D Centre, Agriculture and Agri-Food Canada, Canada; 2Agriculture and Agri-Food Canada, Canada

Incorporation and Stability of Vitamin A as a Functional Component in Self-assembled Supramolecular Oleogels. Cecilia B. Arnaud1, and Nuria C. Acevedo*2. 1Oniris, France; 2Iowa State University, USA

Effect of Resveratrol or Red Wine on Oxidative Stress Biomarkers Associated with Atherosclerosis in LDLr-KO Mice. Livia N. Chassot, Gabriela G. Roschel, and Inar A. Castro*, University of Sao Paulo, Brazil

Microbial Lipase for Reducing Serum Triglycerides. Kelly Gregory*1, Duc Tran Do2, Caroline Best1, Fanbin Kong2, Deborah Winetzky1, and Chris Penet1. 1BIO-CAT, USA; 2University of Georgia, USA

Cardiometabolic Risk Markers, Red Blood Cell Fatty Acids, and Their Associations Differ in White vs. South Asian Canadian Children and Adolescents Living in Ottawa. Isabelle Demonty*1, Rong Huang1, Eleonora Swist1, Isabelle Massarelli2, Isabelle Rondeau2, Winnie Cheung1, Lois Fernandez1, and Walisundera M.N. Ratnayake1. 1Nutrition Research Division, Bureau of Nutritional Sciences, Health Canada, Canada; 2Food Surveillance Integration Division, Bureau of Food Surveillance and Science Integration, Health Canada, Canada