

# 2018 AOCS Annual Meeting & Expo

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



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

*As of February 25, 2018*

*This presentation list is not final and is subject to change.*

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

### Monday Afternoon

#### **H&N 1 / PHO 1: Emerging Bioactives and Health Impacts**

*Chairs: Eileen Bailey Hall, DSM Nutritional Products, USA; and Xiaosan Wang, Jiangnan University, China*

**Health Impact of the Newly Discovered Elovonoids: Stroke, Retinal Degenerations, Neurotrauma and Alzheimer's Disease.** Nicolas G. Bazan, *LSU Health New Orleans Neuroscience Center, USA*

**Evidence for the Use of Docosahexaenoic Acid in the Treatment of Breast Cancer.** Catherine J. Field, Newell Marnie, and Lynne M. Postovit, *University of Alberta, Canada*

**A Brief Overview of Palmitoleic Acid, the Forgotten MUFA.** Gretchen Vannice, *Organic Technologies, USA*

**Arachidonic Acid has Anti-diabetic Actions.** Gundala K. Naveen Kumar, and Undurti Das\*, *BioScience Research Centre, India*

**Effects of Sesamol on Lipid Metabolism and Neurodegeneration.** Xuebo Liu and Zhigang Liu, *Northwest A&F University, China*

**A Novel Method for Evaluating Anti-inflammatory Activity of Camellia Seed Oil.** Ruijie Liu<sup>1</sup>, Niannian Lan<sup>2</sup>, Ming Chang<sup>1</sup>, Qingzhe Jin<sup>1</sup>, and Xingguo Wang<sup>1</sup>, <sup>1</sup>*Jiangnan University, China*; <sup>2</sup>*School of Food Science and Technology, Jiangnan University, China*

**Dietary Krill Oil Enhances Neurocognitive Functions and Modulates Proteomic Changes in Brain Tissues of Aging Mice.** Ling Zhi Cheong, Tingting Sun, and Xiurong Su, *Ningbo University, China*

**Role of Oxidized Phospholipids in Myocardial Reperfusion Injury.** Amir Ravandi, *University of Manitoba, Canada*

### Tuesday Morning

#### **BIO 2.1 / H&N 2: Dietary Lipids and the Gut Microbiota**

*Chairs: Barry Tulk, DuPont Nutrition & Health, USA; and Jun Ogawa, Kyoto University, Japan*

**Effect of Diet on the Gut Microbiota.** Joanne Slavin, *University of Minnesota, USA*

**Interaction Between Diets and Gut Commensal Bacteria in the Regulation of Immunological Health and Diseases.** Jun Kunisawa, *NIBIOHN, Japan*

**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*

**Dietary Fatty Acid Metabolism in Gut Microbiota.** Shigenobu Kishino<sup>1</sup>, Akiko Hirata, Michiki Takeuchi<sup>1</sup>, and Jun Ogawa<sup>2</sup>, <sup>1</sup>*Kyoto University, Japan*; <sup>2</sup>*Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., Japan*

**10-oxo-12(Z)-octadecenoic Acid, a Linoleic Acid Metabolite Produced by Gut Microbiota, Enhances Energy metabolism by Activation of TRPV1.** Tsuyoshi Goto\*<sup>1</sup>, Minji Kim<sup>2</sup>, Tomoya Furuzono<sup>2</sup>, Kunitoshi Uchida<sup>3</sup>, Shigenobu Kishino<sup>1</sup>, Haruya Takahashi<sup>2</sup>, Huei-Fen Jheng<sup>4</sup>, Jun Yamazaki<sup>5</sup>, Makoto Tominaga<sup>3</sup>, Jun Ogawa<sup>6</sup>, and Teruo Kawada<sup>2</sup>, <sup>1</sup>*Kyoto University, Japan*; <sup>2</sup>*Division of Food Science and Biotechnology, Graduate School of Agriculture, Kyoto University, Japan*; <sup>3</sup>*Okazaki Institute for Integrative Bioscience, National Institute for Physiological Sciences, Japan*; <sup>4</sup>*Division of Food Science and Biotechnology, Graduate School of Agriculture, Kyoto University, Japan*; <sup>5</sup>*Department of Physiological Science and Molecular Biology, Fukuoka Dental College, Japan*; <sup>6</sup>*Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., Japan*

**Effects of Fatty Acid Metabolites by a Gut Lactic Acid Bacterium on Lipid Metabolism in NASH Model Mice.** Neng Tanty Sofyana\*<sup>1</sup>, Jiawen Zheng<sup>1</sup>, Yuki Manabe<sup>1</sup>, Yuta Yamamoto<sup>2</sup>, Shigenobu Kishino<sup>1</sup>, Jun Ogawa<sup>3</sup>, and Tatsuya Sugawara<sup>4</sup>, <sup>1</sup>*Kyoto University, Japan*; <sup>2</sup>*Department of Anatomy and Cell Biology, Wakayama Medical University*; <sup>3</sup>*Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto Univ., Japan*; <sup>4</sup>*Laboratory of Marine Bioproduct of Technology, Division of Applied Bioscience, Japan*

**Gut Microbiota and Free Fatty Acids Receptors Mediated Host Energy Regulation.** Junki Miyamoto and Ikuo Kimura, *Tokyo University of Agriculture and Technology, Japan*

**Effects of the Intake of a Gut Microbial Linoleic Acid Metabolite, 10-hydroxy-cis-12-octadecenoic Acid (HYA), on Postprandial Hyperglycemia.** Yasunori Yonejima and Kohey Kitao, *Nitto Pharmaceutical Industries, Ltd., Japan*

## Tuesday Afternoon

### **H&N 3: Lipids through the Lifespan**

*Chairs: Adriana Gaitan, Louisiana State University, USA; and Ignacio Vieitez, UdelaR, Uruguay*

**To be announced.** Berthold V. Koletzko, *Ludwig Maximilians University of Munich, Division of Metabolic Diseases and Nutritional Medicine, Dr. von Hauner Children's Hospital, Germany*

**Fats and Oils Needs during the Lifespan and their Effects on Health and Well-being.** Penny Kris-Etherton\*, *The Pennsylvania State University, USA*

**Dietary Monounsaturated Fatty Acids and Cardiovascular Disease Prevention: a Surprising Story Beyond Oleic Acid.** Zhi-Hong Yang, *Lipoprotein Metabolism Section, Cardio-Pulmonary Branch, NHLBI, NIH, USA*

**Understanding the Relationship Between Dietary Fatty Acids and Blood and Tissue Fatty Acid Composition.** Ken D. Stark, *University of Waterloo, Canada*

**Antioxidant Potential of Esterified Resveratrol Derivatives in Different Model Systems.** Won Young Oh and Fereidoon Shahidi, *Memorial University of Newfoundland, Canada*

**Effect of Fatty Acid Chain Length and Saturation on the Lipid Profiles of Wistar Rats.** Chathuri M. Senanayake<sup>1</sup>, Gangi R. Samarawickrama<sup>2</sup>, Nimanthi Jayathilaka<sup>2</sup>, and Kapila N. Seneviratne\*<sup>1</sup>, <sup>1</sup>*University of Kelaniya, Sri Lanka*; <sup>2</sup>*Department of Chemistry, University of Kelaniya, Sri Lanka*

**Identifying Novel Docosahexaenoic Acid-containing Phospholipids in Human Whole Blood as Indicators of Omega-3 PUFA Intake.** Juan J. Aristizabal Henao and Ken D. Stark, *University of Waterloo, Canada*

### **EAT 3.2 / H&N 3.1: Influence of Fat Composition on Metabolic Status**

*Chairs: Amanda Wright, University of Guelph, Canada; and Marie-Caroline Michalski,*

**Introducing the Importance of Molecular and Supramolecular Lipid Structures on Metabolism and Beyond.** Marie-Caroline Michalski, *INRA, France*

**Is the Food Matrix an Important Factor for Lipid Bioaccessibility and their Subsequent Metabolism?** Sylvie Turgeon, *INAF, Laval University, Canada*

**Citric Acid Esters-stabilized Emulsions During *in vitro* Digestion: Effect of the Physical State of Emulsifier.** Qing Guo, Nick Bellissimo, and D errick Rousseau, *Ryerson University, Canada*

**Impact of Emulsion Droplet Physical State on *in vitro* Lipid Digestion.** Surangi K.P.H. Thilakarathna and Amanda Wright, *University of Guelph, Canada*

**Monounsaturated Fats and Stearic Acid: Summary of Impact on Human Cardiometabolic Outcomes.** Dariush Mozaffarian\*, *Friedman School of Nutrition & Health Policy, Tufts University, USA*

***In vitro* and *in vivo* Evidence of Dietary trans-vaccenic Acid Retroconversion to trans-palmitoleic Acid.** Etienne Guillocheau, Garcia Cyrielle, L eo Richard, Daniel Catheline, Philippe Legrand, and Vincent Rioux, *Agrocampus-Ouest, France*

### Wednesday Morning

#### **H&N 4a: Nutrigenetics and Nutrigenomics and of Lipid Metabolism**

*Chairs: Susan Raatz, USDA, ARS, Grand Forks Human Nutrition Research Center, USA; and Fabiola Dionisi, Nestl e Research Center, Switzerland*

**Genetic Determinants of the Cardiometabolic Risk Factor Response to an N-3 PUFA Supplementation.** Marie-Claude Vohl, *Laval University, Canada*

**Effect of Fatty Acid Chain Length on Regulation of Hepatic Gene Expression by Saturated Fats.** Harsha Hapugaswatte<sup>1</sup>, Chathuri M. Senanayake<sup>1</sup>, Gangi R. Samarawickrama<sup>2</sup>, Kapila N. Seneviratne<sup>1</sup>, and Nimanthi Jayathilaka\*<sup>2</sup>, <sup>1</sup>*University of Kelaniya, Sri Lanka*; <sup>2</sup>*Department of Chemistry, University of Kelaniya, Sri Lanka*

**Trans Fatty Acids Suppress TNFalpha-induced Inflammatory Gene Expression in Endothelial and Hepatocellular Carcinoma Cells.** Marine S. Da Silva<sup>1</sup>, Sarah O'Connor<sup>2</sup>, Pierre Julien<sup>2</sup>, Jean-Fran ois Bilodeau<sup>2</sup>, Olivier Barbier<sup>3</sup>, and Iwona Rudkowska\*<sup>2</sup>, <sup>1</sup>*Centre de recherche du CHU de Qu ebec – Universit e Laval, Canada*; <sup>2</sup>*Endocrinology and Nephrology Unit, Centre de recherche du CHU de Qu ebec – Universit e Laval, Canada*; <sup>3</sup>*Laboratory of Molecular Pharmacology, Centre de recherche du CHU de Qu ebec – Universit e Laval, Canada*

**Gene-dietary Fat Interactions and Cardiometabolic Health.** Jos e M. Ordov as, *Tufts University, USA*

## **H&N 4b: Ralph Holman Lifetime Achievement Award Lecture**

*Chairs: Douglas M. Bibus, Lipid Technologies LLC, USA; Fabiola Dionisi, Nestlé Research Center, Switzerland*

**Title to be announced.** Susan K. Raatz, *USDA, ARS, Grand Forks Human Nutrition Research Center, USA*

### Wednesday Afternoon

## **H&N 5: General Health and Nutrition**

*Chairs: Jenifer Heydinger Galante, Stepan Co., USA; and Fabien Schultz, Technical University of Berlin, Neubrandenburg University of Applied Sciences, Germany*

**East and Central African Medicinal Plants as Anti-inflammatory Inhibitors in the 15-LOX / 15-Hydroxyeicosatetraenoic Acid and COX / PGH2 Pathways.** Fabien Schultz<sup>1</sup>, Godwin Anywar<sup>2</sup>, Ogechi Favour Osuji<sup>3</sup>, and Leif-Alexander Garbe<sup>4</sup>, <sup>1</sup>*Technical University of Berlin, Neubrandenburg University of Applied Sciences, Germany*; <sup>2</sup>*Makerere University, Uganda*; <sup>3</sup>*Applied Chemistry, School of Agriculture and Food Sciences, Neubrandenburg University of Applied Sciences, Germany*; <sup>4</sup>*Neubrandenburg University of Applied Sciences, Germany*

**Gamma-linolenic Acid Regresses Human Glioma.** Undurti Das, *BioScience Research Centre, India*

**Conjugated Linoleic Acid Delivered as Nanoemulsion Reduced Fat Accumulation and Increased Activity in *Caenorhabditis elegans*.** Yeonhwa Park<sup>1</sup>, Peiyi Shen<sup>2</sup>, Yiren Yue<sup>2</sup>, Ou Wang<sup>2</sup>, and D. Julian McClements<sup>3</sup>, <sup>1</sup>*Department of Food Science, University of Massachusetts Amherst, USA*; <sup>2</sup>*University of Massachusetts, USA*; <sup>3</sup>*University of Massachusetts Amherst, USA*

**Increased Body Mass Index and C-reactive Protein are Associated with Low Serum  $\alpha$ -carotene in Adults.** Ambria Crusan<sup>1</sup>, David R. Jacobs<sup>2</sup>, Ryan T. Demmer<sup>3</sup>, and Susan K. Raatz<sup>4</sup>, <sup>1</sup>*University of Minnesota, USA*; <sup>2</sup>*Division of Epidemiology and Community Health, School of Public Health, University of Minnesota, USA*; <sup>3</sup>*Division of Epidemiology and Community Health, School of Public Health, University of Minnesota, USA*; <sup>4</sup>*USDA, ARS, Grand Forks Human Nutrition Research Center, USA*

**Enhancing Bioaccessibility of Phytosterols using Nanoporous Starch Bioaerogels.** Ali Ubeyitogullari, Regis Moreau, and Ozan N. Ciftci, *University of Nebraska-Lincoln, USA*

**Effect of the Type of Feeding on Quality Characteristics of the Lipid Fraction in Beef.** Luis C. Vazquez<sup>1</sup>, Jennifer Fernandez<sup>2</sup>, Guillermo Reglero<sup>1</sup>, and Carlos Torres<sup>1</sup>, <sup>1</sup>*University Autonoma of Madrid, Spain*; <sup>2</sup>*Research Institute of Food Science (CIAL, CSIC-UAM), Spain*

**Sex Differences in Rat Oxylipins Vary between Tissues and Diet, and Do Not Reflect Precursor Fatty Acids.** Harold M. Aukema<sup>1</sup>, Shan Leng<sup>1</sup>, Anne Mendonca<sup>2</sup>, Lucien G.J. Cayer<sup>1</sup>, Afroza Ferdouse<sup>1</sup>, and Tanja Winter<sup>1</sup>, <sup>1</sup>*University of Manitoba, Canada*; <sup>2</sup>*Federal University of Uberlandia, Brazil*

**High Speed, Consistent Extraction for the Compounds of Interest in the Potency Testing of Cannabis.** Tom Hall and Rudolf Addink, *Fluid Management Systems, USA*

## **H&N-P: Health and Nutrition Poster Session**

*Chairs: Ignacio Vieitez, UdelaR, Uruguay; and Varun Koneru, Young Living Essential Oils, USA*

*Posters will be available for viewing from noon on Monday, May 7 through 2:00 p.m. Wednesday, May 9, 2018.*

**Evaluation of Intestinal Absorption of Dietary Sphingolipids.** Yui Tomo<sup>1</sup>, Nami Tomonaga<sup>1</sup>, Yuki Manabe<sup>1</sup>, Akinori Ando<sup>2</sup>, Tsuyoshi Tsuduki<sup>3</sup>, Jun Ogawa<sup>2</sup>, and Tatsuya Sugawara\*<sup>4</sup>, <sup>1</sup>*Kyoto University, Japan*; <sup>2</sup>*Div. Appl. Life Sci., Grad. Sch. Agric., Kyoto University, Japan*; <sup>3</sup>*Tohoku University, Japan*; <sup>4</sup>*Laboratory of Marine Bioproduct of Technology, Division of Applied Bioscience, Japan*

**The Protective Role of Lcn2 Against Intestinal Inflammation and Gut Microbiota Dysbiosis in HFD-Induced Obesity.** Xiaoxue Qiu<sup>1</sup>, Marissa Macchietto<sup>2</sup>, Trevor Gould<sup>3</sup>, Steven Shen<sup>2</sup>, and Xiaoli Chen<sup>4</sup>, <sup>1</sup>*University of Minnesota, Twin Cities, USA*; <sup>2</sup>*Clinical Translational Science Institute, University of Minnesota-Twin Cities, USA*; <sup>3</sup>*Informatics Institute, University of Minnesota-Twin Cities, USA*; <sup>4</sup>*Dept. of Food Science and Nutrition, University of Minnesota-Twin Cities, USA*

**Black Bean Flour Properties after Steam Jet-cooking: A Comparative Study as Affected by pH.** Jim A. Kenar<sup>1</sup>, Jill Moser<sup>1</sup>, Frederick C. Felker<sup>1</sup>, Mukti Singh<sup>2</sup>, and Sean Liu<sup>3</sup>, <sup>1</sup>*USDA, ARS, NCAUR, USA*; <sup>2</sup>*NCAUR-ARS-USDA, USA*; <sup>3</sup>*USDA, ARS, USA*

**Dietary Fat Influences the Composition of Bacteria and its Metabolites in Cecum of Rat.** Ryota Hosomi<sup>1</sup>, Anna Matsudo<sup>1</sup>, Takaki Shimono<sup>2</sup>, Seiji Kanda<sup>2</sup>, Toshimasa Nishiyama<sup>2</sup>, Munehiro Yoshida<sup>2</sup>, and Kenji Fukunaga<sup>3</sup>, <sup>1</sup>*Kansai University, Japan*; <sup>2</sup>*Kansai Medical University, Japan*; <sup>3</sup>*Faculty of Chemistry, Materials and Bioengineering, Kansai University, Japan*

**Edible Hydrogel Beads Fabrication with Self-regulating Microclimate pH Properties: Retention of Enzyme Activity After Exposure to Gastric Conditions.** Zipei Zhang and D. Julian McClements, *University of Massachusetts Amherst, USA*

**Virgin Grape Seed Oil Attenuates High-fat Diet-induced Obesity and Insulin Resistance.** Hui Zhang and Gangcheng Wu, *Jiangnan University, China*

**Effect of Noodle Formulation and Frying Medium on Oil Absorption in Steamed-and-Fried Instant Noodles.** Jinfeng Qi<sup>1</sup>, and Xingguo Wang<sup>2</sup>, <sup>1</sup>*Jiangsu University of Science and Technology, Jiangnan University, China*; <sup>2</sup>*Jiangnan University, China*

**Endocannabinoid Metabolome in Human Breast Milk – A Guatemalan Cohort.** Adriana V. Gaitan<sup>1</sup>, Jodi T. Wood<sup>2</sup>, Lipin Ji<sup>3</sup>, Yingpeng Liu<sup>3</sup>, Spyros P. Nikas<sup>4</sup>, Juliana A. Donohue<sup>5</sup>, Lindsay Allen<sup>6</sup>, Noel W. Solomons<sup>7</sup>, Alexandros Makriyannis<sup>3</sup>, and Carol J. Lammi-Keefe<sup>8</sup>, <sup>1</sup>*Louisiana State University, USA*; <sup>2</sup>*Center for Drug Discovery, Northeastern University, USA*; <sup>3</sup>*Center for Drug Discovery, Northeastern University, USA*; <sup>4</sup>*Center for Drug Discovery, Northeastern University*; <sup>5</sup>*Nestlé Institute of Health Sciences, Switzerland*; <sup>6</sup>*University of California, Davis, USA*; <sup>7</sup>*Center for the Studies of Sensory Impairment, Aging and Metabolism, Guatemala*; <sup>8</sup>*Agricultural Center, Louisiana State University, USA*

**Dietary Intakes of n-3 and n-6 Polyunsaturated Fatty Acids in Preschool-aged Children in the Guelph Family Health Study.** Jessie L. Burns (née MacKinnon), Julia A. Mirotta, Alison M. Duncan, Jess Haines, and David W.L. Ma, *University of Guelph, Canada*

**Potential Bioactivity of Phenolics in Hulls and Dehulled Grains of Lentils; Focusing on the Inhibitory Activity Against the Oxidation of LDL Cholesterol and Supercoiled DNA Strand.** Fereidoon Shahidi and JuDong Yeo\*, *Memorial University of Newfoundland, Canada*

**Investigation of Bioactive Lipids from African Medicinal Plants Collected in the Tropical Rainforests of Uganda.**

Fabien Schultz<sup>1</sup>, Godwin Anywar<sup>2</sup>, Ogechi Favour Osuji<sup>3</sup>, Anh Nguyen<sup>3</sup>, Luc Pieters<sup>4</sup>, and Leif-Alexander Garbe<sup>5</sup>,  
<sup>1</sup>*Technical University of Berlin, Neubrandenburg University of Applied Sciences, Germany*; <sup>2</sup>*Makerere University, Uganda*; <sup>3</sup>*Applied Chemistry, School of Agriculture and Food Sciences, Neubrandenburg University of Applied Sciences, Germany*; <sup>4</sup>*Dept. of Pharmaceutical Sciences, University of Antwerp, Belgium*; <sup>5</sup>*Neubrandenburg University of Applied Sciences, Germany*

**Different Effects of Squalene on Lipid Metabolism in Livers of KK-A<sup>y</sup> and C57BL/6 Mice.** Shaokai Liu<sup>1</sup>, Masashi Hosokawa<sup>2</sup>, and Kazuo Miyashita<sup>2</sup>, <sup>1</sup>*Graduate School of Fisheries Sciences, Hokkaido University, Japan*; <sup>2</sup>*Hokkaido University, Japan*

**Study on the Effect of Activated Carbon with Bleaching Earth in Reduction of Polycyclic Aromatic Hydrocarbons in Soybean Oil.** Nilufar Aliar Zanjani<sup>1</sup>, Zahra Piravi Vanak<sup>2</sup>, and Mehrdad Ghavami<sup>1</sup>, <sup>1</sup>*Islamic Azad University, Science and Research Branch, Tehran, Iran*; <sup>2</sup>*Standard Research Institute of Iran, Faculty of Food Industries and Agriculture, Iran*

**Antioxidant Capacity of Mango Kernels: a Comparative Study.** Anh T.L. Nguyen<sup>1</sup>, Samuel A. Besong<sup>2</sup>, and Alberta N.A. Aryee\*<sup>1</sup>, <sup>1</sup>*Delaware State University, USA*; <sup>2</sup>*Dept. of Human Ecology, College of Agricultural Sciences, Delaware State University, USA*

**Storage Stability of Palm-based Vitamin E (tocotrienol-rich fraction) in Functional Granola Bar.** Noor Lida Habi Mat Dian<sup>1</sup>, Wan Suet Ying<sup>1</sup>, Fu Ju Yen<sup>1</sup>, Miskandar Mat Sahri<sup>1</sup>, and Lai Oi Ming<sup>2</sup>, <sup>1</sup>*Malaysian Palm Oil Board, Malaysia*; <sup>2</sup>*Universiti Putra Malaysia, Malaysia*

**A New Dietary Source of Branched Fat from Fermented Asian Foods.** Dong Hao Wang<sup>1</sup>, Yupeng Yang<sup>1</sup>, Zhen Wang<sup>1,2</sup>, Peter Lawrence<sup>1</sup>, Randy W. Worobo<sup>1</sup>, and James T. Brenna<sup>2</sup>, <sup>1</sup>*Cornell University, USA*; <sup>2</sup>*University of Texas at Austin, USA*