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

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

Health and Nutrition 2017 Session Planning Roundtable
Tuesday, May 3 at 12:45 pm

All meeting attendees are invited to attend Roundtable discussions and assist in developing the technical program for the 2017 AOCS Annual Meeting. AOCS and the Annual Meeting Program Committee greatly value your input!
Division membership is not required to participate.

Monday Afternoon

H&N 1: Vitamin D and Human Health
This session sponsored in part by Nu Skin and Nutrilite.
Chairs: H.A. Durham Zanetti, Nutrilite, Amway, USA; and R.E. Ward, Nutrition, Dietetics, & Food Sciences, Utah State University, USA

- The D-lightful Vitamin D for Good Health. M.F. Holick\(^{1,2}\), \(^1\)Boston Medical Center, USA, \(^2\)Boston University School of Medicine, USA.
- What Are Vitamin D Tests Actually Measuring? J.A. Straseski\(^{1,2}\), \(^1\)University of Utah, USA, \(^2\)ARUP Lab., USA.
- Vitamin D: How to Define Deficiency. R.I. Thadhani and C.E. Powe*, Div. of Nephrology, Massachusetts General Hospital, USA.

Tuesday Morning

H&N 2: The Role of Endocannabinoids and Fatty Acids in Shaping Human Health
This session sponsored in part by DSM and Nestlé.
Chairs: C.J. Lammi-Keefe, Louisiana State University, USA; and M.A. Belury, Ohio State University, USA

- Modulators of the Endocannabinoid System as Nutritional and Therapeutic Medications. A. Makriyannis, Center for Drug Discovery, Northeastern University, USA.
- Peripheral Endocannabinoid Signaling in Diet-induced Obesity. N.V. DiPatrizio, Div. of Biomedical Sciences, School of Medicine, University of California, Riverside, USA.
- Lipidomics Unveils the Healthy Biosignature of “Omega-3” Transgenic Mice. G. Astarita\(^1\) and J. Kang\(^2\), \(^1\)Georgetown University, USA, \(^2\)Harvard Medical School, USA.
Changes in Tissue Omega-3 Content Modulate Endocannabinoid Biosynthesis. G. Carta, E. Murru, C. Manca, S. Lisai, L. Muredda, A. Sirigu, D. Demurtas and S. Banni*, Dip. di Scienze Biomediche, Università di Cagliari, Italy.

The Putative Role of the Endocannabinoid System on Sleep Modulation. E. Murillo-Rodríguez, Lab. of Molecular & Integrative Neuroscience, School of Medicine Health Sciences Div., Anahuac Mayab University, Mexico.

Farmed Atlantic Salmon (Salmo salar) Influences Lipoprotein Concentration and Particle Size in Healthy Men and Women. S.K. Raatz1,2, L.K. Johnson1, and M.J. Picklo1, 1USDA, ARS, Grand Forks Human Nutrition Research Center, USA, 2University of Minnesota, USA.

Tuesday Afternoon

H&N 3: The Role of Lipid Mediators in Essential Pro- and Anti-inflammatory Responses
This session sponsored in part by Johnson & Johnson Consumer Inc. and Waters Corp.
Chairs: A.P. Kitson, University of Toronto, Canada; and K.D. Stark, University of Waterloo, Canada

The Role of Bioactive Lipid Mediators in the Regulation of Cutaneous Inflammation. A.C. Kendall and A. Nicolaou, Manchester Pharmacy School, University of Manchester, UK.

Regulation of Brain Oxidized Linoleic Acid Metabolite Concentrations by Diet and Hypoxia. A.Y. Taha, Dept. of Food Science & Technology, University of California, Davis, USA.

Effect of Dietary Fat Composition on the Development and Severity of Metabolic Inflammation. T. Xu, K.H. Hintze, M. Lefevre, and R.E. Ward*, Nutrition, Dietetics, & Food Sciences, Utah State University, USA.

Oxygenated Bioactive Lipids Derived from Fatty Acids: Composition Data Reveals Novel Effects of Dietary Fatty Acids. H. Aukema, University of Manitoba, Canada.

Specialized Pro-resolving Mediator Biosynthesis from Omega-3 Fatty Acids Brings Resolution of Inflammation. R.E. Abdulnour1,2, 1Brigham & Women's Hospital, USA, 2Harvard Medical School, USA.

H&N 3.1/PHO 3: Delivery Systems
This session developed in conjunction with the Phospholipid Division.
This session sponsored in part by Johnson & Johnson Consumer Inc.
Chairs: M. Rebmann, Perimondo, USA; and K. Mahmood, Johnson & Johnson Consumer, USA

Topical Delivery Enhancement of Actives into Skin by Lipid Based Vesicular Systems. J. Paturi, Johnson & Johnson Consumer Inc., USA.

In vitro Digestibility and Bioaccessibility of Lipid-based Delivery Systems Obtained via Enzymatic Glycerolysis: A Case Study of Rosemary Extract Bioactivity. M. Corzo-Martínez1, T. Vargas1, L. Vázquez2, G. Reglero1,2, A. Ramírez de Molina1, and C.F. Torres2, 1Inst. of Food Science Research, CIAL (CSIC-UAM), Spain, 2IMDEA-Food Inst., CEI (UAM-CSIC), Spain.
Increasing Bioavailability of Lipophilic Nutraceuticals: The Effects of Mixed Micelles. J. Chen¹,², F. Li³, D.J. McClements¹, and H. Xiao¹, ¹University of Massachusetts Amherst, USA, ²State Key Lab. of Food Science & Technology, Jiangnan University, China.


Characterization of Intestinal Digestion of Ceramide 2-aminoethylphosphonate, a Marine Sphingolipid. N. Tomonaga, D. Qi, Y. Manabe, and T. Sugawara, Div. of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Japan.

Improved Stabilisation of Concentrated Oil-in-Water Emulsions by Complexing Soy Protein with κ-carrageenan. I. Tavernier¹, P. Van der Meeren², K. Dewettinck³, and A.R. Patel¹, ¹Lab of Food Technology & Engineering, Ghent University, Belgium, ²Particle & Interfacial Technology Group, Dept. of Applied Analytical & Physical Chemistry, Belgium.

Interfacial Behavior of Milk Polar Lipids and Their Influence on Gastric Lipase Adsorption: A Natural Effective Delivery System. C. Bourlieu¹,², W. Mahdoueni³, G. Paboeuf², S. De Oliveira¹, S. Pezennec¹, J.F. Cavalier³, S. Bouhallab¹, D. Dupont¹, P. Villeneuve³, F. Carrière³, and V. Vié*², ²INRA-AGROCAMUS, France, ³IPR Inst. of Physics, Rennes University, France, ⁴CNRS, Aix-Marseille Université, France, ⁵CIRAD, UMR IATE, France.

H&N 3.2: Sterols

Chairs: L. Nyström, ETH Zürich, Switzerland; and J.K. Winkler-Moser, USDA, ARS, NCAUR, USA

George Schroepfer Memorial Award Lecture. S.L. Kelly, Inst. of Life Science & College of Medicine, Swansea University, UK.

Translational Opportunities in Metabolic Engineering Plant Sterol Metabolomes. W. Zhou¹,², J. Li², D. Zhang², J. Batley², M. Anderson³, K. Wu⁵, S.M. Smith³,¹, and W.D. Nes¹, ¹Texas Tech University, USA, ²University of Western Australia, Australia, ³University of Tasmania, Australia, ⁴Hexima, Australia, ⁵Chinese Academy of Agricultural Sciences, China.


Distinct Functions of Cycloartenol-derived Sterols in Plants. H. Schaller, CNRS, IBMP, Université de Strasbourg, France.


Plant Sterols—Market Perspective and Emerging Research. J. Moritz, BASF Corp., USA.
Wednesday Morning

H&N 4: Health and Nutrition Needs of Children and Young Adults
This session sponsored in part by Johnson & Johnson Consumer Inc.
Chairs: M.J. Picklo, USDA, ARS, Grand Forks Human Nutrition Research Center, USA; and M.L. Drewery, Louisiana State University, USA

The Role of Omega-3 Fats in Neurodevelopment: Implications for ADHD and Comorbid Behavioral Disorders. R.V. Gow, Section of Nutritional Neuroscience, National Inst. of Health, USA.

Maternal n-3 LCPUFA Status and Infant Heart Rate Variability. M.L. Drewery1, A.V. Gaitán1, R.I. Pinkston1, S. Spedale2, and C.J. Lammi-Keefe3,4, 1Louisiana State University, USA, 2Infamedics, USA, 3LSU AgCenter, USA, 4Pennington Biomedical Research Center, USA.

Adequacy of n-3 and n-6 PUFA Intakes in European Children and Adolescents in Light of the Current Recommendations. M. Fleith4, L. van Lieshout5, C. Campoy1, R. Mensink2, A. Eilander3, S. Eussen5, C. Petisca6, S. Forsyth7, G. Hornstra2, P.C. Calder8, I. Sioen10, and S. Lohner11, 1University of Granada, Spain, 2Maastricht University, The Netherlands, 3Unilever Research & Development Vlaardingen, The Netherlands, 4Nestlé Research Center, Switzerland, 5Danone Research Centre, The Netherlands, 6Bunge Europe, Belgium, 7DSM Nutritional Products Ltd., Switzerland, 8University of Southampton, UK, 9ILSI Europe, Belgium, 10Ghent University, Belgium, 11Pecs University, Hungary.

Docosahexaenoic Acid Status in Pregnancy is Lower in African-Americans Compared to Caucasians and Hispanics: Differences in Fatty Acid Metabolism. A.V. Gaitán1, M.L. Drewery1, R.I. Pinkston1, C.A. Thaxton1, E. Seidemann2, K. Elkind-Hirsch2, and C.J. Lammi-Keefe1,3, 1Louisiana State University, USA, 2Woman's Hospital, USA, 3LSU AgCenter, USA, 4Pennington Biomedical Research Center, USA.

High Linoleic Acid Ready-to-use Therapeutic Foods (RUTF) Suppress Long Chain Omega-3 Status in Malnourished Toddler. J.T. Brenna, Cornell University, USA.

Cerebral and Hepatic Effects of Energy Restriction and Dietary n-3 Reduction in Growing Rats. M.J. Picklo, USDA, ARS, Grand Forks Human Nutrition Research Center, USA.

Examining Changes in Fatty Acid Concentrations of Maternal Tissues Throughout Pregnancy and Postpartum in Rats Fed Diets with Different Levels of Fat and Docosahexaenoic Acid. D.M.E. Lamontagne-Kam, A. Chalil, J.J. Aristizabal Henao, and K.D. Stark*, Dept. of Kinesiology, University of Waterloo, Canada.

Wednesday Afternoon

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

*Chairs: I. Vieitez, Universidad de la República (UDELAR), Uruguay; and A. Gugliucci, Touro University-California, USA*

**Dietary Saturated Fat Promotes Omega-3 Polyunsaturated Fatty Acid Incorporation into Human Plasma and Erythrocytes.** C.B. Dias¹,² *(AAOCS Student Award Winner)*, L.G. Wood¹,², and M.L. Garg¹,², ¹University of Newcastle, Australia, ²Hunter Medical Research Inst., Australia.

**Effect of Dietary Carboxymethyllysine on Cecal Short Chain Fatty Acid Composition in Mice.** S. Xiao¹, M.C. Michalski¹, A. Geloen², K.H. Hintze², and R.E. Ward*¹, ¹Nutrition, Dietetics, & Food Sciences, Utah State University, USA, ²Lab. CarMeN (CARdiology, Metabolism, & Nutrition), INSA-Lyon, France.

**Tuscany Naturben: Quality and Wellness with Traced Tuscan Food for Patients Under Chemotherapy.** E. Bargiacchi¹, M. Campo¹, A. Romani², P. Pinelli³,², and S. Miele¹, ¹Consortium INSTM, Italy, ²Phytolab-DiSIA, University of Firenze, Italy, ³Lab QuMAP-PIN Prato, Italy.

**Antioxidants Clinical Trials Failed to Reduce Cardiovascular Outcomes: The End of the Oxidative Stress Hypothesis?** A. Gugliucci, Touro University-California, USA.


**Awareness and Knowledge of Individual Omega-3 Fatty Acids in Young Adults.** K. Roke, J.I. Rattner, P. Brauer, and D.M. Mutch, University of Guelph, Canada.

**Anti-aging Effect of Fish Oil and Polyunsaturated Fatty Acid Based on Redox State Regulation and Telomere Protection Mechanisms.** J.N. Chen, Y. Wei, J. Wang, J.H. Chen, and Y. Zhang, Zhejiang University, China.

**Rapeseed Oils Produced from Different Methods had Significant Effect on High-fat-induced Hepatosteatosis in Sprague Dawley Rats.** P.R. Cao, L. Zhang, J. Jiang, and Y.F. Liu, School of Food Science & Technology, Jiangnan University, China.

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**H&N 5.1/EAT 5: Satiety and Sensory**

*This session developed in conjunction with the Edible Applications Technology Division.*

*This session sponsored in part by Nestlé and Young Living Essential Oils.*

*Chairs: S. Martini, Utah State University, USA; and F. Dionisi, Nestlé, Switzerland*

**The Taste of Fat and Its Role in Dietary Fat Intake.** T.A. Gilbertson, Utah State University, USA.

**Gut-brain Endocannabinoid Signaling: Fatty Acid Sensing and Beyond.** N.V. DiPatrizio, School of Medicine, University of California, Riverside, USA.

**Small Intestinal Sensing of Lipid in Humans—Relationship with Appetite and Energy Intake.** C. Feinle-Bisset, Discipline of Medicine & NHMRC Centre of Clinical Research Excellence in Nutritional Physiology, Interventions & Outcomes, University of Adelaide, Australia.
Updated: April 11, 2016

The Taste of Non-esterified Fatty Acids in Humans. R. Mattes, Purdue University, USA.

Sensory Determinants of Fat (and Oil) Intake—The Consumer Perspective. J.X. Guinard, University of California, Davis, USA.

Complexity of Structure-sensory Relations: Science and Application. G.A. van Aken¹,², ¹NIZO Food Research, The Netherlands, ²Insight FOOD Inside, The Netherlands.

H&N-P: Health and Nutrition Poster Session
Chair: M. Fleith, Nestlé Research Center, Switzerland

Dedicated Poster Viewing
Tuesday, May 3, 5:30–6:30 pm
Authors will be present at their posters during this time.

The Effect of Blood Glucose Levels Increase Controlling of Brown Rice Defatted with Supercritical Carbon Dioxide. M. Matsubara¹, Y. Nakato², and E. Kondoh¹, ¹University of Yamanashi, Japan, ²KOA Electronics Co., Ltd., Japan.


Effects of Lyso phosphatidylcholine Derived from Squid and Starfish on Leukotrienes Release from Mast Cells. M. Takasugi¹,², S. Kakoi¹, S. Yasutake¹, T. Tsushima¹, K. Takahashi³, and H. Arai⁴, ¹Kyushu Sangyo University, Japan, ²University of California, Davis, USA, ³Hokkaido University, Japan, ⁴Kitami Inst. of Technology, Japan.

Effect of Dietary Lyso phosphatidylcholine Containing n-3 PUFA s on Lipid Contents and Fatty Acid Compositions in the Serum and Brain of Rats. R. Hosomi¹, K. Miyauchi¹, K. Fukunaga¹, T. Nagao₂, K. Sugimoto³, M. Yoshida¹, and K. Takahashi⁴, ¹Kansai University, Japan, ²Osaka Municipal Technical Research Inst., Japan, ³Phytopharma, Inc., Japan, ⁴Hokkaido University, Japan.

In vitro and in vivo Insights into the Digestion of a Unique Natural Emulsion: Human Milk. S. De Oliveira¹, A. Deglaire¹, C. Moustiès¹, O. Ménard¹, A. Bellanger³, F. Carrière³, P. Villeneuve*⁴, E. Dirson⁵, Y. Legouar¹, F. Rousseau¹, D. Dupont¹, and C. Bourlieu¹, ¹INRA-AGROCAMPUS, France, ²Dept. of Pediatrics, CHU Rennes, France, ³CNRS, Aix Marseille Université, France, ⁴CIRAD, UMR IATE, France, ⁵Lactarium-Infant Nutrition & Dietetics, CHU Rennes, France.

Physicochemical Properties of Goat Milk Fat as Influenced by Feeding Fish Oil Entrapped in Chemically Treated Protein Matrices. J.H. Lee, B. Lemma, and C. Alfred, Fort Valley State University, USA.

Nascent VLDL as a Major Carrier of Oxo-phospholipids in Rat Plasma. A. Kuksis, J.J. Agren, and W. Pruzanski, University of Toronto, Canada.


Evidence for Change in Cardiolipin Remodeling, Induced by the Chemotherapeutic Drug Doxorubicin. D. Snoke\(^1\), B. Cotten\(^1\), T. Banh\(^1\), R.M. Cole\(^1\), T. Orchard\(^1\), M.M. Gaudier-Diaz\(^2\), A. DeVries\(^2\), and M.A. Belury\(^2\), \(^1\)Dept. of Human Sciences, Ohio State University, USA, \(^2\)Dept. of Nutrition, Ohio State University, USA.


Effect of Black Raspberry Seed Oil on Lipid Metabolism in \(db/db\) Mice. H.J. Lee\(^3\), H. Jung\(^1,2\), H. Cho\(^1\), and K.T. Hwang\(^*1\), \(^1\)Dept. of Food & Nutrition, Seoul National University, Republic of Korea, \(^2\)Research Inst. of Human Ecology, Seoul National University, Republic of Korea, \(^3\)Dept. of Home Economics, Korea National Open University, Republic of Korea.

Effect of Dietary Minor Monounsaturated Fatty Acid (MUFA) on Cardiovascular Disease Risk. Z.H. Yang\(^1\), H. Miyahara\(^2\), J. Takeo\(^2\), B. Vaisman\(^1\), M. Pryor\(^1\), and A. Remaley\(^1\), \(^1\)Cardio-Pulmonary Branch, National Heart, Lung, & Blood Inst., National Inst. of Health, USA, \(^2\)Central Research Lab., Tokyo Innovation Center, Nippon Suisan Kaisha, Japan.

A Comparison of Anti-inflammatory Effects of Rumenic Acid to Celecoxib in the Collagen Induced Arthritis Model. J.M. Olson, A.W. Haas, J. Lor, H.S. McKee, and M.E. Cook, University of Wisconsin-Madison, USA.

Lipase-catalyzed Synthesis of Beta-sitosteryl Esters of Omega-3 Fatty Acids for Incorporation into Milk. D. Louis, S.E. Lumor, M. Diao, and N. Boyle, Delaware State University, USA.

Fatty Acids Composition in Feeds and Plasma of Canadian Premature Infants. Z. Hossain\(^1,2\), D.S. MacKay\(^2\), and J.K. Friel\(^2\), \(^1\)Dept. of Fisheries Biology & Genetics, Bangladesh Agricultural University, Bangladesh, \(^2\)Richardson Centre for Functional Foods & Nutraceuticals, Dept. of Human Nutritional Sciences, University of Manitoba, Canada.

Enhancing Shelf Life of Sunflower Oil Using Bamboo Leafy Biomass as Antioxidant Material. V. Kardam, S. Satya, K.K. Pant, and S.N. Naik, Indian Inst. of Technology Delhi, India.

A Sulfated Flaxseed Polysaccharide and Its Macrophage Immunomodulatory and Anti-hepatitis B Virus Activities. X. Li\(^1\), W. Liao\(^1,2\), S. Liang\(^1\), Y.Y. Shim\(^*2\), M.J.T. Reaney\(^1,2\), and Y. Wang\(^1\), \(^1\)Guangdong Saskatchewan Oilseed (GUSTO) Joint Lab., Dept. of Food Science & Engineering, Jinan University, China, \(^2\)Dept. of Plant Sciences, University of Saskatchewan, Canada.

Interfacial Studies on Four Lp(a) Isoforms: Relationship Between Stability and Isoforms? A. Santonastaso\(^1\), V. Vie\(^*2\), G. Paboeuf\(^2\), V. Bolanos-Garcia\(^3\), C. Scotti\(^1\), L. Salvanesi\(^4\), and S. Beauvais\(^2\), \(^1\)Dept. of Molecular Medicine, Unit of Immunology & General Pathology, University of Pavia, Italy, \(^2\)IPR Inst. of Physics, Rennes University, France, \(^3\)Dept. of Biological & Medical Sciences, Oxford Brookes University, UK, \(^4\)Immunohaematology & Transfusion Medicine Dept., IRCCS Policlinico San Matteo Foundation, Italy.