

# 2018 AOCS Annual Meeting & Expo

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



## Analytical (ANA) Interest Area Tentative Technical Program

As of January 3, 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

#### **ANA 1a: Spectroscopic, Spectrometric and Chemometric Methods for Lipid Analysis**

*Chairs: Sanjeewa Karunathilaka, US Food and Drug Administration, USA; and Bernd Diehl, Spectral Service AG, Germany*

##### **Portable Raman Spectroscopy and Chemometric Methods for the Analysis of Marine Oil Dietary Supplements.**

Betsy J. Yakes, Sanjeewa R. Karunathilaka, Kyungeun Lee, Lea Brückner, and Magdi Mossoba, *US Food and Drug Administration, USA*

##### **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*

##### **Analysis and Detection of Olive Oil Adulteration using Fourier Transform Near-Infrared Spectroscopy.**

Ariel Bohman<sup>1</sup>, Kathryn J. Lawson-Wood<sup>2</sup>, and Robert Packer<sup>1</sup>, <sup>1</sup>*PerkinElmer, USA*; <sup>2</sup>*PerkinElmer, United Kingdom*

#### **ANA 1b: Lipidomic Analysis**

*Chairs: Francesca Giuffrida, Nestec SA, Switzerland; and David Pinkston, Kellogg, USA*

**Lipidomic Profiling – An Integral Technology for Research and Development.** Fanny (Yawen) Teng, *Metabolon, USA*

**OLEUM – Advanced Solutions for Assuring the Overall Authenticity and Quality of Olive Oil.** James A. Donarski and Victoria Bailey-Horne, *Fera Science Ltd, United Kingdom*

**Supercritical Chromatography in Lipidomics Applications: “Finally ready for prime time?”** Paolo Lecchi<sup>1</sup>, Yao Lu<sup>1</sup>, Erwin Kaal<sup>2</sup>, Rob Van der Hoeven<sup>2</sup>, and Dominik Burger<sup>1</sup>, <sup>1</sup>*DSM Nutritional Products, USA*; <sup>2</sup>*DSM Food Specialties, The Netherlands*

## Tuesday Morning

### **ANA 2a: Analysis of Fats and Oils Applying Advanced Lipid Analysis Techniques**

*Chairs: William Byrdwell, USDA, ARS, BHNRC, FCMDL, USA; and Walter Vetter, University of Hohenheim, Germany*

**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*

**Comprehensive Dual Liquid Chromatography with Quadruple Mass Spectrometry, LC2MS4, for *Jacaranda Mimosifolia* Triacylglycerols.** William C. Byrdwell, *USDA, ARS, BHNRC, FCMDL, USA*

### **ANA 2b: Olive Oil, including Sensory Analysis**

*Chairs: Selina Wang, University of California-Davis, Olive Center, USA; and Susan Seegers, Bunge Oils, USA*

**<sup>1</sup>H NMR—metabolic Profiles of Monocultivar EVOOs for PDO, PGI and 100% Italian Blend Production Assessment.** Chiara Roberta Girelli, Laura Del Coco, Federica Angilè, and Francesco Paolo Fanizzi\*; <sup>2</sup>*Dipartimento di Scienze e Tecnologie Biologiche ed Ambientali Università del Salento, Italy*

### **ANA 2c / LOQ 2a: Evaluation and Prediction of Oxidative Stability and Shelf-life**

*Chairs: Min Hu, DuPont Nutrition & Health, USA; and Rick Della Porta, Pepsico / Frito-Lay, USA*

**The Combination of High Oleic Oils and Natural Antioxidants as a Powerful Tool for Shelf Life Extension.** Susan Knowlton, *DuPont Company, Pioneer, USA*

**The Antioxidative Activity of Soluble Bound Phenolic Compounds Fractions Extracted from Germinated Chickpea in Oil-in-Water Emulsions.** Minwei Xu and Bingcan Chen, *North Dakota State University, USA*

**Antioxidant Activities of Sugars and Protein in Low Moisture Cracker System.** Thanh P. Vu, Lili He, D. Julian McClements, and Eric A. Decker, *University of Massachusetts Amherst, USA*

**Oxidative Stability of Margarines, Shortenings and Spreads.** Min Hu, *DuPont Nutrition & Health, USA*

**Shelf-life Extension of Meat and Meat Products by Using Natural Antioxidants.** Henna F.S. Lu, *Kalsec Europe Ltd, UK*

### **ANA 2d / LOQ 2b: Sensory Analytics and Analytical Methods for Assessing Lipid Oxidation and Shelf-life**

*Chairs: Jian Kong, Abbott Nutrition, USA; and Rick Della Porta, Pepsico / Frito-Lay, USA*

**Assessing Virgin Olive Oil Stability and Shelf Life at Moderate Conditions by FTIR Spectroscopy Endowed with a Mesh Cell Accessory.** Noelia Tena<sup>1</sup>, Ramón Aparicio-Ruiz<sup>1</sup>, Ana Lobo<sup>1</sup>, María Teresa Morales<sup>2</sup>, Aparicio Ramón<sup>1</sup>, and Diego L. García González\*<sup>1</sup>, <sup>1</sup>*Instituto de la Grasa (CSIC), Spain; <sup>2</sup>University of Seville, Spain*

**Antioxidant Efficacy and Impact of Storage Conditions.** Marie Shen<sup>1</sup>, Lan Ban<sup>1</sup>, and Chandra Ankolekar\*<sup>2</sup>, <sup>1</sup>*Kemin Food Technologies, USA; <sup>2</sup>Kemin Industries Inc., USA*

**Sensory Directed Chemical Analysis of Oxidized Marine Oils.** Roy D. Desrochers, *Tufts University Sensory and Science Center, USA*

**A Rapid Non-destructive Method for Determining Quality Parameters of Edible Oils.** Kathryn J. Lawson-Wood\*<sup>1</sup>, Ariel Bohman<sup>2</sup>, and Robert Packer<sup>2</sup>, <sup>1</sup>PerkinElmer, United Kingdom; <sup>2</sup>PerkinElmer, USA

**Developing a Sensory Oxidation Quality Scale.** Monica L. Godbout, Abbott Nutrition, USA

#### Tuesday Afternoon

#### **ANA 3: General Analytical**

*Chairs: Torben Kuchler, Eurofins, Germany; and Pierluigi Delmonte, US Food and Drug Administration, USA*

**Rapid Identification and Relative Quantification of the Phospholipid Composition in Commercial Lecithins by <sup>31</sup>P-NMR.** Ying Yang, Richard Hiserodt, and Jing Li, International Flavors & Fragrances Inc., R&D, USA

#### **ANA 3.1a / PCP 3a: Bioprocessing for New/Value-added Protein Utilization: Digestibility Issues/Analytical Measurements**

*Chairs: Sneh Bhandari, Merieux Nutrisciences, USA; Buddhi Lamsal, Iowa State University, USA; and Bishnu Karki, Dept. of Biology and Microbiology, South Dakota State University, USA*

**Transforming Soy Adhesives to Provide Greater Strength.** Christopher Hunt and Charles R. Frihart\*, Forest Products Laboratory, USA

#### Wednesday Morning

#### **ANA 4: Trace Contaminants, including Processing Contaminants**

*Chairs: Jessica Leigh, US Food and Drug Administration, USA; and Mark Collison, Archer Daniels Midland Co., USA*

**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

**Toxicity Evaluation of 2-MCPD and Estimation of Intestinal Absorption of the Monoesters.** Yomi Watanabe\*<sup>1</sup>, Naoki Kaze<sup>2</sup>, Kaeko Murota<sup>3</sup>, Hirofumi Sato<sup>4</sup>, Yuri Osafune<sup>5</sup>, and Araki Masuyama<sup>5</sup>, <sup>1</sup>Osaka Research Institute of Industrial Science and Technology, Japan; <sup>2</sup>Ueda Oils & Fats MFG., Japan; <sup>3</sup>Kindai University, Japan; <sup>4</sup>Osaka Municipal Technical Research Institute, Japan; <sup>5</sup>Osaka Institute of Technology, Japan

**The Importance of Aligning Analytical Limits with Health-based Guidance Values: Process-formed Compounds Case Study.** Paul R. Hanlon, Abbott Nutrition, USA

#### Wednesday Afternoon

#### **ANA 5: Marine Oils and Other Products**

*Chairs: Cynthia Srigley, US Food and Drug Administration, USA; and Adam Ismail, Global Organization for EPA and DHA Omega-3s, USA*

**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

**Sterol Fingerprinting in Algae, a New Method for a New Feedstock.** Stefanie Van Wychen and Lieve Laurens\*,  
*National Renewable Energy Laboratory, USA*

**Compositional Analysis of Algal Biomass, an Emphasis of Unique Contribution of Algal Lipids.** Lieve Laurens,  
*National Renewable Energy Laboratory, USA*

**ANA-P: Analytical Poster Session**

*Chair: Diliara Iassonova, Cargill, USA*

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

**A Method for Analyzing TAGs Composition of Human Milk Fat using UPC2-Q-TOF-MS.** Xinghe Zhang<sup>1</sup>, and Guanjun Tao<sup>2</sup>, <sup>1</sup>*School of Food Science and Technology, Jiangnan University, China;* <sup>2</sup>*State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, China*

**HPTLC with Tandem MS and HR-MS for Structural Identification in Lipidomic and Other Complex Lipid Samples.** Vicente L. Cebolla<sup>1</sup>, María P. Lapieza<sup>1</sup>, Luis Membrado<sup>1</sup>, Maria Savirón<sup>2</sup>, Jesus Orduna<sup>3</sup>, and Judith Nichols\*<sup>4</sup>, <sup>1</sup>*Instituto de Carboquímica/CSIC, Spain;* <sup>2</sup>*CEQMA/CSIC, Spain;* <sup>3</sup>*ICMA / CSIC;* <sup>4</sup>*CAMAG Scientific, Inc., USA*

**Applying High Speed Gas Chromatography for the Speciation of Fats in Foods and Edible Oils.** Joseph D. Konschnik, Colton Myers, Kristi Sellers, and Scott Adams, *RESTEK Corporation, USA*

**Infrared Spectroscopy and PLS Procedures for the Rapid Prediction of EPA and DHA Contents in Marine Oil Dietary Supplements.** Sanjeewa R. Karunathilaka, Cynthia Srigley, Betsy J. Yakes, Sung Hwan Choi, Lea Brückner, and Magdi Mossoba, *US Food and Drug Administration, USA*