

# 2018 AOCS Annual Meeting & Expo

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



## Analytical (ANA) 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

#### **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*

#### **Automated Multicomponent Phospholipid Analysis using <sup>31</sup>P NMR Spectroscopy: Example of Vegetable Lecithin and Krill Oil.**

Bernd W.K. Diehl and Yulia B. Monakhova, *Spectral Service AG, Germany*

#### **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 J. David Pinkston, Kellogg, USA*

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

**Non-targeted Analysis for Quality and Authenticity Determination of Olive Oil.** James A. Donarski<sup>1</sup>, Victoria Bailey-Horne<sup>2</sup>, Enrico Valli<sup>3</sup>, Diego L. García González<sup>4</sup>, and Tullia G.T. Gallina Toschi<sup>5</sup>, <sup>1</sup>*Fera Science Ltd., United Kingdom*; <sup>2</sup>*Fera Science Ltd., United Kingdom*; <sup>3</sup>*University of Bologna*; <sup>4</sup>*Instituto de la Grasa (CSIC), Spain*; <sup>5</sup>*Alma Mater Studiorum - University of Bologna, Italy*

**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*

**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

## 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*

**Investigation of Olive Oil Substitution with Other Edible Oils by Ultra High Performance Liquid Chromatography Separation of Triglycerides.** Pierluigi Delmonte and Andrea Milani, *US Food and Drug Administration, USA* **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*

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

**Profiling Fatty Acids in Vegetable Oil Based on Photochemical Derivatization Reaction Coupled with Mass Spectrometry.** Shu-ling Xu, Fang Wei\*, and Hong Chen, *Oil Crops Research Institute of the Chinese Academy of Agricultural Sciences, China*

**The Hybrid Search: A New Mass Spectral Library Search Approach for Compound Classification.** Arun S. Moorthy<sup>1</sup>, Brian T. Cooper<sup>2</sup>, William E. Wallace<sup>1</sup>, and Stephen E. Stein<sup>1</sup>, <sup>1</sup>National Institute of Standards and Technology, USA; <sup>2</sup>University of North Carolina at Charlotte, 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

**Contribution of Flavor Compounds to Explain New Sensory Defects in Virgin Olive Oil: The Example of "Frostbitten Olives".** Diego L. García González<sup>1</sup>, Inmaculada Romero<sup>1</sup>, Ramón Aparicio-Ruiz<sup>1</sup>, Noelia Tena<sup>1</sup>, Ana Lobo<sup>1</sup>, María Teresa Morales<sup>2</sup>, and Aparicio Ramón<sup>1</sup>, <sup>1</sup>Instituto de la Grasa (CSIC), Spain; <sup>2</sup>University of Seville, Spain

**The Profitable Relation between Sensory and Analytics in Virgin Olive Oil Quality Detection.** Tullia Gallina Toschi<sup>1</sup>, Sara Barbieri<sup>1</sup>, Chiara Cevoli<sup>1</sup>, Ole Winkelmann<sup>2</sup>, Karolina Brkić Bubola<sup>3</sup>, Florence Lacoste<sup>4</sup>, Milena Bučar-Miklavčič<sup>5</sup>, Ummuhan Tibet<sup>6</sup>, Ramón Aparicio-Ruiz<sup>7</sup>, Diego L. García González<sup>7</sup>, and Alessandra Bendini<sup>1</sup>, <sup>1</sup>DISTAL University of Bologna, Italy; <sup>2</sup>Eurofins Analytik GmbH, Germany; <sup>3</sup>Institute of Agriculture and Tourism, Poreč, Croatia; <sup>4</sup>Institut des Corps Gras, France; <sup>5</sup>Science and Research Centre Koper, Slovenia; <sup>6</sup>Ulusal Zeytin ve Zeytinyağı Konseyi, Turkey; <sup>7</sup>Instituto de la Grasa (CSIC), Spain

**Deep Insight into the Minor Fraction of Virgin Olive Oil by Using New LC-MS and GC-MS Multi-class Methodologies: Application to Discriminate Samples from Different Protected Designations of Origin.** Alegria Carrasco-Pancorbo, *University of Granada, Spain*

**“Musty”, “Fusty, Muddy Sediment”, and “Rancid” Off-flavors in Olive Oils are Well-known: but What is Behind on a Molecular Level?** Michael Granvogl, Anja Neugebauer, and Peter Schieberle, *Technical University of Munich, Germany*

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

*Chairs: Min Hu, DuPont Nutrition & Health, USA; and Rick Della Porta, 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*

**Differential Stability of Linoleic Sun, Soy and Rapeseed Oils Using TBHQ and Rosemary in Fried Potatoes.** Richard Della Porta, *Frito-Lay, USA*

**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, 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*

**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*

**Applications for the LC-GC Technique in Routine Fat and Oil Analysis.** Torben Kuchler, *Eurofins Analytik GmbH, Germany*

**Overcoming Issues and Challenges in the Analyses of Tocols in Oils.** Mei Han Ng and Ahmad Kushairi Din, *Malaysian Palm Oil Board, Malaysia*

**Tocopheryl Esters - Analysis of Novel Vitamin E Conjugates in Vegetable Foods: Occurrence, Concentrations and Digestibility.** Walter Vetter, Stephanie Krauß, and Vanessa Darwisch, *University of Hohenheim, Germany*

**A Method for Detection of Partially Hydrogenated Oils (PHO) in Food Matrices Containing Vegetable Oils.** Sneh Bhandari<sup>1</sup>, Ming Gao<sup>1</sup>, and Pierluigi Delmonte<sup>2</sup>, <sup>1</sup>*Merieux Nutrisciences, USA*; <sup>2</sup>*US Food and Drug Administration, USA*

**Supplementation Studies Involving Natural trans Fatty Acids: Real Technical Challenges, Actual Solutions.** Etienne Guillocheau<sup>1</sup>, Daniel Catheline, Philippe Legrand, and Vincent Rioux, *Agrocampus-Ouest, France*

**Determination of sn2-position Fatty Acid in Long-chain Triglycerides(LCTs) and Medium- and Long-chain Triglycerides(MLCTs) with Enzymatic Alcoholysis by GC-FID.** Wei Ting Ting, Wen Ming Cao, and Yuan Rong Jiang, <sup>1</sup>*Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd, China*

**Normal Phase UV Compatible HPLC Separation of Hydroxylated and Non-hydroxylated Lipids for Metabolic Flux Analysis.** Hari Kiran Kotapati, and Philip D. Bates, *The University of Southern Mississippi, USA*

**Mitigating the Deteriorating Effect of Biofuel in Engine Oil.** Jerome D.A. Kpan<sup>1</sup>, and Juergen Krahl<sup>2</sup>, <sup>1</sup>*Technology Transfer Automotive Centre of Coburg University of Applied Sciences and Arts, Germany, Germany*; <sup>2</sup>*Coburg University of Applied Sciences and Arts; Ostwestfalen-Lippe University of Applied Sciences, Germany*

### **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*

**Matrix Effect on the *in vitro* Immunodetection of Food Allergens.** Qinchun Rao, Xingyi Jiang, and Behnam Keshavarz, *Florida State University, USA*

**Protein Quality Evaluation in Protein Enhanced Formulations Including Those Based on Oilseed Based Proteins.** Sneh Bhandari, *Merieux Nutrisciences, USA*

**Simultaneous Quantification of Hydrolysis Degree, Protein and Mean Weight of Peptides Released during Enzymatic Proteolysis.** Sophie Beaubier<sup>1</sup>, Irina Ioannou<sup>1</sup>, Xavier Framboisier<sup>2</sup>, Olivier Galet<sup>3</sup>, and Romain Kapel<sup>2</sup>, <sup>1</sup>*LRGP - UMR CNRS 7274, France*; <sup>2</sup>*Reaction and Process Engineering Laboratory UMR-7274, France*; <sup>3</sup>*Avril Group, France*

**Nutritional Evaluation of Modified Carinata Meals in Finfish.** Tom Kasiga and Michael Brown, *Dept. of Natural Resource Management, South Dakota State University, 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*

**Comparison of Analytical Methodologies for the Analysis of Bound MCPD and Glycidol in Edible Oils and Infant Formula.** Jessica K. Leigh<sup>1</sup>, Kaitlin Grassi<sup>2</sup>, Shaun MacMahon<sup>1</sup>, Jan Kuhlmann<sup>3</sup>, Adam Becalski<sup>4</sup>, Greg Jaudzems<sup>5</sup>, and Fabien Robert<sup>5</sup>, <sup>1</sup>*US Food and Drug Administration, USA*; <sup>2</sup>*U.S. Food and Drug Administration, USA*; <sup>3</sup>*SGS Germany GmbH, Germany*; <sup>4</sup>*Health Canada, Canada*; <sup>5</sup>*Nestle Quality Assurance Center, USA*

**Detection Limits and Challenges in Low Level Analysis of MCPD and Glycidol using AOCS Method Cd 29c-13.** Mark W. Collison and Kevin Adlaf, *Archer Daniels Midland Co., USA*

**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*

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

**Healthy but also Flavorful Food: Mitigation Strategies for Food-borne Toxicants Combined with Sensory Properties Accepted by Consumers.** Michael Granvogl, *Technical University of Munich, Germany*

**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*

**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*

**Modern Analytical Tools in MCPD and Glycidol Analysis: Research and Routine Analysis Perspectives.** Katerina Mastovska<sup>1</sup>, Vojtech Hrbek<sup>2</sup>, Beverly Belkova<sup>2</sup>, Barbara A. Mitchell<sup>3</sup>, Urairat Koesukwiwat<sup>4</sup>, and Jana Hajslova<sup>2</sup>, <sup>1</sup>*Covance Food Solutions, USA*; <sup>2</sup>*University of Chemistry and Technology, Czech Republic*; <sup>3</sup>*Covance Labs, Inc., USA*; <sup>4</sup>*Covance Food Solutions, Singapore*

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

**Effect of the Composition and Structure of Excipient Emulsion on the Bioaccessibility of Pesticide Residue in Agricultural Products.** Ruojie Zhang<sup>1</sup>, D. Julian McClements<sup>1</sup>, Lili He<sup>1</sup>, Zipei Zhang<sup>1</sup>, Wenhao Wu<sup>2</sup>, Yeonhwa Park<sup>1</sup>, and Baoshan Xing<sup>2</sup>, <sup>1</sup>*University of Massachusetts Amherst, USA*; <sup>2</sup>*Stockbridge School of Agriculture, University of Massachusetts Amherst, 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*

**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*

**Sensory Vocabulary for Marine Omega-3 Oils.** Wenche Emblem Larssen, *Møreforsking, Norway*

**An Examination of Marine and Vegetable Oil Oxidation Data from a Multi-Year, Third-Party Database.** Anna A. De Boer<sup>1</sup>, Adam Ismail<sup>2</sup>, Keri Marshall<sup>3</sup>, Gerard Bannenberg<sup>2</sup>, Kevin L. Yan<sup>1</sup>, and William J. Rowe<sup>1</sup>,  
<sup>1</sup>Nutrasource, Canada; <sup>2</sup>Global Organization for EPA and DHA Omega-3s, USA; <sup>3</sup>DSM Nutritional Products, USA

**Chemical Changes During the Acute Oxidations of Fish Oils.** Austin S. Phung<sup>1</sup>, Selina C. Wang<sup>1</sup>, Adam Ismail<sup>2</sup>, Gerard Bannenberg<sup>3</sup>, and Ameer Taha<sup>3</sup>, <sup>1</sup>University of California-Davis, Olive Center, USA; <sup>2</sup>Global Organization for EPA and DHA Omega-3s, USA; <sup>3</sup>University of California, Davis, USA

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

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

**Evaluation of an Ultra Inert WAX-phase Column for the Analysis of Fatty Acids and FAMES.** Gustavo Serrano Izaguirre, Allen Vickers, Yun Zou, and Daron Decker, *Agilent, USA*

**Trans-fat Determination by Gas Chromatography Vacuum Ultraviolet Detection.** Jonathan Smuts<sup>1</sup>, and Barbara A. Mitchell<sup>2</sup>, <sup>1</sup>VUV Analytics, USA; <sup>2</sup>Covance Labs, Inc., 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.*

**Purification of Native Cyanogenic Glycosides from Flaxseed.** Veronique J. Barthet and Tao Fan, *Canadian Grain Commission, Canada*

**Crystalline Pattern of Phytosterols in High Oleic Sunflower Oil for Food Applications.** Mayanny G. Silva, Valéria S. Santos, Lisandro P. Cardoso, Maria Helena A. Santana, and Ana Paula B. Ribeiro, *University of Campinas, Brazil*

**Thermal Properties and Solid Profiles of Hardfats-Soybean Oil Blends for Formulation of Lipid Carriers.** Mayanny G. Silva and Ana Paula B. Ribeiro, *University of Campinas, Brazil*

**Comparative Recovery Analysis of Conjugated Linoleic Acids (CLA) Following Different Methylation Protocols.** Yiyi Li, Raad S. Gitan, Deborah L. Chance, James K. Waters, and Thomas P. Mawhinney, *University of Missouri, USA*

**<sup>1</sup>H-NMR Measurement of Polar Phenolic Compounds: Reliable Determination of the Geographical Origin of Olive Oils.** Torben Kuchler and Ole Winkelmann, *Eurofins Analytik GmbH, Germany*

**Using GC-MS and Helium to Resolve Positional Isomers of trans-C16:1 and trans-C18:1 Fatty Acids.** Etienne Guillocheau, Daniel Catheline, Philippe Legrand, and Vincent Rioux, *Agrocampus-Ouest, France*

**Special Heat Capacity Measurements of Frying Oil using Modulated DSC.** Fangfang Chen<sup>1</sup>, TingTing Zhao<sup>2</sup>, Wen Ming Cao<sup>3</sup>, Yuan Rong Jiang<sup>3</sup>, and Xuebing Xu<sup>4</sup>, <sup>1</sup>*Wilmar (Shanghai) Biotechnology Research & Development Center Co. Ltd., China*; <sup>2</sup>*Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd, China*; <sup>3</sup>*Wilmar Biotechnology R&D Center (Shanghai) Co., Ltd., China*; <sup>4</sup>*Wilmar Global Research and Development Center, China*

**Comparison of Three Methods for Analyses of Triacylglycerols in Cocoa Butter Alternatives.** Jun Jin, Qingzhe Jin, and Xingguo Wang, *Jiangnan University, China*

**Rapid Measuring and Modelling Total Polar Compounds in Frying Oils using a Flash Gas Chromatography Electronic Nose.** Lirong Xu<sup>1</sup>, Li Xu<sup>2</sup>, Qingzhe Jin<sup>3</sup>, and Xingguo Wang<sup>3</sup>, <sup>1</sup>*Jiangnan university, China*; <sup>2</sup>*School of Food Science and Technology, Jiangnan University, China*; <sup>3</sup>*Jiangnan University, China*

**Electron Paramagnetic Resonance Spectroscopy Study of Milk Fat Globule Membrane Dynamics during Simulated Digestion.** Maha Alshehab, Madhu S. Budamagunta, John C. Voss, and Nitin Nitin, *University of California, Davis, USA*

**Infrared Spectroscopy and PLS Procedures for the Rapid Prediction of EPA and DHA Contents in Marine Oil Dietary Supplements.** Sanjeeva R. Karunathilaka, Cynthia Srigley, Betsy J. Yakes, Sung Hwan Choi, Lea Brückne<sup>1</sup>, and Magdi Mossob<sup>1</sup>, <sup>1</sup>*US Food and Drug Administration, 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*

**Buffer Optimization for Accelerated SDS Depletion by Transmembrane Electrophoresis in Top-down Proteomic Workflows.** Subin R. C. K. Rajendran<sup>1</sup>, Khalidun Al Azzam<sup>2</sup>, Nicole Unterlander<sup>1</sup>, and Alan Doucette<sup>1</sup>, <sup>1</sup>*Dept. of Chemistry, Dalhousie University, Canada*; <sup>2</sup>*Al-Ghad International College for Applied Medical Sciences, Saudi Arabia*

**Isolation and Identification of Stearidonic Acid Geometric Isomers.** Pierluigi Delmonte, Andrea Milani, U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, USA

**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*

**The Rapid Analysis of Terpenes in Cannabis.** Ron R. Honnold, *Agilent, USA*

**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>2</sup>, Luis Membrado<sup>1</sup>, Maria Savirón<sup>3</sup>, Jesus Orduna<sup>4</sup>, and Judith Nichols\*<sup>5</sup>, <sup>1</sup>*Instituto de Carboquímica/CSIC*; <sup>2</sup>*Instituto de Carboquímica/CSIC, Spain*; <sup>3</sup>*CEQMA/CSIC, Spain*; <sup>4</sup>*ICMA / CSIC*; <sup>5</sup>*CAMAG Scientific, Inc., USA*

**Identification of Degradation Products after Subcritical Water Hydrolysis of Hemp Oil using GC-MS and FTIR-ATR.** Andres F. Aldana Rico<sup>1</sup>, Ruben O. Morawicki<sup>1</sup>, Jerry W. King<sup>2</sup>, Rohana Liyanage<sup>2</sup>, Chris Mazzanti<sup>1</sup>, Marco E. Sanjuan Mejia<sup>1</sup>, and Antonio J. Bula Silvera<sup>1</sup>, <sup>1</sup>*Universidad del Norte, Colombia*; <sup>2</sup>*Critical Fluid Symposia, USA*

**Analysis of Heavy Metal Concentrations and Human Exposure from Hemp Oils and Hemp Products.** Patricia Atkins and Sean Curran, *SPEX CertiPrep, USA*

**Fatty Acid Analysis with Applied Retention Time Locking.** Barbara A. Mitchell, Scott Wejrowski, Youa Herr, and Thomas Vennard, *Covance Labs, Inc., USA*

**Analysis of Vitamin D and Previtamin D in Food Products.** Jinchuan Yang, *Waters, USA*

**Unique GC Column Selectivity for Time and Cost-efficient Separation of Complex cis/trans Fatty Acid Methyl Esters in Food.** Ramkumar Dhandapani, *Phenomenex, USA*

**New Method for Fast and Straightforward Determination of Oxidation Stability of Fats and Oils.** Carolin Edinger, *Anton Paar ProveTec GmbH, Germany*

**FET Analysis of Solvents in Cannabis Oil: Adapting to Changing Regulations.** Amanda Rigdon<sup>1</sup>, Anne Jurek<sup>2</sup>, Julie Kowalski<sup>3</sup>, and Frank Dorman<sup>4</sup>, <sup>1</sup>*Emerald Scientific, USA*; <sup>2</sup>*EST Analytical, USA*; <sup>3</sup>*Trace Analytics, USA*; <sup>4</sup>*Pennsylvania State University, USA*

**Fast Simultaneous Determination of Capsaicin, Dihydrocapsaicin and Nonivamide for Adulteration in Edible and Crude Vegetable Oils Coupled with UPLC-MS/MS.** Chuan Zhou, Dianping Ma, Wen Ming Cao, Hai Ming Shi, and Yuan Rong Jiang, *Wilmar Biotechnology Research & Development Center (Shanghai) Co., Ltd, China, China*

**Determination Polycyclic Aromatic Hydrocarbons in Tocopherol and Ether Compound by Gas Chromatography Tandem Mass Spectral.** Tong Li, Ruifeng Zhang, Chuan Zhou<sup>2</sup>, Hong Yang<sup>1</sup>, Wen Ming Cao<sup>3</sup>, and Yuan Rong Jiang<sup>3</sup>, <sup>1</sup>*Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China*; <sup>2</sup>*Wilmar Biotechnology Research & Development Center (Shanghai) Co., Ltd, China, China*; <sup>3</sup>*Wilmar Biotechnology R&D Center (Shanghai) Co., Ltd., China*

**A Primary Animal Fat Adulteration Application: Determination Branched Chain Fatty Acid in Beef and Mutton Tallow with GC-Q-TOF & GC-FID and Evaluation.** Tong Li, Peijin Tong, Hong Yang, Wen Ming Cao, and Yuan Rong Jiang, *Wilmar Biotechnology R&D Center (Shanghai) Co., Ltd., China*

**A Novel Method for Quantitative Analysis of Blend Oil Based on GC-FID and NPDA.** Peijin Tong, Hong Yang, Wei Ting Ting, Tong Li, Wen Ming Cao, and Yuan Rong Jiang, *Wilmar Biotechnology R&D Center (Shanghai) Co., Ltd., China*