

# 2018 AOCS Annual Meeting & Expo

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



## Edible Applications Technology (EAT) Interest Area Tentative Technical Program

As of April 1, 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

#### **EAT 1: Phase Transition in Edible Applications (A Session Dedicated to David Pink)**

*Chairs: Gianfranco Mazzanti, Dalhousie University, Canada; and David Pink, St. Francis Xavier University, Canada*

**An Alternative to the Avrami Model in Fat Crystallization: A Chemical Potential Approach (CPA).** Alejandro G. Marangoni, *University of Guelph, Canada*

**Phase Transitions in Edible Fats and Oils.** David A. Pink, *St. Francis Xavier University, Canada*

**Effect of Acoustic Power Level on Cavitation Events in Oil.** Silvana Martini<sup>1</sup>, Peter Birkin<sup>2</sup>, P. Martin<sup>2</sup>, Jack Youngs<sup>2</sup>, Tadd Truscott<sup>3</sup>, and Andrew Merritt<sup>3</sup>, <sup>1</sup>*Utah State University, USA*; <sup>2</sup>*University of Southampton, United Kingdom*; <sup>3</sup>*Utah State University, USA*

**The Role of Mechanical Processing on Water Droplet Distribution in the Manufacture of Margarine.** Steven Robbins, *Richardson International, Canada*

**Influence of Droplet Size on Salt and pH-induced Attractive Gelation in Food-Protein Stabilized Nanoemulsions.** Aakash Patel, Natalie Longmore, and Supratim Ghosh\*, *University of Saskatchewan, Canada*

**Impact of Margarine and Shortening on Puff Pastry Attributes.** Rachel E. Mertz, Dilip Nakhasi, and Roger Daniels, *Stratas Foods, USA*

**Evaluation of Stabilizer Type on Peanut Butter Physical Attributes.** Don Gifford, Rachel E. Mertz, Dilip Nakhasi, and Roger Daniels, *Stratas Foods, USA*

**Can Humans Detect if a Chocolate is in the  $\alpha$  or  $\beta_v$  Form?** Fernanda Peyronel, *Dept. of Food Science, University of Guelph, Canada*

### Tuesday Morning

#### **EAT 2: Confectionery Fats**

*Chairs: Farnaz Maleky, Ohio State University, USA; and Linsen Liu, IOI Loders Croklann, USA*

**Fat Bloom and Anti-bloom in Confectionery Application.** Linsen Li and Guang (Gil) Wang\*, *Loders Croklaan, USA*

**Studies on the Effect of Thermal Pre-treatment on the Isothermal Crystallisation of Cocoa Butter.** Marjorie Ladd Parada<sup>1</sup>, Josélio Vieira<sup>2</sup>, Peng Siong Chong<sup>2</sup>, Michael Rappolt<sup>1</sup>, and Malcolm J.W. Povey<sup>1</sup>, <sup>1</sup>University of Leeds, UK; <sup>2</sup>Nestlé Product Technology Centre, UK

**Functional Properties of Fats and Emulsifiers in Candy Application.** Linsen Liu, Guang (Gil) Wang, and Aliess Bedford\*, *Loders Croklaan, USA*

**Shea-based Shortenings. How to Overcome the Post-hardening Effect.** Krish Bhaggan, Raul F. Petrut\*, and Jun Ma, *IOI Loders Croklaan, The Netherlands*

**Confectionary Coating and Filling Fat: A Review.** Linsen Liu and Guang (Gil) Wang\*, *Loders Croklaan, USA*

**The Solubilization-Recrystallization-Diffusion Model to Quantify Oil Migration Kinetics in Cocoa Butter.** Alejandro G. Marangoni, *University of Guelph, Canada*

**Synthesis of Cocoa Butter Equivalent by Enzymatic Interesterification of Illipe Butter and Palm Mid-fraction.** Adiguna Bahari and Casimir C. Akoh, *University of Georgia, USA*

**Polymorphic Transition and Bloom in Cocoa Powder.** Paige Palmieri and Richard W. Hartel, *University of Wisconsin-Madison, USA*

**The Art and Science of Ganache.** Jade McGill<sup>1</sup> and Richard W. Hartel\*<sup>2</sup>, <sup>1</sup>Nassau Candy, USA; <sup>2</sup>University of Wisconsin-Madison, USA

## **EAT 2.1: Delivery and Dispersed Systems**

*Chairs: Dérick Rousseau, Ryerson University, Canada; and Christopher Gregson, Ingredient, USA*

**Modelling the Effect of Confectioner's Sugar on Processing Interactions in Palm Oils.** Ryan West and Dérick Rousseau, *Ryerson University, Canada*

**Flavor Partitioning into Short-chain Phospholipids: Effects of Self-assembled Structure.** Andrew P. Karman, Stephanie R. Dungan, Susan E. Ebeler, and Nitin Nitin, *University of California, Davis, USA*

**Thermal Analysis of Cough Drops Using Microstructure Evolution Analysis.** Matt Vanden Eynden<sup>1</sup>, Roland Ramsch<sup>2</sup>, Giovanni Brambilla<sup>2</sup>, Pascal Bru<sup>2</sup>, and Gerard Meunier<sup>2</sup>, <sup>1</sup>Formulaction, Inc., USA; <sup>2</sup>Formulaction, France

**Milk Fat Globules, A Novel Carrier for Delivery of Vitamin D<sub>3</sub>.** Maha Alshehab<sup>1</sup>, Mariza Gomes Reis<sup>2</sup>, Li Day<sup>2</sup>, and Nitin Nitin<sup>1</sup>, <sup>1</sup>University of California, Davis, USA; <sup>2</sup>AgResearch, Grasslands Research Centre, New Zealand

**Enhanced Antimicrobial and Mycotoxin Inhibitory Activity of Clove Oil in Water Nanoemulsion.** Jiajia Rao and Jing Wan\*, *North Dakota State University, USA*

**Emulsified Lipid Crystallinity Affects Early *in vitro* Lipolysis and beta-carotene Bioaccessibility.** Samantha M. Hart, Xinjie Lin\*, Surangi K.P.H. Thilakarathna, and Amanda Wright, *University of Guelph, Canada*

**Spray Drying Flavor Encapsulation Process at 25-100°C.** Charles Beetz, Daniel M. Schlipf, and Jason Z. Li, *ZoomEssence, USA*

**Encapsulation of Lactase ( $\beta$ -galactosidase) into Novel Hydrogel Beads for the Effective Treatment of Lactose Intolerance.** Zipei Zhang, Ruojie Zhang, and D. Julian McClements, *University of Massachusetts Amherst, USA*

**Effect of Water Addition on Physical Properties of Emulsion Gels.** Thais L.T. da Silva<sup>1</sup>, Daniel B. Arellano<sup>1</sup>, and Silvana Martini<sup>2</sup>, <sup>1</sup>University of Campinas, Brazil; <sup>2</sup>Utah State University, USA

**Insect Lipids as Food Ingredients: Oil Extraction, Characterization and Perspectives as Food Ingredient.** Daylan A. Tzompa-Sosa<sup>1</sup>, Liya Yi<sup>2</sup>, Hein H.J van Valenberg<sup>2</sup>, Martinus A.J.S. van Boekel<sup>2</sup>, and Catriona M.M. Lakemond<sup>2</sup>, <sup>1</sup>Ghent University, Belgium; <sup>2</sup>Wageningen University, The Netherlands

Tuesday Afternoon

### **EAT 3: Nano-, Micro- and Macrostructure**

*Chairs: Silvana Martini, Utah State University, USA; and Alejandro Marangoni, University of Guelph, Canada*

#### **Determination of Phase Transition Temperatures of Micro Crystals from Sequential Microscopic Images.**

Hironori Hondoh<sup>1</sup>, Mio Aoki<sup>2</sup>, Seiya Takeguchi<sup>3</sup>, and Satoru Ueno<sup>1</sup>, <sup>1</sup>Graduate School of Biosphere Science, Hiroshima University, Japan; <sup>2</sup>Hiroshima University, Japan; <sup>3</sup>The Nisshin OilliO Group, Ltd./Hiroshima University, Japan

#### **Addition of Phytosterol Esters to Palm Oil Influences its 'Equilibrium' and Isothermal Crystallization Behavior.**

Eva Daels, Bart Goderis, and Imogen Foubert, *Katholieke Universiteit Leuven, Belgium*

**Tailoring Promotion or Retardation of Nucleation Kinetics of Fats with Emulsifiers.** Katsuyoshi Saitou<sup>1</sup>, Ken Taguchi<sup>2</sup>, Rika Homma<sup>1</sup>, Masao Shimizu<sup>1</sup>, Koichi Yasunaga<sup>1</sup>, Yoshihisa Katsuragi<sup>1</sup>, Satoru Ueno<sup>3</sup>, and Kiyotaka Sato<sup>\*4</sup>, <sup>1</sup>Kao Corporation, Japan; <sup>2</sup>Graduate School of Integrated Arts and Sciences, Hiroshima University, Japan; <sup>3</sup>Graduate School of Biosphere Science, Hiroshima University, Japan; <sup>4</sup>Hiroshima University, Japan

#### **The Coalescence Behavior of Fat Globules in the Presence of Protein, mono/diglycerides and Polysorbate 80.**

Abbey E. Thiel and Richard W. Hartel, *University of Wisconsin-Madison, USA*

#### **Adsorption Mechanisms for Hydrophobic Food Surfactants at an Oil-Water Interface.**

Jennifer A. Staton and Stephanie R. Dungan, *University of California, Davis, USA*

#### **Stability Studies of Pickering Emulsions Based on Different Types of Oils and its Application in Chocolate.**

Cunhong Chen<sup>1</sup>, Yanchao Liu<sup>2</sup>, Hong Zhang<sup>3</sup>, Yanlan Bi<sup>2</sup>, Qi Shen<sup>1</sup>, Zhenbo Xu<sup>1</sup>, and Xuebing Xu<sup>4</sup>, <sup>1</sup>Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd, China; <sup>2</sup>Henan University of Technology, China; <sup>3</sup>Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd, Denmark; <sup>4</sup>Wilmar Global Research and Development Center, China

**Particulate Effects in Chocolate on Fat Bloom during Storage.** Jiayang Jin and Richard W. Hartel, *University of Wisconsin-Madison, USA*

**Examining Aerated Peanut Butter Systems Containing Lactic Acid Esters of Monoglycerides Compared to Traditional Samples.** Kaustuv Bhattacharya, Niall Young, and Henrik Kragh, *DuPont Nutrition & Biosciences ApS, Denmark*

### **EAT 3.1a / LOQ 3b: Manufacture and Stabilization of W/O and O/W Emulsions for Optimal Shelf-life**

*Chairs: Tanu Tokle, Qualitech, USA; Ann-Dorit Moltke Sørensen, Technical University of Denmark, Denmark; and Chandra Ankolekar, Kemin Industries Inc., USA*

**Stability and Functionality of Colloidosomes as Delivery Systems for Small Molecules.** Umut Yucel, *Kansas State University, USA*

**Impact of Phospholipids and Tocopherols on the Oxidative Stability of Soybean Oil-in-Water Emulsions.** Gautam Samdani, D. Julian McClements, and Eric A. Decker, *University of Massachusetts Amherst, USA*

**Effect of Droplet Size and Interfacial Crystallization on the Rheology of Fat Crystal-stabilized Water-in-Oil Emulsions.** D errick Rousseau and Ruby R. Rafanan, *Ryerson University, Canada*

**Label Friendly EDTA Alternative for Oxidative Stability Improvement in Food Emulsions.** Lan Ban, Yvonne Gildemaster, and Joan Randall, *Kemin Food Technologies, USA*

### **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, INRA, France*

**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

### **EAT 4: Lipid Gels: Application and Functionality in Edible Products**

*Chairs: Michael Rogers, University of Guelph, Canada; and Serpil Metin, Cargill R&D, USA*

**Oil Gel: Its Historic Development and Technical Hurdles to Overcome for Future Commercialization.** Linsen Liu, *IOI Loders Croklann, USA*

**Peptide-based low molecular weight organogelators (LMOGs): structural influence of side chain, chain length and D/L configuration on gelation behavior.** Yaqi Lan and Yong Cao, *South China Agricultural University, China*

**Physical Properties, Microstructure and Intermolecular forces of Soybean Oil Oleogels Structured by Different Polysaccharides.** Zong Meng<sup>1</sup>, Keyu Qi<sup>2</sup>, and Yuanfa Liu<sup>3</sup>, <sup>1</sup>*School of Food Science and Technology, Jiangnan University, China;* <sup>2</sup>*School of Food Science and Technology, State Key Laboratory of Food Science and Technology, Jiangnan University, China;* <sup>3</sup>*School of Food Science and Technology, State Key Laboratory of Food Science and Technology, Jiangnan University, China*

**Natural Saponin-based Emulsion Templates for Edible Oil Structuring.** Xiaquan Yang, *South China University of Technology, China*

**Photoprotective Mechanism of Supramolecular Oleogels on Retinyl Palmitate.** Yixing Tian and Nuria C. Acevedo\*, *Iowa State University, USA*

**Interaction between Different Lipid Structuring Agents in Organogels.** Thais L.T. da Silva<sup>1</sup>, Silvana Martini<sup>2</sup>, and Daniel B. Arellano<sup>1</sup>, <sup>1</sup>*University of Campinas, Brazil*; <sup>2</sup>*Utah State University, USA*

**Engineering Mechanical Properties of Edible Oleogels Based on Ethylcellulose and Lecithin.** Mayra Aguilar-Zarate<sup>1</sup>, Jorge F. Toro-Vazquez<sup>1</sup>, and Alejandro G. Marangoni<sup>2</sup>, <sup>1</sup>*Universidad Autónoma de San Luis Potosí, Mexico*; <sup>2</sup>*University of Guelph, Canada*

**Crystallization Behavior of Low Saturated, Non-hydrogenated Fat Systems Structured with Different Oleogels - Monoglycerides, Vegetable Wax and its combinations.** Fernanda Davoli<sup>1</sup>, Serpil Metin<sup>2</sup>, and Paul Smith<sup>3</sup>, <sup>1</sup>*Cargill, USA*; <sup>2</sup>*Cargill R&D, USA*; <sup>3</sup>*Cargill Global Foods Research, Belgium*

**Whey Protein and Vegetable Oil Interactions within Oleocolloid Matrices.** Clifford Park, Rafael Jimenez-Flores, and Farnaz Maleky, *Ohio State University, USA*

**Influence of Polar Compounds and Fatty Acid Composition on the Formation of Organogels.** Eckhard Flöter, Maria Scharfe, and Yassin Ahmane *Technical University of Berlin, Germany*

#### **EAT 4.1 / LOQ 4b: Food Structuring to Reduce Lipid Oxidation**

*Chairs: Hong-Sik Hwang, USDA, ARS, NCAUR, USA; Alex Kripps, Caldic USA, USA; and Yaqi Lan, South China Agriculture University, China*

**Formation of Free-flowing Fish Oil-loaded Hollow Solid Lipid Micro- and Nanospheres Using Carbon Dioxide.** Junsi Yang and Ozan N. Ciftci\*, *University of Nebraska-Lincoln, USA*

**Natural Wax Oleogels-A Method to Prevent Oxidation of Fish Oil.** Hong-Sik Hwang<sup>1</sup>, Matthew Phaner<sup>2</sup>, Jill Moser<sup>1</sup>, and Sean Liu<sup>3</sup>, <sup>1</sup>*USDA, ARS, NCAUR, USA*; <sup>2</sup>*University of Michigan-Flint, USA*; <sup>3</sup>*USDA, ARS, USA*

**Self-assembled Colloidal Complexes of Polyphenol–gelatin and their Stabilizing Effects on Emulsions.** Chaoying Qiu, Yu Huang<sup>1</sup>, Zhen Zhang<sup>2</sup>, Ying Li<sup>3</sup>, and Yong Wang<sup>1</sup>, <sup>1</sup>*Jinan University, China*; <sup>2</sup>*South China University of Technology, China*; <sup>3</sup>*Guangdong Saskatchewan Oilseed Joint Laboratory, Dept. of Food Science and Engineering, Jinan University, China*

**Ability of SDS Micelles to Increase the Antioxidant Activity of  $\alpha$ -tocopherol.** Raffaella Inchingolo<sup>1</sup>, Sezer S. Kiralan<sup>1</sup>, Sibel Uluata<sup>1</sup>, MariaTeresa Rodriguez Estrada<sup>2</sup>, D. Julian McClements<sup>3</sup>, and Eric A. Decker<sup>4</sup>, <sup>1</sup>*University of Massachusetts, USA*; <sup>2</sup>*University of Bologna, Italy*; <sup>3</sup>*University of Massachusetts, Amherst, USA*; <sup>4</sup>*University of Massachusetts Amherst, USA*

**Impact of Reduced Oxygen Environment and Natural Antioxidants on the Oxidative Stability of Oil-in-Water Emulsions.** Eric A. Decker<sup>1</sup>, and David R. Johnson<sup>\*2</sup>, <sup>1</sup>*University of Massachusetts Amherst, USA*; <sup>2</sup>*Kalsec Inc., USA*

#### Wednesday Afternoon

#### **EAT 5 / IOP 5: Waxes and Phase Change Materials**

*Chairs: Nuria Acevedo, Iowa State University, USA; and Chelsey Castrodale, Clasen Quality Chocolate, USA*

**Multiple  $\beta$  Forms of Tripalmitin in Different Crystallization Pathway.** Seiya Takeguchi<sup>1</sup>, Hironori Hondoh<sup>2</sup>, Hidetaka Uehara<sup>3</sup>, and Satoru Ueno<sup>2</sup>, <sup>1</sup>*The Nisshin OilliO Group, Ltd./Hiroshima University, Japan*; <sup>2</sup>*Graduate School of Biosphere Science, Hiroshima University, Japan*; <sup>3</sup>*The Nisshin OilliO Group, Ltd., Japan*

**The Effect of Processing on Hybrid Shortenings Containing Diacylglycerols.** Iris Tavernier<sup>1</sup>, Tom Rimaux<sup>2</sup>, Koen Dewettinck<sup>3</sup>, and Ian T. Norton<sup>4</sup>, <sup>1</sup>*Ghent University, Belgium*; <sup>2</sup>*Vandemoortele R&D Centre, Belgium*; <sup>3</sup>*University of Gent, Belgium*; <sup>4</sup>*Chemical Engineering, University of Birmingham, United Kingdom*

**Engineering Lipid Properties Through Glycerolysis.** Reed A. Nicholson and Alejandro G. Marangoni, *University of Guelph, Canada*

**Developing Vegetable Oil Based Wax Coating Alternatives.** Tong Wang and Tao Fei, *Iowa State University, USA*

**An Emerging Natural Wax: Sorghum Wax from Bioethanol Production.** Jeffrey T. Cafmeyer, *Battelle, USA*

**Role of Rice Bran Wax on Crystallization and Rheological Properties of Oleogels from Rice Bran Oil.** Khakhanang Wijarnprecha<sup>1</sup>, Pravit Santiwattana<sup>2</sup>, Sopark Sonwai<sup>3</sup>, and D errick Rousseau<sup>4</sup>, <sup>1</sup>*Department of Food Technology, Silpakorn University, Thailand*; <sup>2</sup>*Thai Edible Oil Co., Ltd., Thailand*; <sup>3</sup>*Silpakorn University, Thailand*; <sup>4</sup>*Ryerson University, Canada*

**Phase Change Analysis of Waxes and Wax Blends by Thermal Microstructure Evolution Analysis.** Matt Vanden Eynden<sup>1</sup>, Roland Ramsch<sup>2</sup>, Giovanni Brambilla<sup>2</sup>, Pascal Bru<sup>2</sup>, and Gerard Meunier<sup>2</sup>, <sup>1</sup>*Formulaction, Inc., USA*; <sup>2</sup>*Formulaction, France*

## **EAT 5.1 / S&D 5.1: Complex Phenomena at Interfaces**

*Chairs: Sam Adamy, Church & Dwight Co. Inc., USA; and Ozan Ciftci, University of Nebraska-Lincoln, USA*

**Complex Interfaces: Role in Foam and Emulsion Behavior of Rinse-off Cosmetics.** Edward DiAntonio<sup>1</sup>, Hani Fares<sup>1</sup>, Martin S. Vethamuthu<sup>\*1</sup>, and Seher Ozkan<sup>2</sup>, <sup>1</sup>*Ashland Specialty Ingredients G.P., USA*; <sup>2</sup>*Ashland Specialty Ingredients, USA*

**Effect of Emulsifiers on the Interfacial Tension of Fat-reduced W/O Emulsions Added with a High Behenic Stabilizer.** Marisol Cordoba-Barragan<sup>1</sup>, Jaime D. P erez-Mart inez<sup>1</sup>, and Elena Dibildox Alvarado<sup>2</sup>, <sup>1</sup>*Lab. Biopol imeros Alimentarios, Facultad de Ciencias Qu micas, Universidad Aut noma de San Luis Potos , Mexico*; <sup>2</sup>*Universidad Aut noma de San Luis Potos , Mexico*

**Interaction and Synergism in Surfactant/Water Soluble Polymer Solutions in Boosting Foaming Performance in Home, Personal Care Formulations.** Manilal Dahanayake<sup>1</sup> and Milton J. Rosen<sup>2</sup>, <sup>1</sup>*Surfactant Solution Experts LLC, USA*; <sup>2</sup>*Surfactant Research Institute, USA*

**Preparation of Novel Food Emulsifier using Amino Acids and Partial Glycerides.** Mahua Ghosh and Sriparna Chakraborty, *University of Calcutta, India*

**Surfactant Effects on Fat Crystallization at the Oil-water Interface.** Nicole Green<sup>1</sup>, Stephen R. Euston<sup>2</sup>, and D errick Rousseau<sup>1</sup>, <sup>1</sup>*Ryerson University, Canada*; <sup>2</sup>*Heriot-Watt University, United Kingdom*

**Characterizing Adsorption Kinetics and Wetting Behavior of Polyelectrolyte Complexes (PECs).** Claire Dentinger and David Scheuing, *Clorox, USA*

**Physical Modification of Faba Bean Proteins Significantly Improves Interfacial and Emulsifying Properties of O/W Emulsions.** Yan Ran Tang, and Supratim Ghosh<sup>\*</sup>, *University of Saskatchewan, Canada*

**Crystal-melt Interfacial Energy Effects on the Surface Nucleation of Triglycerides.** Alejandro G. Marangoni, *University of Guelph, Canada*

**EAT-P: Edible Applications Technology Poster Session**

*Chair: Supratim Ghosh, University of Saskatchewan, Canada*

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

**Influence of Dairy Emulsifier Type and Droplet Size on Gastrointestinal Fate of Corn Oil Emulsion: In vitro Digestion.** Li Liang<sup>1</sup>, Xingguo Wang<sup>2</sup>, Qingzhe Jin<sup>2</sup>, and D. Julian McClements<sup>3</sup>, <sup>1</sup>*State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, China;* <sup>2</sup>*Jiangnan University, China;* <sup>3</sup>*University of Massachusetts Amherst, USA*

**X-ray Study on Melt Crystallization Kinetics of Triacylglyceride Molecular Compound System.** Ken Taguchi<sup>1</sup>, Ryuichi Ikoma<sup>2</sup>, Akihiko Toda<sup>2</sup>, Hironori Hondoh<sup>3</sup>, Satoru Ueno<sup>3</sup>, and Kiyotaka Sato<sup>2</sup>, <sup>1</sup>*Graduate School of Integrated Arts and Sciences, Hiroshima University, Japan;* <sup>2</sup>*Hiroshima University, Japan;* <sup>3</sup>*Graduate School of Biosphere Science, Hiroshima University, Japan*

**Cocoa Butter Substitute Produced by Enzymatic Inter-esterification of Binary Blends Containing *Irvingia gabonensis* Seed Fat.** Sabine Danthine<sup>1</sup>, Juste Yamoneka Wasso<sup>1</sup>, Paul Malumba<sup>1</sup>, Georges Lognay<sup>2</sup>, and Christophe Blecker<sup>2</sup>, <sup>1</sup>*University of Liège, Belgium;* <sup>2</sup>*University of Liège, Belize*

**Electrostatic Deposition of Chitosan on Lecithin Stabilized Emulsion Inhibits Mycotoxin Production in *Fusarium graminearum*.** Dianhui Wu<sup>1</sup>, Jiajia Rao<sup>1</sup>, and Jian Lu<sup>2</sup>, <sup>1</sup>*North Dakota State University, USA;* <sup>2</sup>*School of Biotechnology, Jiangnan University, China*

**Extraction of Carotenoids and Antioxidant Compounds from Guava Processing Waste.** Renan S. Lima<sup>1</sup>, Itaciara L. Nunes, Sandra Regina S. Ferreira<sup>2</sup>, and Jane Mara Block<sup>\*3</sup>, <sup>1</sup>*Federal University of Santa Catarina, Brazil;* <sup>2</sup>*Federal University of Santa Catarina;* <sup>3</sup>*UFSC, Brazil*

**Profile of Volatile Compounds of Dark Chocolate Formulated with Cocoa Butter Equivalent.** Cristiano S. Souza<sup>1</sup>, and Jane Mara Block<sup>\*2</sup>, <sup>1</sup>*UFSC, Brazil;* <sup>2</sup>*UFSC, Brazil*

**Characterization of Soybean Oil Organogels Structured with Candelilla Wax and Monoglycerides.** Natalia Martinez<sup>1</sup>, Natani Amaro<sup>2</sup>, Thaís Jordânia<sup>2</sup>, Gabriel D. Fernandes<sup>3</sup>, Bruno Irigaray<sup>1</sup>, Iván Jachmanián<sup>\*1</sup>, and Daniel Barrera-Arellano<sup>2</sup>, <sup>1</sup>*UdelaR, Uruguay;* <sup>2</sup>*Laboratorio de óleos e gorduras, FEA, UNICAMP, Brazil;* <sup>3</sup>*Fats and Oils Laboratory. School of Food Engineering. UNICAMP. Brazil*

**Filler-matrix Interactions to Control Texture of Oil-continuous Systems.** Auke de Vries and Dérick Rousseau, *Ryerson University, Canada*

**Structural and Mechanical Properties of Palm Oil in the Presence of Air and Sugar.** Dérick Rousseau and Hardeep Devgan<sup>\*</sup>, *Ryerson University, Canada*

**Fat-sugar Interactions Measured by Force Spectroscopy.** Dérick Rousseau, and Nicole Green<sup>\*</sup>, *Ryerson University, Canada*

**Tailoring Crystalline Structure using High Intensity Ultrasound to Reduce Oil Migration.** Silvana Martini<sup>1</sup>, Zachary Cooper<sup>1</sup>, Juhee Lee<sup>1</sup>, and Véronique Gibon<sup>2</sup>, <sup>1</sup>*Utah State University, USA*; <sup>2</sup>*Desmet Ballestra Group, Belgium*

**Sonocrystallization of a Tristearin-free Fat.** Jeta V. Kadamne<sup>1</sup>, Maria A. Moore<sup>2</sup>, Casimir C. Akoh<sup>2</sup>, and Silvana Martini\*<sup>1</sup>, <sup>1</sup>*Utah State University, USA*; <sup>2</sup>*University of Georgia, USA*

**Lipid Composition and Antioxidant Property of Sea Buckthorn Oils Extracted by Supercritical and Subcritical Technologies.** Li Zheng<sup>1</sup>, Longkai Shi<sup>1</sup>, Zhao Chenwei<sup>2</sup>, Qingzhe Jin<sup>1</sup>, and Xingguo Wang<sup>1</sup>, <sup>1</sup>*Jiangnan University, China*; <sup>2</sup>*State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, China*

**Chemical Characterization and Antioxidant Capacity of Sesame Oils Extracted by Supercritical, Subcritical and Conventional Techniques.** Longkai Shi, Li Zheng, Ruijie Liu, Ming Chang, Qingzhe Jin, and Xingguo Wang, *Jiangnan University, China*

**Control of Protein Digestion under Simulated Gastrointestinal Conditions using Biopolymer Microgels.** Ruojie Zhang, Zipei Zhang, and D. Julian McClements, *University of Massachusetts Amherst, USA*

**Physicochemical, Functional and Sensory Properties of Margarine Supplemented with Bush Mango Kernel and Njangsa Seed Oils.** Anh T.L Nguyen<sup>1</sup>, Peace C. Asuzu<sup>2</sup>, Benjamain M. Bougouneau<sup>3</sup>, Samuel A. Besong<sup>4</sup>, and Alberta N.A. Aryee\*<sup>1</sup>, <sup>1</sup>*Delaware State University, USA*; <sup>2</sup>*College of Agriculture & Related Sciences, Delaware State University, USA*; <sup>3</sup>*Dept. of Human Ecology, Delaware State University, USA*; <sup>4</sup>*Dept. of Human Ecology, College of Agricultural Sciences, Delaware State University, USA*

**Chemical Characterization and Antioxidant Capacity of Sesame Oils Extracted by Supercritical, Subcritical and Conventional Techniques.** Longkai Shi, Li Zheng, Ruijie Liu, Ming Chang, Qingzhe Jin, and Xingguo Wang, *Jiangnan University, China*