



2019 AOCs Annual Meeting & Expo

May 5–8 America's Center Convention Complex | St. Louis, Missouri, USA

Protein and Co-Products (PCP) Interest Area Tentative Technical Program

As of February 12, 2019

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 1c / PCP 1a: Protein Assessment Methods

Chairs: Janitha Wanasundara, Agriculture and Agri-Food Canada, Canada; Denis Chereau, IMPROVE, France and Sneh Bhandari, Merieux Nutrisciences, USA

From Protein Digestibility Corrected Amino Acid Score (PDCAAS) to Digestible Indispensable Amino Acid Score (DIAAS). Hans H. Stein*, and Hannah M. Bailey, *University of Illinois, USA*

Protein Contents and Quality Assessment Methods in Relation to Regulations for Nutritional Labeling and Protein Claims. Sneh Bhandari*, *Merieux Nutrisciences, USA*

How to Assess Protein Functionality? Frederic Baudouin*, *IMPROVE, France*

Legumes - Trypsin Inhibitors, Phytohaemagglutinins (lectins) and Tannins. Shridhar K. Sathe*, Sahil Gupta, Valerie D. Zaffran, Sangokunle Oluwatoyin, and Tengfei Li, *Florida State University, USA*

PCP 1b: Protein Biofunctions

Chairs: Kaustav Majumder, University of Nebraska, USA; and Hisham Ibrahim, Kagoshima University, Japan; and Hitomi Kumagai, Dept. of Chemistry and Life Science, College of Bioresource Sciences, Nihon University, Japan

Molecular Properties of Food Allergen Proteins. Philip E. Johnson*, *University of Nebraska-Lincoln, USA*

Anti-viral and Anti-allergic Activities of Highly Phosphorylated Casein Phosphopeptide. Shigeru Katayama*, and Soichiro Nakamura, *Shinshu University, Japan*

Wheat-Gliadin Allergy Induced by Cutaneous Sensitization. Yusuke Yamaguchi*¹, Narumi Matsukaze², Ryosuke Abe³, Hitoshi Kumagai⁴, and Hitomi Kumagai⁵, ¹*Nihon university, Japan*; ²*Nihon University, Japan*; ³*Nihon University*; ⁴*Faculty of Home Economics, Kyoritsu Women's University*; ⁵*Dept. of Chemistry and Life Science, College of Bioresource Sciences, Nihon University, Japan*

Glucagon-like peptide-1 is released from the distal small intestine by a standard diet containing casein as a protein source but not by a non-protein diet in rats. Tohru Hira*, Madoka Sekishita, and Hiroshi Hara, *Hokkaido University, Japan*

Dietary Whey Peptides Have an Insulin Sensitizing Effect on Adipocytes and Skeletal Muscle Cells. Kenneth D'Souza*¹, Angella Mercer¹, Hannah Mawhinney², Thomas Pulinilkunnil¹, Chibuikwe C. Udenigwe², and Petra Kienesberger¹, ¹*Dalhousie Medicine New Brunswick, Canada*; ²*University of Ottawa, Canada*

Tuesday Morning

PCP 2a: Emerging Sources of Protein

Chairs: Lamia L'Hocine, Agriculture and Agri-Food Canada, Canada; and Andrea Liceaga, Purdue University, USA

Value-added Applications of Spent Hen as Nutraceuticals and Functional Food Ingredients. Hongbing Fan*, and Jianping Wu, *University of Alberta, Canada*

Recovering Amino Acids and Peptides in an Integrated Algal Biomass Refinery. Tao Dong*, Nick Nagle, Eric P. Knoshaug, Philip Pienkos, and Lieve Laurens, *National Renewable Energy Laboratory, USA*

Improvement of Functional and Bioactive Properties with Microwave-Assisted Hydrolysis of Chia Seed (*Salvia hispanica*) Protein. Uriel C. Urbizo*, M. Fernanda San Martín-Gonzalez, Jose G. Bravo, and Andrea M. Liceaga, *Purdue University, USA*

Introducing Hairless Canaryseeds: An Emerging Source of High Quality Protein. Emily Mason*¹, and Lamia L'Hocine², ¹*McGill University, Canada*; ²*Agriculture and Agri-Food Canada, Canada*

Effect of Enzymatic Hydrolysis and Microwave Energy on Allergenicity of Edible Cricket (*Gryllobates sigillatus*) Protein Hydrolysates. Andrea M. Liceaga¹, Philip E. Johnson², and Felicia G. Hall*¹, ¹*Purdue University, USA*; ²*University of Nebraska-Lincoln, USA*

Optimization of Process for the Production of a Light-coloured and Highly Soluble Sunflower Protein Isolate. Sara Albe Slabi*¹, Christelle Mathé², Melody Basselin³, Xavier Framboisier⁴, Arnaud Aymes⁴, Olivier Galet⁵, and Romain Kapel⁴, ¹*Reaction and Process Engineering Laboratory UMR-7274, Avril Group, France*; ²*Reaction and Process Engineering Laboratory, France*; ³*LRGP - UMR 7274, France*; ⁴*Reaction and Process Engineering Laboratory UMR-7274, France*; ⁵*Avril Group, France*

EAT 2a / PCP 2b: Plant Protein Utilization in Food Products

Chairs: Baraem Ismail, University of Minnesota, USA; and Graciela Padua, University of Illinois, USA

Rheological Assessment of Ethanol Induced Plant Protein Gels. Nahla Kreidly*¹, Graciela W. Padua², and Hakime Yavuz³, ¹*University of Illinois at Urbana Champaign, USA*; ²*University of Illinois, USA*; ³*University of Illinois at Urbana Champaign, United States*

Plants to Meat: Utilizing Plant Proteins to Satisfy the Carnivores. Ines Resano Goizueta*,
Impossible Foods, USA

Soy Protein-based Nanoparticles and Derivatives as Bioavailability Enhancers for Bioactive Compounds. Qin Wang*, *University of Maryland, USA*

Overcoming the Challenges in the Production and Utilization of Plant Protein Isolates in Food Products. Nagul Naguleswaran*, *Ingredient, USA*

Improvement of Targeted Pea Protein Functionalities for Beverage Applications. Serpil Metin*¹, Sonia Han², and Tasha Hermes³, ¹*Cargill R&D, USA*; ²*Cargill, United States*; ³*Cargill Inc., United States*

Structural and Functional Properties of Plant Protein Isolates and Hydrolysates for Various Applications. Baraem Ismail*, *University of Minnesota, USA*

Tuesday Afternoon

PCP 3a: Proteins in Delivery Functions

Chairs: Chibuike Udenigwe, University of Ottawa, Canada; and Lingyun Chen, University of Alberta, Canada

Prolamin-based Nanoparticles as Sustained Release Drug Delivery System. Yue Zhang*,
University of Nebraska-Lincoln, USA

Plant Protein Based Nano-emulsions for Delivery of Vitamin D. Lingyun Chen, Zhigang Tian, and Niharika Walia*, *University of Alberta, Canada*

Beta-lactoglobulin and its cationic derivatives for effective encapsulation and delivery of bioactives. Qin Wang*, *University of Maryland, USA*

Development of Pickering Oil-in-Water Emulsions Stabilized by Desolvated Pea Protein Nanoparticles. Chi Diem Doan, and Supratim Ghosh*, *University of Saskatchewan, Canada*

PCP 3b: Biotransformation of Proteins

Chairs: Buddhi Lamsal, Iowa State University, USA; and Xiaonan Sui, Northeast Agricultural University, China

Recent Progress in Preparing Bioactive Peptides from Food Proteins. Jianping Wu*, *University of Alberta, Canada*

Fabrication and Characterization of Gelatin-Based Nanofibers by Emulsion Electrospinning. Cen Zhang* and Hui Zhang, *Zhejiang University, China*

Interactions between Peptides and Polyphenols: Their Potential Usages in Recovering Peptides. Xiaonan Sui*, and Lianzhou Jiang, *Northeast Agricultural University, China*

Bioactivity of Anti-cancer Pentapeptide and its Application in Orange Juice. Navam S. Hettiarachchy*, Ruiqi Li, and Ronny Horax, *University of Arkansas, USA*

Wednesday Morning

PCP 4a: Processing and Non-food Applications of Proteins

Chairs: Yonghui Li, Kansas State University, USA; and Jianping Wu, University of Alberta, Canada; and Keshun Liu, USDA, ARS, USA

Quality, Safety and Stability of Protein for Pet Diets: An Overview of Research Evaluating Protein Ingredients for Pet Food Applications. Greg Aldrich*, *Kansas State University, USA*

Peptide Antioxidants from Cereal Grain Co-products and Performances in Pet Food and Feed. Yonghui Li*¹, and Ruijia Hu², ¹*Kansas State University, USA;* ²*Kansas State University, Grain Science and Industry, USA*

Self-assembly of Peptides is Responsible for Nanoparticle Formation of Canola Protein Cruciferin. Jianping Wu*, *University of Alberta, Canada*

Fungal Fermentation of Oilseed Meals and Cereal Grains to Produce Protein-rich Ingredients for Aquafeed. Bishnu Karki*¹, Jacob Zahler², Stephanie A. Wootton², Burgandy R. Roberts², Jason Croat³, Michael Brown⁴, and William Gibbons², ¹*Dept. of Biology and Microbiology, South Dakota State University, USA;* ²*South Dakota State University, USA;* ³*CTE Global Inc., USA;* ⁴*Dept. of Natural Resource Management, South Dakota State University, USA*

Aqueous Extraction for Making Feed Proteins from Soybeans. Keshun Liu*, *USDA, ARS, USA*

Alternative Oilseed Crops (camelina, cuphea, lesquerella, pennycress): Novel Protein Sources for Industrial Uses. Mila P. Hojilla-Evangelista*¹, Roque L. Evangelista¹, Gordon W. Selling¹, and Mark Berhow², ¹*USDA, ARS, NCAUR, USA;* ²*USDA, NCAUR, USA*

PCP 4b: General Protein and Co-Products

Chairs: Apollinaire Tsopmo, Carleton University, Canada; and Nandika Bandara, Department of Plant, Food & Environmental Sciences, Dalhousie University, Canada

Identification of a New Potential Allergen from Mullet and Salmon. Qinchun Rao*, and Behnam Keshavarz, *Florida State University, USA*

Antioxidant Activity in Amaranthus hypochondriacus Protein Fractions Fermented with Lactic Acid Bacteria at Different Growth Stage. Apollinaire Tsopmo¹, Fabiola Sánchez*², Madeleine Morales³, and Víctor J. Robles³, ¹*Carleton University, Canada;* ²*Instituto Tecnológico de Veracruz, México;* ³*Instituto Tecnológico de Veracruz, Mexico*

Alternative Method of Obtaining Amino Acids from Canola Meal for Further Conversions as Functional Molecules. Sumudu N. Warnakulasuriya*¹, Takuji Tanaka¹, and Janitha P.D Wanasundara², ¹*University of Saskatchewan, Canada;* ²*Agriculture and Agri-Food Canada, Canada*

Speciation of Arsenic and Chromium in the Presence of Hydrolyzed Oat Proteins. Apollinaire Tsopmo*, *Carleton University, Canada*

Protein Solubility. Shridhar K. Sathe*¹, Valerie D. Zaffran², Sahil Gupta², Sangokunle Oluwatoyin, and Tengfei Li², ¹*Florida State University, USA;* ²*Florida State University, United States*

Protein Based Delivery Systems for Improved Bioavailability of Bioactives: Past, Present and Future. Nandika Bandara*, *Department of Plant, Food & Environmental Sciences, Dalhousie University, Canada*

Posters will be available for viewing from 10:00 a.m. on Monday, May 6 through 1:00 p.m. Wednesday, May 8, 2019.

PCP-P: Protein and Co-Products Poster Session

Chairs: Mila Hojilla-Evangelista, USDA, ARS, NCAUR, USA; and Bishnu Karki, Dept. of Biology and Microbiology, South Dakota State University, USA

Role of Intracellular Protein Fraction of Lactobacillus casei CRL-431 on its Bioactive Properties.

José E. Aguilar-Toalá*¹, Hugo S. Garcia², Andrea M. Liceaga³, Belinda Vallejo-Cordoba¹, Aarón F. González-Córdova¹, and Adrian Hernández-Mendoza¹, ¹*Centro de Investigación en Alimentación y Desarrollo, A.C., Mexico*; ²*Technological Institute of Veracruz, Mexico*; ³*Purdue University, USA*

Effect of Demucilaging Methods on Functional Properties of Flaxseed Protein Isolates from Flaxseed Cake. Yang Lan*, and Jiajia Rao, *North Dakota State University, USA*

In vitro Antioxidant and Lipase Inhibitory Activities of Oat Bran Derived Peptides. Apollinaire Tsopmo, and Ramak Esfandi*, *Carleton University, Canada*

Bioactive Properties of Hairless Canaryseed Protein. Emily Mason*¹, Lamia L'Hocine², Allaoua Achouri², Melanie Pitre³, and Salwa Karboune⁴, ¹*McGill University, Canada*; ²*Agriculture and Agri-Food Canada, Canada*; ³*Agriculture and Agri Food Canada*; ⁴*Dept. of Food Science and Agricultural Chemistry, Faculty of Agricultural and Environmental Sciences, McGill University, Canada*

Wednesday Afternoon

AOCS Member + Volunteers Appreciation Luncheon

12:30–2 p.m.

Complimentary with all meeting registration types.

“Meet Me in St. Louis” Afternoon Excursion

3–7 p.m.

Departs from the Marriott Grand

Optional event. Ticket purchase is required.