

SCIENTIFIC PROGRAM

AACC International Annual Meeting

September 30 – October 3, 2012
The Westin Diplomat
Hollywood, Florida U.S.A.



Hollywood Beach Sunrise courtesy of the Ft. Lauderdale CVB and Boardwalk Beauty courtesy of visithollywoodfl.org.



<http://meeting.aaccnet.org>

The Top Science. The Top Scientists.



AACC International is the foremost association worldwide for cereal grain science research. The 2012 annual meeting will showcase the top science and innovations, drawing more than 1,000 premier researchers and industry members to present, discuss, debate, connect, and ultimately, influence the future of cereal grain science.

Get the knowledge and the intellectual boost that will last you all year!

The AACCI annual meeting offers many opportunities to discover the latest advancements in the industry.

- 24 **symposia** and **technical sessions** offer excellent research delivered by distinguished scientists
- Popular **Science Cafés** and **Poster Talks** create opportunities for discussion and even debate
- More than 200 **posters** let you see cutting-edge science first hand and speak with the authors
- The **exhibition** gives you direct contact with over 120 of the industry's top companies and their latest innovations

Come to scenic Hollywood, FLORIDA, to be a part of the exchange of scientific knowledge and help advance the industry.

Consider yourself officially invited to enjoy cutting-edge grain science research, the company of world-renowned scientists, and warm ocean breezes.

7 Key Scientific Initiatives

The AACCI annual meeting is based on AACCI's 7 Key Scientific Initiatives, which encompass all types of research conducted by members in academic, industrial, and government laboratories. Sessions will be assigned to all applicable scientific initiatives to give attendees a better understanding of the topics that will be covered.

The 7 Key Scientific Initiatives are as follows:

Biotechnology & Sustainability
Chemistry & Interactions
Engineering & Processing
Food Safety & Regulatory
Health & Nutrition
Ingredients & Innovations
Quality & Analytical Methods

Showcase Your Best Quality Research

By submitting your top research for the AACCI annual meeting, you will have the opportunity to share your best work with the top scientists in the world, gaining important exposure and receiving feedback on your research.

Online submission of abstracts open March 1–April 17, 2012

- Oral and poster submissions are reviewed for acceptance
- An individual may be a presenter of only one oral and two poster submissions

Visit <http://meeting.aaccnet.org/2012/callpapers> for more information, including guidelines, criteria for acceptance, a sample abstract, and more.

Preliminary Scientific Program

Listed alphabetically. Sessions are preliminary and subject to change.



Symposia

Addressing Texture Challenges in Baked Products

Organizer: Yadunandan Dar, Corn Products International/National Starch, Bridgewater, NJ, U.S.A.

Scientific Initiative: Ingredients & Innovations

This symposium will cover advances in ingredients and measurement techniques to develop and optimize texture in baked products. These include traditional baked products such as bread or baked desserts. It will also cover emerging areas, including gluten-free and low-sugar products. The talks will include a review of tools and techniques used to measure texture as well as new research in addressing texture and related processing challenges for baked products.

- Introduction. Y. DAR, Corn Products International/National Starch, Bridgewater, NJ, U.S.A.
- Measuring and addressing texture challenges in healthy baked products. M. WHITWORTH, Campden BRI, Chipping Campden, United Kingdom
- Leveraging fiber properties to manage and improve the texture of baked goods. R. MEHTA, SunOpta Ingredients Group, Chelmsford, MA, U.S.A.
- Gluten-free food products with texture comparable to wheat flour-based products. D. UZUNALIOGLU, Corn Products International/National Starch, Bridgewater, NJ, U.S.A.
- Overcoming the challenges in replacing sugar in bakery products while maintaining desired texture and taste. M. W. J. NOORT, TNO, Zeist, Netherlands



Symposia

Best Student Research Paper Competition

Organizer: Pierra Faa, Frito Lay, Inc., Plano, TX, U.S.A.

Sponsor: Professional Development Panel

Scientific Initiatives: Covers all initiatives

The objectives of this competition are to challenge students to demonstrate superior presentation skills, highlight the best research conducted and presented by students, and offer an opportunity for students to interact with the AACC International community at an early stage in their career. The competition is judged in two stages. During the first phase, university department heads nominate student members who submit an abstract and initial presentation. A jury reviews the many nominations and chooses six students to advance to the final round of competition. This symposium will showcase the top six finalists.

Presenters to be announced at a later date.



Symposia

Chemistry and Nutrition of Pulses and Minor Cereals

Organizers: El-Sayed Abdel-Aal, Agriculture & Agri-Food Canada, Guelph, ON, Canada; Shea Miller, Agriculture & Agri-Food Canada, Ottawa, ON, Canada; Sathya Kalambur, Frito-Lay, Inc., Plano, TX, U.S.A.; Supriya Varma, Frito-Lay, Inc., Plano, TX, U.S.A.; Koushik Seetharaman, University of Guelph, Guelph, ON, Canada

Scientific Initiative: Health & Nutrition

A wide range of alternatives can be found outside the major global staples of wheat, corn, barley, rice, and soy. This symposium aims to present current information on the chemistry, functionality, nutritional potential, and processing characteristics of some of these alternate crops, such as pulses and minor cereals. Major challenges encountered while developing new products with pulses and minor cereals will be discussed. This symposium will also provide an overview of research progress and research gaps with respect to health benefits of grains focused mainly on human subject studies from around the world.

- Influence of pH on structure and function of amaranth (*Amaranthus hypochondriacus*) protein isolates. L. ABUGOCH, University of Chile, Santiago, Region Metro, Chile
- Effect of *Amaranthus* and buckwheat proteins on wheat dough properties and noodle quality. H. CORKE, University of Hong Kong, Cereal Science Laboratory, Department of Botany, Hong Kong
- An overview of human subject study-based evidence for health benefits of cereals and pulses. D. RAMDATH, Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, ON, Canada
- Overview of nutritional aspects of millets and minor millets. K. SEETHARAMAN, University of Guelph, Guelph, ON, Canada
- Breadmaking use of Andean crops quinoa, kañiwa, kiwicha, and tarwi. C. ROSELL, Institute of Agrochemistry and Food Technology, Valencia, Spain



Science Café

Current Status and Development Trends of Asian Products

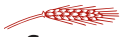
Organizers: Larisa Cato, Department of Agriculture and Food WA, South Perth, WA, Australia; Gary Hou, Wheat Marketing Portland, Portland, OR, U.S.A.

Sponsor: Asian Products Technical Committee

Scientific Initiatives: Biotechnology & Sustainability, Chemistry & Interactions, Health & Nutrition, Quality & Analytical Methods

A science café on the current status and development trends in the area of grain research, market development, and specific quality requirements for Asian products.

- Current status and development trend of Asian products in China. C. E. WANG, Yihai Kerry Investments Co., Ltd., Shanghai, Peoples Republic of China
- Current status and development trend of Asian products in Indonesia. M. Y. LIKUMAHWA, Bogasari Flour Mills, Jakarta, Indonesia
- Current status and development trend of Asian products in Brazil. C.J. STEEL, University of Campinas (UNICAMP), Campinas SP, Brazil
- Review of Asian product research. D. HATCHER, Canadian Grain Commission, Winnipeg, MB, Canada



Symposia

Enzymes in Cereal Science: From Improving Dough & Product Quality to Improving Bioavailability of Functional Compounds

Organizers: Girish Ganjyal, PepsiCo, Plano, TX, U.S.A.; Sathya Kalambur, PepsiCo, Plano, TX, U.S.A.; Andy McPherson, Kraft Foods, Glenview, IL, U.S.A.; Buddhi Lamsal, Iowa State University, Ames, IA, U.S.A.

Financial Sponsor: Lallemand

Scientific Initiatives: Biotechnology & Sustainability, Chemistry & Interactions, Health & Nutrition

Enzymes have been employed in the grain industry for a myriad of applications, including improving dough machining quality and bread loaf volumes. More recently, they have been used to generate functional compounds and to improve bioavailability of certain functional compounds in whole grains. Although enzymes have been used for a long time, there are still areas where the chemistry and mechanism of enzyme activity have not been fully understood. This symposium will present recent developments that provide more insights into not only the chemistry and mechanism of enzyme action but also the role of enzymes in improving bioavailability of important functional compounds in whole grains.

- Production of prebiotic arabinoxylan oligosaccharides during whole grain bread making: From concept and clinical trials. C. COURTIN, KU Leuven, Leuven, Belgium
- Enzymatic modification of wheat and rye brans—Effects on technological and physiological functionality. K. POUTANEN, VTT Technical Research Centre of Finland & University of Eastern Finland, Espoo, Finland
- Improving functionality and bioavailability of phenolics in wheat bran. R. RUAN, University of Minnesota, St. Paul, MN, U.S.A.
- Xylanases in baking. M. M. ENGELSEN, Novozymes A/S, Copenhagen, Denmark
- Novel applications of enzymes for baking. S. WEST, BioCatalysts Ltd., Cardiff, Wales, United Kingdom



The annual AACCI meeting is without a doubt THE meeting to attend if you are involved with the production, processing, or end uses of cereal grain products. It is the one occasion during the year where, in a few days' time, scientists can catch up on the latest research results and understand the implications of that knowledge on the applied work they do daily.

Arthur Bettge
2012 Program Chair



Science Café

Exploring the Differences Between Conventional and Modern Biotechnology—A Focus on Grains

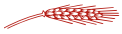
Organizers: Brian Beecher, USDA ARS, Wheat Quality Lab, Pullman, WA, U.S.A.; Tandace Scholdberg, USDA-GIPSA, Kansas City, MO, U.S.A.; Michael Giroux, Montana State University, Bozeman, MT, U.S.A.

Sponsor: Biotechnology Division

Scientific Initiatives: Biotechnology & Sustainability, Quality & Analytical Methods

This science café will tentatively cover the following four topic areas. i) Traditional wheat breeding versus modern genetic engineering approaches. ii) Economic incentive for biotech wheat development. iii) Drought-tolerant wheat and/or novel biotech wheat traits in the R&D pipeline. iv) Genetic mapping for grain quality traits.

- Mapping of quality traits in soft white wheat. C. MORRIS, USDA-ARS, Washington State University, Pullman, WA, U.S.A.
- Improving nontransgenic crop varieties using plant transformation approaches. M. P. SCOTT, USDA-ARS, Iowa State University, Ames, IA, U.S.A.
- Advances in barley transgenic traits. R. CHIBBAR, University of Saskatchewan, Saskatoon, SK, Canada
- Molecular and genetic characterization of polyphenol oxidase genes in wheat. B. BEECHER, USDA-ARS, Washington State University, Pullman, WA, U.S.A.



Symposia

Food Allergy Thresholds and Risk Assessment: Potential Stakeholder Benefits

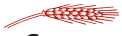
Organizers: Andreia Bianchini, The Food Processing Center, University of Nebraska, Lincoln, NE, U.S.A.; Joseph L. Baumert, Food Allergy Research & Resource Program, University of Nebraska, Lincoln, NE, U.S.A.

Sponsor: Food Safety and Microbiology Technical Committee

Scientific Initiative: Food Safety & Regulatory

This symposium will provide a general introduction to food allergy thresholds from an industry, consumer, clinical, and regulatory standpoint, followed by a talk on thresholds from a clinical perspective, all leading to the final talk in quantitative risk assessment based on food allergen thresholds.

- Challenges for the food-allergic consumer: Potential benefits of food allergen thresholds for finished product labeling. M. ACEBAL, FAAN (The Food Allergy & Anaphylaxis Network), Fairfax, VA, U.S.A.
- The food industry perspective on thresholds for allergen control and labeling. C. LLEWELLYN, The Coca-Cola Company, Atlanta, GA, U.S.A.
- The scientific and clinical case for food allergen thresholds. J. L. BAUMERT, Food Allergy Research & Resource Program, University of Nebraska, Lincoln, NE, U.S.A.
- The use of food allergen thresholds for quantitative risk assessment approaches. B. REMINGTON, University of Nebraska, Lincoln, NE, U.S.A.



Symposia

Formulating Grain-Based Food for Glucose Control

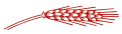
Organizers: Susan Tosh, Agriculture & Agri-Food Canada, Guelph, ON, Canada; Satya Jonnalagadda, General Mills, Golden Valley, MN, U.S.A.; Anne Birkett, Kellogg Company, Battle Creek, MI, U.S.A.

Sponsor: Nutrition Division

Scientific Initiative: Health & Nutrition

It has long been established that postprandial blood glucose response is not just determined by the amount of available carbohydrate alone. The proportions of different nutrients, particularly protein, carbohydrates, and fat, as well as food microstructure and the physicochemical properties of the food, can affect the rate of glucose absorption and the glycemic response after a meal. This symposium will explore the effects of grain-based foods, from both the physiological and the food science and technology perspectives, on blood glucose control.

- Session introduction by moderators: A. BIRKETT, S. JONNALAGADDA
- Glycemic control—Definition and physiological effects. T. WOLEVER, University of Toronto, Toronto, ON, Canada
- Food processing effects on glycemic response. S. TOSH, Agriculture & Agri-Food Canada, Guelph, ON, Canada
- Food formulation effects on glycemic response. M. HAUB, Kansas State University, Manhattan, KS, U.S.A.
- Issues and considerations with glycemic labeling and its regulation. J. M. JONES, St. Catherine University, Arden Hills, MN, U.S.A.



Symposia

Gluten Free: Opportunities and Challenges Across the Supply Chain

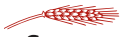
Organizers: Rajen Mehta, SunOpta Ingredients Group, Chelmsford, MA, U.S.A.; Satya Jonnalagadda, General Mills Inc., Golden Valley, MN, U.S.A.; Andreia Bianchini, The Food Processing Center, University of Nebraska, Lincoln, NE, U.S.A.

Sponsors: Nutrition Division, Food Safety and Microbiology Technical Committee

Scientific Initiatives: Food Safety & Regulatory, Health & Nutrition

This symposium will discuss the new developments in proposed regulation for gluten-free products in the United States and how it could impact the grain industry. Opportunities and challenges for product development, as well as how to create a manufacturing environment that is gluten free, will also be discussed, along with methodology that could be used to comply with labeling requirements.

- Impact of new regulations in the food industry. B. JACOB, General Mills Inc., Minneapolis, MN, U.S.A.
- Product development opportunities and challenges. R. MEHTA, SunOpta Ingredients Group, Chelmsford, MA, U.S.A.
- Product development challenges and potential solutions for high quality gluten-free products. Y. DAR, Corn Products International/National Starch, Bridgewater, NJ, U.S.A.
- Detection methods for ensuring labeling compliance of gluten-free products (ELISA, MS, PCR). J. L. BAUMERT, Food Allergy Research & Resource Program, University of Nebraska, Lincoln, NE, U.S.A.
- Process control and validation strategies for gluten-free product manufacturing. S. HEGENBART, ConAgra Foods, Inc., Omaha, NE, U.S.A.



Symposia

Healthy Food Manufacturing: Process Challenges & Solutions for Salt Reduction, Fat Reduction, and Fiber Enhancement

Organizers: John Mathew, Frito-Lay, Inc., Plano, TX, U.S.A.; Clyde Don, Foodphysica, Driel, Netherlands

Sponsor: Engineering & Processing Division

Scientific Initiatives: Engineering & Processing, Health & Nutrition

Part 1 of this symposium was offered during the 2011 Annual Meeting and was very well attended. Based on the feedback from the attendees, the same topic with the latest advancements will be presented during this symposium. This symposium will address process challenges and potential solutions in the development/reformulation of snack foods through salt and fat reduction and enhanced dietary fiber. Approaches will emphasize gradual ingredient modifications, taste appeal, and increased consumer availability of snacks that more closely meet dietary guidance. The inclusion of dietary fiber and modification in ingredient contents (e.g., fat, sodium) can ultimately lead to lower caloric-dense products, but with the taste appeal necessary for consumers to easily adopt.

- Strategies for developing healthier bakery products. F. GATES, Campden BRI, Chipping Campden, United Kingdom
- Reducing oil uptake in extruded snacks—Mechanisms for fat absorption and distribution in a cellular matrix. S. ALAVI, Kansas State University, Manhattan, KS, U.S.A.
- Strategies in reducing fat using starch. P. BUWALDA, AVEBE, Veendam, Netherlands
- Salt reduction: New challenges. S. HILL, University of Nottingham, Loughborough Leicestershire, United Kingdom
- The influence of healthy ingredients on food texture. L. OUDHUIS, TNO/Netherlands Organization for Applied Scientific Research, Zeist, Netherlands



Science Café

Is It Sweet Enough? A Dialogue on Sugar Reduction

Organizer: Andrew McPherson, Kraft Foods, Glenview, IL, U.S.A.

Sponsors: Carbohydrate Division, Nutrition Division

Scientific Initiatives: Chemistry & Interactions, Health & Nutrition, Ingredients & Innovations

Many food companies, ingredients manufacturers, and regulatory agencies are actively pursuing sugar reduction. This goal of this science café is to discuss the public health need for sugar reduction, ingredients/systems to enable sugar reduction, and strategies around sugar reduction. How does food formulation help the consumer?

- Sugars and obesity: Broadening our perspective. K. GREAVES, Kellogg Company, Battle Creek, MI, U.S.A.
- Ingredient options for sugar reduction. E. SHINSATO, Corn Products International, Westchester, IL, U.S.A.
- Combination approach using high-potency sweeteners and bulking agents for effective sugar reduction in foods. A. EVANS, Tate and Lyle, Decatur, IL, U.S.A.
- Practical considerations in caloric sugar reduction. D. VELLUCCI, Kraft Foods, Tarrytown, NY, U.S.A.



Science Café

Leveraging Innovation, Cost Management, and Sustainability for Profitability

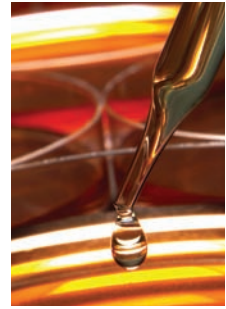
Organizer: Rajen Mehta, SunOpta Ingredients Group, Chelmsford, MA, U.S.A.

Sponsor: Nutrition Division

Scientific Initiative: Ingredients & Innovations

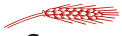
Innovation, continuous improvement, productivity improvement, and cost management are key tools used by industry and academic institutions to improve profitability and deliver value-added products to both internal and external customers. This science café will focus on processes that companies use to innovatively reduce costs to improve profitability using these tools. We will discuss some of these continuous improvement tools and then speakers drawn from diverse segments of the food industry will discuss ideas and share successes to achieve cost efficiencies and productivity improvement.

- Leveraging continuous improvement and other tools for profitability and cost reduction. R. MEHTA, SunOpta Ingredients Group, Chelmsford, MA, U.S.A.
- Kaizen usage to drive continuous improvement. L. MURRAY, Bunge North America, St. Louis, MO, U.S.A.
- Science and technology insights to reduce costs and deliver sustainability. J. KEPPLINGER, Kellogg Company, Battle Creek, MI, U.S.A.
- Challenges and opportunities in improving profitability by managing costs. E. ARNDT, ConAgra Foods Inc., Omaha, NE, U.S.A.
- Value matters: Case studies in value optimization without compromise using advanced texturizers. Y. DAR, Corn Products International/National Starch, Bridgewater, NJ, U.S.A.
- Use of statistical process control to improve manufacturing process performance. K. GARDNER, eMRI, Saline, MI, U.S.A.



Science Cafés offer the opportunity for intense discussion of aspects on our science that is unavailable in the traditional symposium format.

Arthur Bettge
2012 Program Chair



Symposia

Lipids in Baking: Minor Components with Major Impact

Organizers: Sean Finnie, Cargill, Inc., Plymouth, MN, U.S.A.; Bram Pareyt, KU Leuven, Leuven, Belgium

Scientific Initiatives: Chemistry & Interactions, Engineering & Processing, Ingredients & Innovations, Quality & Analytical Methods

This symposium aims at providing a detailed overview of the sources and interactions of lipids in baking. The three main sources of lipids in baking are shortening and oil, emulsifiers, and endogenous wheat flour lipids. The symposium starts with an overview of lipid components and continues with a discussion on oil, shortening processing, and the tools used to monitor efficiencies. An overview of shortening physical and structural characteristics will be presented, followed by the functionality of oil, shortening, and emulsifiers in baking. Endogenous flour lipids will be discussed, emphasizing classification and determination of lipids in wheat flour and an overview of their interactions during bread making. Current trends, challenges, and solutions to meet those trends will be emphasized in the presentations.

- Shortening and oil processing: Tools of the trade. R. JOHNSON, Bunge Oils, Bradley, IL, U.S.A.
- Role of fat crystallization in bakery products. S. METIN, Cargill, Global Food Research, Wayzata, MN, U.S.A.
- Functionality of oils and shortenings in baking. S. FINNIE, Cargill, Bakery Technology Team, Plymouth, MN, U.S.A.
- Functionality of emulsifiers in breadmaking. P. KOEHLER, Hans-Dieter-Belitz-Institute for Cereal Grain, Freising, Bavaria, Germany
- Endogenous wheat flour lipids and their interactions during breadmaking. B. PAREYT, KU Leuven, Leuven, Belgium



Special Session

The New Generation of Professionals: Opportunities and Challenges in Transitioning from School to Work

Organizers: Rajen Mehta, SunOpta Ingredients Group, Chelmsford, MA, U.S.A.; Shane Walker, University of Guelph, Guelph, ON, Canada

Sponsors: Student Division, Education Division, Nutrition Division

Scientific Initiative: Ingredients & Innovations

As the food industry prepares for Generation Y and then Generation Z, the “Net” Generations, employers and educators will need to clearly communicate their wants and needs and learn how to exploit the strengths of these new generations that are very comfortable with the use of communications and the Internet—and all the resultant benefits and challenges. Similarly, today’s students as future professionals will have to adapt and leverage their unique skills to enhance their contributions in the traditional workplace. In this special session, we will have individuals with diverse viewpoints discuss their group’s needs, guidance, and ideas to allow a smooth and productive transition. The audience is encouraged to join in the discussion; please bring your questions and comments!

- The challenge of transitioning the Net Generation into the professional world. R. MEHTA, SunOpta Ingredients Group, Chelmsford, MA, U.S.A.

- How schools train students to be productive professionals in the cereal food industry. D. MYERS SR., North Dakota State University, Fargo, ND, U.S.A.
- How bakery schools train students to be productive professionals in the cereal food industry. D. MAIER, Kansas State University, Manhattan, KS, U.S.A.
- Opportunities for professionals in the cereal science and bakery industry. D. HAYMAN, Kellogg Company, Battle Creek, MI, U.S.A.
- Opportunities for professionals in the food industry. E. ARNDT, ConAgra Foods Inc., Omaha, NE, U.S.A.
- A student's expectations in transitioning from school to work. L. BREWER, Kansas State University, Manhattan, KS, U.S.A.
- An international perspective on entering the North American workplace. S. WALKER, University of Guelph, Guelph, ON, Canada



AACCI is a close knit community (family) of individuals with a passion for science as it relates to cereals. The meeting brings the finest science and scientists together, creating a comprehensive base of expertise to address ongoing and future challenges relevant to the industry. The AACCI annual meeting serves to bring forward the best of the science and its application.

Koushik Seetharaman
2012 Program Vice Chair



Special Session

Peter Wood Memorial

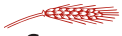
Organizers: Bill Atwell, Bill Atwell Consulting LLC, Champlin, MN, U.S.A.; Shea Miller, Agriculture & Agri-Food Canada, Ottawa, ON, Canada; Kris Spence, Kellogg Company, Battle Creek, MI, U.S.A.

Sponsors: Carbohydrate Division, Nutrition Division

Scientific Initiatives: Chemistry & Interactions, Health & Nutrition, Ingredients & Innovations

This special session will cover current topics in dietary fiber with special emphasis on the current research involving beta glucans. A portion of the program will be a tribute to Peter Wood's unique personality and many accomplishments.

- The life, times, and science of Peter Wood. B. ATWELL, Bill Atwell Consulting LLC, Champlin, MN, U.S.A.
- An overview of beta glucans. S. TOSH, Agriculture and Agri-Food Canada, Guelph, ON, Canada
- Current research on arabinoxylans. C. COURTIN, KU Leuven, Leuven, Belgium
- Cell wall polysaccharides. G. FULCHER, University of Manitoba, Winnipeg, MB, Canada
- Measurement of soluble fibers. B. MCCLEARY, Megazyme Intl. Ireland Ltd., County Wicklow, Ireland
- Rheology of polysaccharides in the digestive tract and impact on health. P. ELLIS, King's College London, London, United Kingdom
- Soluble fibers and health. J. M. JONES, St. Catherine University, Arden Hills, MN, U.S.A.



Symposia

Protein & Starch Changes Occurring During Various Cold-Forming and Dehydration Processing of Pasta, Noodle, & Pretzel Products

Organizers: Vamshi Puppala, Frito-Lay, Inc., Plano, TX, U.S.A.; Sathya Kalambur, Frito-Lay, Inc., Plano, TX, U.S.A.; Supriya Varma, Frito-Lay, Inc., Plano, TX, U.S.A.

Financial Sponsor: Frito-Lay, Inc.

Scientific Initiatives: Chemistry & Interactions, Engineering & Processing

Cereal ingredients undergo different types of processing operations that transform them into foods with desirable sensory and nutrition profiles. Certain cereal foods, including pasta, noodles, or pretzels, undergo cold-forming processes, such as extrusion or sheeting, followed by subsequent dehydration. These processes produce unique physical and/or chemical changes in the structures of starch and protein fractions of these cereal ingredients. For example, protein aggregation and starch swelling behaviors in pasta products are impacted by cold-extrusion and dehydration processes that subsequently affect final cooking quality. This symposium will provide insights into the molecular changes of starch and protein that occur due to application of thermal and mechanical energy during the manufacturing of certain cereal foods, particularly pasta, noodles, and pretzels.

- Process mapping: What we can learn from this approach. K. SEETHARAMAN, University of Guelph, Guelph, ON, Canada
- Product model systems approach to study thermomechanical effects on wheat starch and protein. C. DON, Foodphysica, Driel, Netherlands
- A molecular view of individual processing steps in pasta making. M. A. PAGANI, Nutrition & Environmental Services, University of Milan, Milano, Italy
- Structuring of pasta components during processing: Impact on starch & protein digestibility. V. MICARD, INRA, Montpellier, France
- Innovations in extrusion—Configuring a multioperation, low-shear, semi-cold process for novel & nutritious products. S. ALAVI, Kansas State University, Manhattan, KS, U.S.A.



Science Café

Protein Quality in Product Development: Regulatory Considerations

Organizer: Viswas Ghorpade, Kellogg Company, Battle Creek, MI, U.S.A.

Sponsor: Protein Division

Scientific Initiative: Health & Nutrition

In the 2011 Protein Enrichment in Cereal Products symposium, there were lots of discussions on protein quality and its nutritional aspects in product development. Many members had confusion about calculations of protein for superior claims and regulatory aspects of assessing this requirement. PDCASS and PER calculations and methods used to make these claims seems important to many industry members. This session will focus on protein quality, assessing methods, and regulatory framework.

- Protein quality: Methodology and benefits in grain-based foods. K. GREAVES, Kellogg Company, Battle Creek, MI, U.S.A.
- U.S. regulatory perspective—Insights into PDCAAS. D. MCCOLL, Hyman, Phelps, & McNamara, P.C., Washington, DC, U.S.A.
- Protein quality: Canada perspective—Is there movement toward the use of PDCAAS? L. DIFRANCESCO, Source! Nutrition, Toronto, ON, Canada

- FAO/WHO perspective—Upper limit of 1.0 for PDCAAS or unlimited. C. KRUGGER, SPHERIX, Bethesda, MD, U.S.A.
- Grain proteins—Combining incomplete proteins and amino acids for improved protein quality. J. M. JONES, St. Catherine University, Arden Hills, MN, U.S.A.



Symposia

Starch Modification

Organizers: Baljit Ghotra, National Starch, Bridgewater, NJ, U.S.A.; Richard Rogers, Grain Processing Corp., Muscatine, IA, U.S.A.

Sponsor: Carbohydrate Division

Scientific Initiative: Chemistry & Interactions

Discussion on the new technologies in starch derivitization.

- Fundamental aspects of chemical modification. K. HUBER, University of Idaho, Moscow, ID, U.S.A.
- Amylose inclusion complexes produced by combining various ligands with jet-cooked amylose. F. FELKER, USDA ARS NCAUR, Peoria, IL, U.S.A.
- Exploring granular architecture of starches through physical modifications. V. VAMADEVAN, University of Guelph, Guelph, ON, Canada
- Preparation, structure, and properties of octenyl succinic starch. Y. C. SHI, Kansas State University, Manhattan, KS, U.S.A.
- Using alcohol in starch modification process. A. EVANS, Tate and Lyle, Decatur, IL, U.S.A.



Science Café

Statistical Tools Supporting Food Safety, Regulatory, and Processing

Organizer: Michelle Manderfeld, General Mills, Minneapolis, MN, U.S.A.

Sponsor: Statistical Advisory Technical Committee

Scientific Initiatives: Engineering & Processing, Food Safety & Regulatory, Quality & Analytical Methods

Statistics provide underlying support for many aspects of food development and production. Listen and interact with speakers from industry and government research as they share a variety of statistical tools for food safety risk assessment, managing ingredient costs, labeling compliance, and process monitoring.

- Using statistical models to understand food safety risk. *Presenter to be announced*
- Labeling compliance: Overage & impact on cost of goods. R. ROBERTSON and R. STACKOW, Kellogg Company, Battle Creek, MI, U.S.A.
- Ongoing process monitoring. T. MCKAMEY, Silliker Inc., Madison, WI, U.S.A.
- Measurement close to zero. P. WEHLING, General Mills, Inc., Minneapolis, MN, U.S.A.
- Sampling applications in research and quality. T. C. NELSEN, Independent Statistical Consultant, Port Byron, IL, U.S.A.



Symposia

Whole Grains: Where Are We and Where Are We Going?

Organizers: Satya Jonnalagadda, General Mills, Golden Valley, MN, U.S.A.; Len Marquart, University of Minnesota, St. Paul, MN, U.S.A.; Brinda Govindarajan, McDonalds, Chicago, IL, U.S.A.

Sponsor: Nutrition Division

Scientific Initiatives: Biotechnology & Sustainability, Engineering & Processing, Food Safety & Regulatory, Health & Nutrition

The symposium will examine the current whole grain definition(s) and guidelines; identify the future with regards to universal definitions/guidelines; product application; and health and nutrition research.

- Current state of global whole grain definition and the future of global whole grain foods definition. J. M. JONES, St. Catherine University, Arden Hills, MN, U.S.A.
- Whole grain health claims—Current state, what is needed for the future. K. WIEMER, General Mills, Minneapolis, MN, U.S.A.
- Current gaps in whole grains health and nutrition research—What are the future needs. P. JACQUES, Tufts University, USDA-HNRC, Boston, MA, U.S.A.
- Meeting the whole grain dietary guidelines—Are they sustainable given the food supply and current consumer food environment. L. MARQUART, University of Minnesota, St. Paul, MN, U.S.A.
- Whole grain food technology—What are the current applications and future considerations. E. ARNDT, ConAgra Foods Inc., Omaha, NE, U.S.A.

Even more science on the way—technical sessions and posters are currently being developed.



SAND & SUN

AACCI is proud to announce that the annual meeting will take place for the first time in scenic Hollywood, Florida, U.S.A. This beautiful beach town is nestled between Miami and Fort Lauderdale, with palm tree lined streets and roughly 6 miles of sparkling Atlantic Ocean with award-winning white sand beaches. Unique cuisine abounds while the “Broadwalk” pedestrian path offers oceanfront strolling, shopping, and dining. A convenient trolley service from Hollywood Beach to a redeveloped, art deco Downtown makes it easy to get out and experience it all.

Registration Opens Mid-April

Visit <http://meeting.aaccnet.org> for more information, including a printable registration form and links to register online.

Hotel Information

AACCI has negotiated discount rates at The Westin Diplomat Resort for annual meeting attendees. Visit <http://meeting.aaccnet.org> for more details.



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September 30–October 3, 2012

Hollywood, Florida, U.S.A.



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Abstract submission open March 1–April 17

Registration and housing open in April

<http://meeting.aaccnet.org>