

PROGRAM BOOK

2014 AACC International Annual Meeting

October 5–8

Rhode Island Convention Center
Providence, Rhode Island, U.S.A.



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About AACC International



AACC International (AACCI) is a unique nonprofit association dedicated to providing opportunities for exchanging knowledge in cereal grain science and advancing innovation by

facilitating collaboration, research, education, technical service, and advocacy efforts. AACCI strives to be the leading global science-based facilitator in cereal grain science and its applications by connecting science to key issues in research and product development, and delivering relevant tools and resources to its members. Members belong to AACCI to stay up-to-date on the latest advancements in cereal grain science and to connect with colleagues worldwide.

U.S. Food Waste Challenge

On June 4, 2013, the U.S. Department of Agriculture (USDA), in collaboration with the U.S. Environmental Protection Agency (EPA) launched the U.S. Food Waste Challenge, calling on others across the food chain—including producer groups, processors, manufacturers, retailers, communities, and other government agencies—to join the effort to reduce, recover, and recycle food waste. AACCI supports this effort by working with the hotels and convention centers to donate food from AACCI meetings to food shelves in the local area.

GO SOCIAL – Connect and Share with Your Colleagues

Share Your AACCI Annual Meeting Experience!

Connect with fellow attendees in the hallways, sessions, and events and then continue the discussion online!

- Share your meeting experience on Twitter with #aacci14
- Start a discussion group about the latest trends and research or post your insights through AACCI LinkedIn
- Visit the AACCI Facebook page [facebook.com/AACCIInternational](https://www.facebook.com/AACCIInternational) to join the group, where you can also create discussions, share photos, make comments, and post videos.



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Welcome



Thank you for joining us in historic Providence for an outstanding scientific and technical program. It's here that we gain a broad view of current research and development in the field of cereal science, and learn how to transfer this research into practice. I urge you to create a customized schedule that includes sessions in your specific areas of interest as well as different

topics to widen your view of the entire field. I use the annual meeting as a springboard for the next 12 months, reconnecting with colleagues, industry contacts and renowned researchers that all help shape my professional contribution. I believe the true power of the AACCI and our annual meeting lies in the commitment to continue important discussions on the future of cereal grain science long after we leave Providence. Welcome!

Peter Koehler
2014 Program Team Chair



Greetings, and a warm welcome to the Annual Meeting of AACC International in Providence, Rhode Island. Our Association is unique in that it has members from industry, academia and government bodies. What unites us is our interest in cereals, their constituents, and their food and non-food applications. This week, we will take advantage of the many knowledge-sharing

platforms—be they oral sessions or poster presentations—led by hundreds of scientists with different sets of expertise, all showcasing progress in the field. We will also participate in some of the many networking events and contribute to the goals of the Association by attending division, section and alumni meetings. I do hope that the Annual Meeting will provide you with new insights and that it will help you in your professional life. So, welcome to Providence, and enjoy!

Jan A. Delcour
AACCI International President

2014 AACCI Annual Meeting Program Planning Team

Program Team Chair

Peter Koehler, *German Research Center for Food Chemistry, Germany*

Program Team Vice-Chair

Devin Rose, *University of Nebraska, U.S.A.*

2014 Scientific Initiative Chairs and Vice-Chairs

Biotechnology & Sustainability

Chair: Andreas Blennow, *University of Copenhagen, Denmark*

Vice-Chair: David Kendra, *Pepsi Company, U.S.A.*

Chemistry & Interactions

Chair: Kristof Brijs, *KU Leuven, Belgium*

Vice-Chair: Bram Pareyt, *KU Leuven, Belgium*

Engineering & Processing

Chair: Supriya Varma, *Frito-Lay Inc., U.S.A.*

Vice-Chair: Monjur Hossen, *Kellogg Company, U.S.A.*

Food Safety & Regulatory

Chair: Ryan Legge, *ConAgra Foods Inc., U.S.A.*

Vice-Chair: Mary O'Meara Gillespie, *Grain Millers, Inc., U.S.A.*

Health & Nutrition

Chair: Satya Jonnalagadda, *Kerry Ingredients & Flavours, U.S.A.*

Vice-Chair: Derek Stewart, *The James Hutton Institute, United Kingdom*

Ingredients & Innovations

Chair: Feng (Jessy) Wang, *MagiBake International, Inc., and Jiangnan University, China*

Vice-Chair: Susan Kamper, *General Mills, U.S.A.*

Quality & Analytical Methods

Chair: Mario Jekle, *Technische Universität München, Germany*

Vice-Chair: Chris L. Miller, *Kansas State University, U.S.A.*



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Source: Survey Monkey OatWell® Concept Study 2013

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Safety Tips

- Do not travel alone—stay in groups and travel in well-lit areas.
- Remove name badges when outside the hotel and Convention Center unless you are participating in an annual meeting event.
- Do not give your room number out to anyone you do not know, and avoid giving out your room number in conversations that strangers may overhear.
- Bolt your hotel room door and only open it when you know who is on the other side. (Note: Hotel personnel wear uniforms and have identification badges. If in doubt, call hotel security or the front desk to verify an employee's identity.)
- Do not leave your door ajar if you are going down the hall for ice. Someone may enter when you are not looking.
- Know where the stairs are located in case of a fire. Do not use elevators. Also, count the number of doors to the nearest exit in case you cannot see in a smoke-filled hallway.
- Valuables, airline tickets, and money should be kept in a hotel safety deposit box or in a room safe, if available.

Procedures in Case of a Fire in the Hotel

- Leave the hotel as quickly as possible. If you cannot, stay in your room and call the operator or security to let them know you are in your room.
- Put your hand on the room door to see if it is hot before opening it. If it is, do not open it quickly. Open it just a crack to see what is on the other side, and be prepared to slam it quickly if necessary.
- If you leave your room, take your room key with you. Shut your room door to keep smoke out. You may have to return if the exit is blocked. Remember the way back to your room as you go to the exit in case you need to return.
- If necessary, drop to your knees to avoid smoke. Tie a wet towel around your nose and mouth to act as a smoke filter. Fold it into a triangle and put the corner in your mouth.
- Do not take the elevator when you smell smoke or if you know that there is a fire in the building.

Take Your Career to the Next Level

AACCI Speed Mentoring Event and Social

- ▶ Learn About Career Paths
- ▶ Gain Career Insights and Guidance
- ▶ Cultivate Long-Term Professional Connections



Tuesday, October 7
4:30 – 5:30 p.m.
South County, Omni

*Sponsored by the
AACCI Professional
Development Panel*

The latest information on rye foods, production, and their effects on health!

See this and other titles **ON SALE** at the **AACCI Central Bookstore and Demonstration Station**. Buy any 2 books and get a free book light. Buy a 3rd book, and get free shipping too. *Hurry, while supplies last!*



Locations and Hours

AACCI Central Bookstore, East Area, 5th Floor
Monday 9:00 a.m. – 3:00 p.m.
Tuesday 9:00 – 11:00 a.m.
Wednesday 9:00 – 11:00 a.m.

And visit our NEW AACCI Central **'Demonstration Station'** in the Exhibit Hall!
Sunday 5:00 – 7:00 p.m.
Monday 4:00 – 7:00 p.m.
Tuesday 12:00 p.m. – 2:15 p.m.

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Download the 2014 App for Real-Time Updates

- Receive announcements
- Check the program schedule, posters, and general information
- Review the exhibitor list and booth numbers
- Customize your schedule and add appointments
- Access session information, including full abstracts
- Create your personal schedule and to-do lists
- Schedule Posters by Appointment in addition to poster author time
- Connect with your iPad-specific version

Download Now. It's Fast, Easy, and Free!

Available for iOS (iPhone and iPad) and Android devices; Blackberry and Windows phone users have access to a mobile website that will offer the same functionality. Search the app store for "AACCI2014"; or go to mobileapp.aaccnet.org for app store links and mobile website link.

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When accessing the app for the first time, you will have the option to set a password. If you choose not to set a password, no password will be needed to access the app features.

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AACC International's Annual Meeting Seven Scientific Initiatives

The AACC International Annual Meeting focuses on seven scientific initiatives that guide the program and provide members with relevant information, strong scientific content, and significant opportunities for disseminating research findings.

Biotechnology & Sustainability

conventional breeding • genetic modification • interaction effects of environment on gene expression • global climate change • reducing energy consumption • social/political/financial impacts

Chemistry & Interactions

fundamental whole cereal, starch, and protein chemistry • related polymer science approaches • chemical interactions of component parts

Engineering & Processing

physical processing of grains, pulses, and food products • fuels, industrial chemicals, and other in-process materials • more efficient engineering processes and equipment

Food Safety & Regulatory

microbes • contaminants • hazards • regulatory issues • legal challenges

Health & Nutrition

health and nutrition of cereals and pulses • social impact of health and nutrition initiatives • medical reports

Ingredients & Innovations

raw materials • new discoveries of novel ingredients • applications of ingredients • reduce ingredient costs

Quality & Analytical Methods

analytical methods development and changes • measuring quality of grain, ingredients, or finished foods • rheology

The Top Science from the Top Scientists

The science-packed AACCI Annual Meeting gives you more top-notch scientific content to choose from and more time scheduled each day to attend the sessions.

Session Formats for 2014!

Traditional

- **Symposia** – aimed at optimal knowledge transfer through regular 20-minute talks with time for topical questions.
- **Technical Sessions** – featured 20-minute talks covering new scientific insights and technological advancements in the field.
- **Hot Topics** – hot off the news...these sessions provide the latest information and updates on new and developing topics in the industry.

Interactive

- **Science Cafés** – a combination of shorter or more elaborate position talks with debate and discussion.
- **Conversations Matter** – a new format for the exchange of science. Conversations Matter provide more engagement/conversation in the topic/discussion area between the presenter and the audience to allow for a more meaningful exchange of content and conversation.

In Memory of



Koushik Seetharaman 1966–2014

2013 AACCI Annual Meeting Program Chair

Koushik Seetharaman Memorial Fund

In honor of Koushik's unyielding support and work with students, AACCI has established the Koushik Seetharaman Memorial Fund to continue his work to support increased student participation and engagement in AACCI.

Donations will be accepted during the annual meeting at the AACCI Central located in the Exhibit Hall and online at <https://my.aaccnet.org/Core/Donations/Gift.aspx>

General Information

Registration Hours

Prefunction Area, 3rd floor

Sunday, October 5	12:00 – 7:00 p.m.
Monday, October 6	7:30 a.m. – 6:30 p.m.
Tuesday, October 7	7:30 a.m. – 5:00 p.m.
Wednesday, October 8	7:30 a.m. – 2:30 p.m.

Speaker Ready Room

Room 558A, CC

Sunday, October 5	2:00 – 7:00 p.m.
Monday, October 6	7:00 a.m. – 5:30 p.m.
Tuesday, October 7	7:00 a.m. – 5:30 p.m.
Wednesday, October 8	7:00 a.m. – 12:00 p.m.

Exhibition Hall—Exhibit and Poster Hours

Hall BC

Sunday, October 5

8:00 a.m. – 2:00 p.m.	Exhibit Set-Up & Exhibitor Registration
5:00 – 7:00 p.m.	Grand Opening Exhibition

Monday, October 6

7:00 – 10:00 a.m.	Poster Set-Up by Authors
10:00 a.m. – 7:00 p.m.	Poster Viewing
4:00 – 7:00 p.m.	Exhibits with Beer and Poster Viewing with Authors Present
	Student Poster Authors Present (4:00 – 5:00 p.m.)
	Poster Authors Present (odd-numbered posters 5:00 – 6:00 p.m.)

Tuesday, October 7

8:00 a.m. – 2:30 p.m.	Poster Viewing
12:00 – 2:15 p.m.	Lunch with the Exhibitors
	Poster Authors Present (even-numbered posters 1:00 – 2:00 p.m.)
2:30 – 4:00 p.m.	Exhibit and Poster Take-Down

AACCI Central Bookstore

East Area, 5th floor

AACCI Central Demonstration Station

Hall BC, Exhibits

Sunday, October 5

5:00 – 7:00 p.m. (Hall BC, Exhibits)

Monday, October 6

9:00 a.m. – 3:00 p.m. (East Area, 5th floor)
4:00 – 7:00 p.m. (Hall BC, Exhibits)

Tuesday, October 7

9:00 – 11:00 a.m. (East Area, 5th floor)
12:00 – 2:15 p.m. (Hall BC, Exhibits)

Wednesday, October 8

9:00 – 11:00 a.m. (East Area, 5th floor)

Concession Service Available

A variety of breakfast items, beverages, snacks, and lunch items will be available for purchase at the convention center at the Metro Café (3rd level) and Terrace Café (4th level).

Monday, October 6	7:30 a.m. – 2:30 p.m.
Tuesday, October 7	7:30 a.m. – 12:00 noon
Wednesday, October 8	7:30 a.m. – 2:30 p.m.

New and Complimentary!

Conference Recordings Available to All Meeting Attendees

Miss a session or presentation? Recordings of presentations, with author approval, will be available to meeting attendees within three weeks of the meeting, FREE! Watch for emails after the meeting with more information on how to stay connected to the 2014 annual meeting and the outstanding science.

Open Meeting Room

A meeting room will be available for groups of 14 people or fewer at the Omni. Sign up at the Registration Desk located in the Prefunction Area, 3rd floor.

Photo Release

Photographs will be taken at the 2014 AACCI International Annual Meeting. By attending this meeting, you agree to allow AACCI's use of your photo in any AACCI publications or website.

AACCI Membership Now Includes Access to CFW Online

CFW Online gives members full access to every issue of *Cereal Foods World*. Have this cutting-edge journal at your fingertips wherever you go. And online access is included in your AACCI membership.* What a great member benefit!

View

AACCI Annual Meeting Sessions

Access

Scientific & Technical Resources

Publish

Your Work

cfw.aaccnet.org

Not a Member?
Join at the Registration Desk.

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Meeting Facilities Addresses

Rhode Island Convention Center

One Sabin Street
Providence, RI 02903
401.458.6000

Omni Providence

One West Exchange Street
Providence, RI 02903
401.598.8000

Marriott Courtyard

32 Exchange Terrace at Memorial Blvd.
Providence, RI 02903
401.272.1191

Biltmore

11 Dorrance Street
Providence, RI 02903
401.421.0700

Offsite Venues

Cincinnati Section Meeting and Dinner

Union Station Brewery
36 Exchange Terrace
Providence, RI 02903
401.274.2739
(walking distance from convention center)

Cereals&Europe Dinner

Union Station Brewery
36 Exchange Terrace
Providence, RI 02903
401.274.2739
(walking distance from convention center)

Student Division Social and Dinner

Rí Rá Irish Pub
50 Exchange Terrace
Providence, RI 02903
401.272.1953
(walking distance from convention center)

Carbohydrate Division Dinner

The Dorrance
60 Dorrance Street
Providence, RI 02903
401.521.6000
(walking distance from convention center)

Medical Emergencies

The nearest medical facilities are:

RI Hospital – Level 1 Trauma

593 Eddy Street
Providence, RI 02903
401.444.4000

The Miriam Hospital

164 Summit Avenue
Providence, RI 02906
401.793.2500

Roger Williams hospital

825 Chalkstone Avenue
Providence, RI 02908
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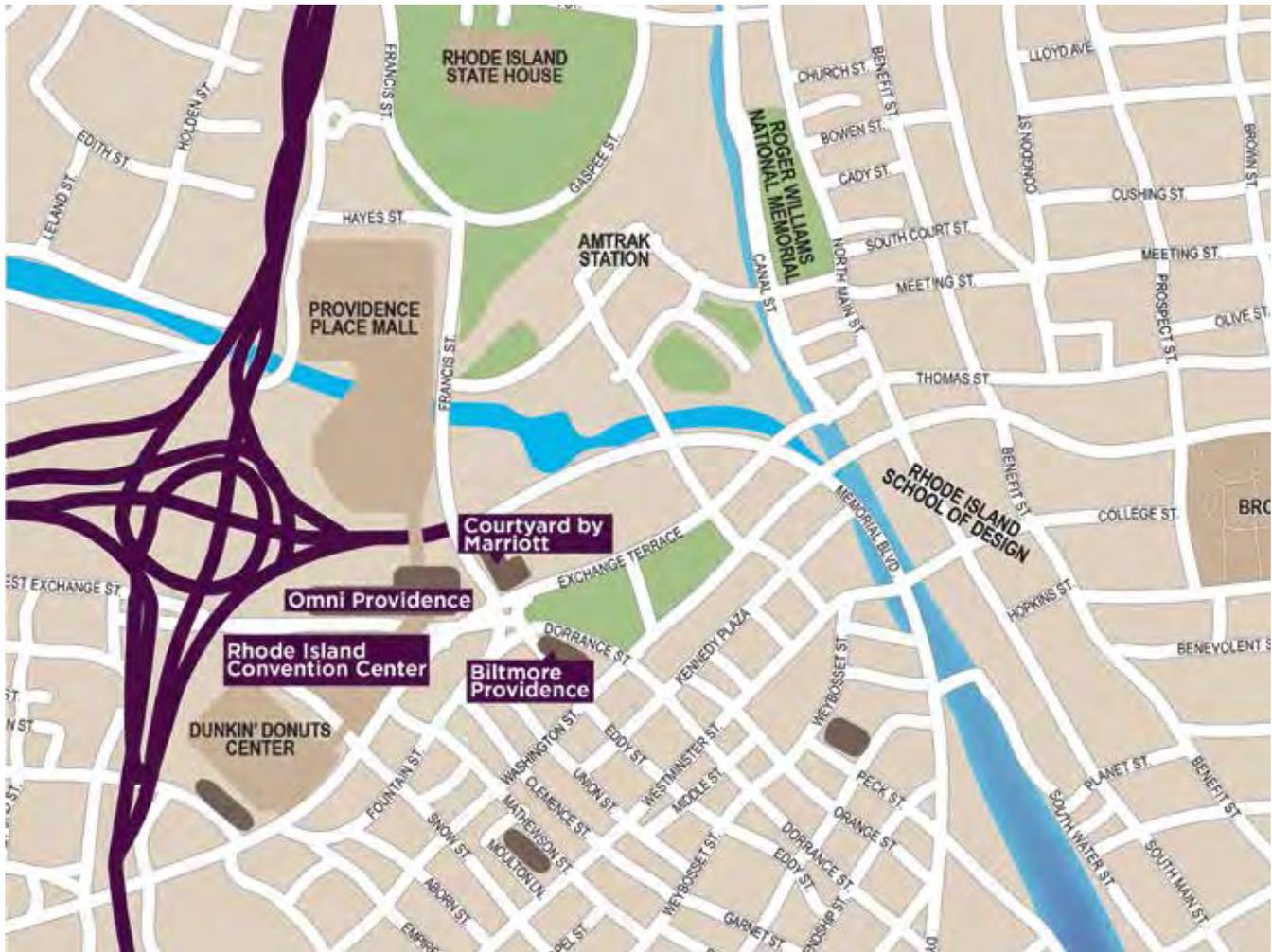
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800.446.9763



Invest in the Next Generation of Cereal Grain Scientists

Support the AACCI Foundation

Foundation activities invest in the future of our industry by providing scholarships, fellowships, and programming for students and early career professionals excelling in relevant curricula and working in our field of science.



Foundation

Stop by AACCI Central in the Exhibit Hall to make your donation to the AACCI Foundation and be entered into a drawing to win complimentary registration for the 2015 Centennial meeting.

Proceeds go to the AACCI Foundation.



Meeting Highlights

Premeeting Sessions

Sunday, October 5

Short Course: Chemometrics without Equations (or Hardly Any)
8:30 a.m. – 3:00 p.m.

Premeeting C-Cell Workshop: Development of a Bakery Quality Score through Image Analysis
12:30 – 3:30 p.m.

See page 26 for description and speakers.

Opening General Session Reception

Sunday, October 5

3:30 – 4:00 p.m.

Opening General Session and Awards Ceremony

4:00 – 5:00 p.m.

A beverage reception kicks off the opening for the 2014 Annual Meeting, followed by the Opening General Session! Get updates on what your association is doing to further the advancement of grain science, help honor AACCI members who have made significant contributions to the field of grain science, and see who will receive the William F. Geddes Memorial Award.

Grand Opening Exhibition

Sunday, October 5

5:00 – 7:00 p.m.

Network with colleagues and reconnect with friends while you visit with more than 100 of the industry's leading suppliers during this casual and festive event. Light appetizers and beverages will be served.

Student Product Development Competition Presentations

Monday, October 6

9:00 a.m. – 12:20 p.m. *Competition Presentations*

4:00 – 5:00 p.m. *Poster Presentations*

This competition highlights grain-based food product development skills and innovations from our up-and-coming scientists. Watch the finalists as they present their innovative ideas, and join them later on by their posters in the exhibit hall. See page 28 for full details. All attendees are invited to attend and encourage these new innovators!

Special Sessions

Baking Industry Focus Special Sessions:

Monday, October 6

8:30 a.m. – 12:20 p.m.

Baking Market Trends

Tuesday, October 7

8:00 a.m. – 12:20 p.m.

Regulatory Influences of Baking Performance

2:20 – 5:30 p.m.

Technology for the Baker in Response to Regulations and Market Trends

For a detailed list of presentations and speakers see page 33 of the program book.

Milling & Baking Division Lunch – Continue the discussion from Monday, 12:30–2:00 p.m. where Glenn Gaesser, Arizona State University, will be keynote speaker addressing the topic “Grains, Body Weight, and Health.” *Preregistration is required; this ticketed lunch is open to anyone.*

Conversations Matter

Monday, October 6

2:00 – 4:00 p.m.

Conversations Matter... on DON in Cereals – Keys to Successful Global Management

See page 30 for speakers.

Tuesday, October 7

2:30 – 4:30 p.m.

Conversations Matter... on Overcoming Barriers to Whole Grain Consumption

See page 34 for speakers.

Wednesday, October 8

2:00 – 4:00 p.m.

Conversations Matter... on the Use of GMOs to Improve Cereal Grains

See page 37 for speakers.

Hot Topics

Monday, October 6

2:00 – 4:00 p.m.

Carbohydrate Quality and Health Impact: The Good, the Bad and the Ugly!

See page 29 for speakers.

Wednesday, October 8

2:00 – 4:00 p.m.

FSMA/GFSI – Tools for the Trade

See page 36 for speakers.

Exhibits with Beer and Poster Viewing

Monday, October 6

4:00 – 7:00 p.m.

Student Poster Authors Present (4:00 – 5:00 p.m.)

Poster Authors Present (odd-numbered posters 5:00 – 6:00 p.m.)

Grab a beer, iced tea, or lemonade and visit with industry suppliers at their exhibits, talk with poster authors, and learn more about AACCI's innovations.

Best Student Research Paper Competition

Tuesday, October 7

8:30 – 11:00 a.m.

This competition challenges students to demonstrate superior presentation skills, highlights the best research conducted and presented by students, and offers an opportunity for students to interact with the AACCI community at an early stage in their career. This session will showcase the top six finalists. A detailed listing of presenters is included on page 31.

Lunch with the Exhibitors and Poster Viewing

Tuesday, October 7

12:00 – 2:15 p.m.

Grab a complimentary lunch and continue the networking and education as you meet with industry suppliers and talk with poster authors.

Speed Mentoring Social

Tuesday, October 7

4:30 – 5:30 p.m.

(Supported by the Professional Development Panel and the Education Division)

Quick exchanges with multiple contacts provide the chance to seek career and research guidance, hear about the experiences of others, potentially find a long-term mentor/protégé match, and make connections that could last a lifetime. Light appetizers and refreshments will be available. *Preregistration is required.*

Savoring Federal Hill – An Insider's Culinary Tour

Tuesday, October 7

9:00 a.m. – 12:00 p.m. and

Wednesday, October 8

9:00 a.m. – 12:00 p.m.

Professional chef and cookbook author Cindy Salvato offers the "Savoring Federal Hill" tour through various retailers to meet the chefs, bakers, and ravioli makers and gain tips on real Italian cooking. Participants will see the Old World bakeries and Italian specialty stores; sample delicious fresh bread, sweets, wine, and cheeses; watch ravioli makers and bakers create their delicacies; and get a behind-the-scenes visit into the kitchens of the Hill's top culinary destinations. *Fee and preregistration required.*

Closing General Session and AACCI Historical Happy Hour with Keynote Speaker Peter Shewry – "The Last 50 Years in Cereal Research: Achievements and Challenges"

Wednesday, October 8

4:15 – 6:00 p.m.

Join us for diamond daiquiris at this year's closing as we look at the advances in cereal research from 1965 to 2014 in preparation for AACCI International's centennial celebration in 2015 with a presentation by Peter Shewry, Distinguished Research Fellow, Rothamsted Research, United Kingdom and longtime AACCI member. This session will also include the following award presentations – Texture Technologies Quality Research Best Presentation Award for 2014, Best Student Research Paper Competition, and the Cecil F. Pinney Travel Award.



"The Last 50 Years in Cereal Research: Achievements and Challenges" – Peter Robert Shewry



Cereal researchers have benefitted from the same revolution in biology as other disciplines, driven by advances in technologies underpinning genomics and chemical analysis. These technologies have facilitated the generation of huge datasets that themselves pose challenges for interpretation and application. While they have had significant impacts in some aspects of cereal research, such as the application of molecular breeding and transgenesis to crop improvement, advances in other areas, notably aspects of crop quality, have been disappointing. Peter will focus on identifying both achievements over the past 50 years and challenges for the future. He will also acknowledge the legacy of the previous generation of cereal chemists, a number of whom he was fortunate to meet early in his own career.

Approved Methods Technical Committee Meetings

These meetings take place at the Omni Hotel.

Monday, October 6	Room
7:00 – 8:30 a.m.	
Asian Products	Washington
Bioactive Compounds Methods	Bristol
Molecular Biomarkers for Grain	Kent
Oat and Barley Products	South County
Physical Testing Methods	Blackstone
Pulse and Legume	Newport
Vitamins, Minerals, and Lipids	Executive Board Room

Tuesday, October 7	Room
7:00 – 8:30 a.m.	
Bread Baking Methods	Newport
Chemical Leavening Agents	Bristol
Food Safety and Microbiology	South County
Protein and Enzyme Methods	Blackstone
Rice Milling and Quality	Washington
Spectroscopic Methods	Kent
Yeast Evaluation	Executive Board Room

Wednesday, October 8	Room
7:00 – 8:30 a.m.	
Dietary Fiber and Other	
Carbohydrates	Kent
Experimental Milling	Washington
Methods for Grain and Flour	
Testing	South County
Pasta Products Analysis	Newport
Soft Wheat and Flour Products	Bristol
Statistical Advisory	Blackstone

2014 AACCI Awardee Presentations

Phil Williams Applied Research Lecture Award Current Issues in Milling Session

Monday, October 6
10:40 a.m. • 552 AB, CC

“Applying material state properties to optimize rice drying,” presented by Terry Siebenmorgen, University of Arkansas, Fayetteville, AR, U.S.A.

Carl Wilhelm Brabender Award Rheological and Spectroscopic Methods

Tuesday, October 7
10:40 a.m. • 556 AB, CC

“Influence of viscoelasticity of wheat kernels, doughs on flour yield and bread volume evaluated by stress relaxation and creep-recovery tests,” presented by Juan de Dios Figueroa Cárdenas, CINVESTAV Unidad Queretaro, Queretaro, Qro, Mexico

Young Scientist Research Award Gut Microbiota, the New Frontier—The Role of Cereal Grains and Fiber

Wednesday, October 8
10:40 a.m. • 552 AB, CC

“Cereal grains: Impact on gut microbiota and health,” presented by Devin Rose, University of Nebraska, Lincoln, NE, U.S.A.

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Locations and Hours

AACCI Central Bookstore, East Area, 5th Floor
 Monday 9:00 a.m. – 3:00 p.m.
 Tuesday 9:00 – 11:00 a.m.
 Wednesday 9:00 – 11:00 a.m.

And visit our NEW AACCI Central
'Demonstration Station' in the Exhibit Hall!
 Sunday 5:00 – 7:00 p.m.
 Monday 4:00 – 7:00 p.m.
 Tuesday 12:00 p.m. – 2:15 p.m.



Divisions, Sections, Alumni Meetings, and Events

Network with attendees who specialize in specific subject areas, work in various geographic locations, or are fellow alumni by participating in these meetings, events, and socials. Check at the Registration Desk for availability and to purchase tickets. *Preregistration is required.* For events not taking place at the Omni or the Rhode Island Convention Center (CC), see page 11 for location addresses.

Saturday, October 4

4:00 – 6:00 p.m.	Milling & Baking Division Executive Committee and Advisory Board Meeting	Room Newport, Omni
6:30 – 9:00 p.m.	Cincinnati Section Meeting and Dinner†	Offsite, Union Station Brewery

Sunday, October 5

5:00 – 6:00 p.m.	Student Division Executive Committee and University Representative Meeting	Exec. Board Room, Omni
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Monday, October 6

12:30 – 2:00 p.m.	Engineering & Processing Division Meeting and Lunch*	550 A, CC
12:30 – 2:00 p.m.	Milling & Baking Division Meeting and Networking Lunch*	Grand Ballroom B, CC
12:30 – 2:00 p.m.	Nutrition Division Meeting and Lunch*	550 B, CC
12:30 – 2:00 p.m.	Rice Division Lunch*	Bristol, Omni
2:30 – 4:00 p.m.	Student Division Business Meeting	South County, Omni
5:30 – 6:00 p.m.	Carbohydrate Division Executive Committee Meeting	Grand Ballroom E, CC
6:00 – 7:00 p.m.	Carbohydrate Division Meeting	Grand Ballroom B, CC
7:00 – 9:30 p.m.	Cereals&Europe Section Dinner*†	Offsite, Union Station Brewery
7:00 – 10:00 p.m.	Student Division Social and Dinner*†	Offsite, Rí Rá Irish Pub

Tuesday, October 7

4:30 – 5:30 p.m.	Biotechnology Division Business Meeting	Washington, Omni
4:30 – 5:30 p.m.	Protein Division Business Meeting	Blackstone, Omni
5:30 – 6:30 p.m.	Protein and Biotechnology Division Joint Social*	Bristol, Omni
6:00 – 9:00 p.m.	Carbohydrate Division Dinner*†	Offsite, The Dorrance

Wednesday, October 8

7:00 – 8:15 a.m.	Kansas State University Breakfast*	Grand Ballroom B, CC
7:00 – 8:30 a.m.	North Dakota State University Alumni and Friends Breakfast*	Grand Ballroom E, CC
12:30 – 1:30 p.m.	Rheology Division Meeting and Lunch*	550 B, CC

* Preregistration – ticket required • † offsite location

AACCI Members Are Great!

*You fortify our association and make it strong!
Thank you for your continued support.*

Stop by AACCI Central in the Exhibit Hall

Find out how you can help support the future of the association, and learn about the last 100 years of cereal grain science.



Get a Free Pair of AACCI Headphones

Share your association—let a colleague know why they should be a member of AACCI, and receive a free pair of AACCI headphones. Help grow the AACCI community today!

Sunday
5:00 – 7:00 p.m.

Monday
9:00 a.m. – 3:00 p.m.

Tuesday
9:00 – 11:00 a.m.

Scientific Sessions-at-a-Glance

Sessions are held in the Rhode Island Convention Center (CC).

Sunday, October 5			
8:30 a.m. – 3:00 p.m.	Pre-Meeting Short Course: Chemometrics without Equations (or Hardly Any) • Washington, Omni		
12:30 – 3:30 p.m.	Pre-Meeting C-Cell Workshop: Development of a Bakery Quality Score through Image Analysis • Kent, Omni		
3:30 – 5:00 p.m.	Opening General Session and Awards Ceremony (3:30 p.m. Reception, 4:00 p.m. General Session) • Narragansett Ballroom, Omni		
5:00 – 7:00 p.m.	Grand Opening Exhibition & Reception • Hall BC, CC		
Monday, October 6			
7:00 – 8:30 a.m.	Approved Methods Technical Committee Meetings • See page 16 in the Program Book for listing.		
8:30 a.m. – 12:20 p.m.	Milling and Baking Focus Session: Baking Market Trends • Grand Ballroom D, CC		
8:30 – 10:10 a.m.	Symposium: Cereal Foods: Opportunities in the Oriental World • <i>Engineering & Processing; Health & Nutrition; Ingredients & Innovations</i> • 551AB, CC	Technical: Modification of Cereal Ingredients • <i>Chemistry & Interactions</i> • 555AB, CC	
9:00 a.m. – 12:20 p.m.	Student Product Development Competition • 553AB, CC		
9:00 a.m. – 12:10 p.m.	Supplier Innovation Session I • Grand Ballroom C, CC		
10:40 a.m. – 12:20 p.m.	Technical: Current Issues in Milling • <i>Engineering & Processing</i> • 552AB, CC	Symposium: Protein-Starch Interactions and their Importance in End-Product Quality • <i>Chemistry & Interactions; Engineering & Processing; Ingredients & Innovations; Quality & Analytical Methods</i> • 551AB, CC	
12:20 – 2:00 p.m.	Poster Viewing and Lunch on Your Own • Division Lunches		
2:00 – 3:50 p.m.	Supplier Innovation Session II • Grand Ballroom C, CC		
2:00 – 4:00 p.m.	Science Café: Accurate Gluten Quantitation in Foods and Beverages – A Mission Impossible? • 552AB, CC	Hot Topic: Carbohydrate Quality and Health Impact: The Good, the Bad and the Ugly! • 551AB, CC	
4:00 – 7:00 p.m.	Beer and Poster Viewing (student poster authors only present from 4:00 – 5:00 p.m.; odd-numbered poster authors only present 5:00 – 6:00 p.m.) • Hall BC, CC		
Open Evening	Division and Section Socials and Dinners		
Tuesday, October 7			
7:00 – 8:30 a.m.	Approved Methods Technical Committee Meetings • See page 16 in the Program Book for listing.		
8:00 a.m. – 12:20 p.m.	Milling and Baking Focus Session: Baking Industry Focus Sessions: Regulatory Influences of Baking Performance • Grand Ballroom D, CC		
8:30 – 10:10 a.m.	Symposium: A Fresh Look at Yeast Functionality in Leavened Cereal Dough Systems • <i>Chemistry & Interactions; Engineering & Processing; Quality & Analytical Methods</i> • 551AB, CC	Best Student Research Paper Competition • <i>All Initiatives</i> • 554AB, CC (ends at 11:00 a.m.)	Technical: Biopolymer Structure • <i>Chemistry & Interactions</i> • 555AB, CC
9:00 – 10:50 a.m.	Supplier Innovation Session III • Grand Ballroom C, CC		
10:40 a.m. – 12:20 p.m.	Technical: Digestive Properties of Starch • <i>Health & Nutrition</i> • 555AB, CC	Symposium: Emerging Genetic Methods in Cereal Grain Quality Improvement • <i>Biotechnology & Sustainability</i> • 552AB, CC	
12:00 – 2:15 p.m.	Light Lunch with the Exhibitors • Hall BC, CC Poster Viewing (even-numbered poster authors present 1:00 – 2:00 p.m.)		
2:20 – 5:30 p.m.	Milling and Baking Focus Session: Technology for the Baker in Response to Regulations & Market Trends • Grand Ballroom D, CC		
2:30 – 4:30 p.m.	Conversations Matter ...on Overcoming Barriers to Whole Grain Consumption • 554AB, CC	Science Café: Perennial Grasses: Can they Replace Annual Grains in the Future? • 552AB, CC	
Open Evening	Division Socials and Dinners		
Wednesday, October 8			
7:00 – 8:30 a.m.	Approved Methods Technical Committee Meetings • See page 16 in the Program Book for listing.		
8:30 – 10:10 a.m.	Symposium: Enzymes in Cereal-Based Food Products • <i>Chemistry & Interactions; Ingredients & Innovations</i> • 552AB, CC	Technical: Extrusion Technology for Cereal Products • <i>Engineering & Processing</i> • 556AB, CC	
10:40 a.m. – 12:20 p.m.	Technical: Effects of Ingredients and Additives on Cereal Product Quality • <i>Ingredients & Innovations</i> • 555AB, CC	Symposium: Gut Microbiota, the New Frontier –The Role of Cereal Grains and Fiber • <i>Health & Nutrition</i> • 552AB, CC	
12:30 – 2:00 p.m.	Lunch on Your Own • ICC Lunch • Division Lunches		
2:30 – 4:30 p.m.	Hot Topic: FSMA/GFSI – Tools for the Trade • 551AB, CC	Science Café: Shelf Life – Navigating the Meaning and Measurement of Shelf Life in Grain Ingredients and Foods • 552AB, CC	
4:15 – 6:00 p.m.	Closing Session • Narragansett Ballroom, Omni		

Daily Meeting Schedule and Sessions

All meetings take place at the Omni and the Rhode Island Convention Center (CC).

FRIDAY, OCTOBER 3

3:00 – 5:00 p.m.	Finance Committee Meeting	Exec. Board Room, Omni
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SATURDAY, OCTOBER 4

8:00 a.m. – 5:00 p.m.	Board of Directors' Meeting	Bristol, Omni
4:00 – 6:00 p.m.	Milling & Baking Division Executive Committee and Advisory Board Meeting	Newport, Omni
6:30 – 9:00 p.m.	Cincinnati Section Meeting and Dinner†	Offsite, Union Station Brewery

SUNDAY, OCTOBER 5

8:00 – 10:00 a.m.	Check Sample Committee Meeting	Bristol, Omni
8:00 a.m. – 2:00 p.m.	Exhibitor Set-Up and Registration	Hall BC, CC
8:30 a.m. – 3:00 p.m.	Short Course: Chemometrics without Equations (or Hardly Any)*	Washington, Omni
9:00 – 10:30 a.m.	Books Committee Meeting	Exec. Board Room, Omni
10:00 a.m. – 12:00 p.m.	2014/2015 Technical Program Planning – Team Leaders Meeting	Newport, Omni
10:00 a.m. – 3:30 p.m.	Tour: Newport, Rhode Island – City by the Sea*†	Offsite
11:00 a.m. – 12:30 p.m.	<i>Cereal Chemistry</i> Editorial Board Luncheon	South County, Omni
12:00 – 7:00 p.m.	Registration Open	Prefunction Area, 3rd Floor, CC
12:30 – 2:00 p.m.	Leadership Forum, <i>by invitation</i>	Waterplace Ballroom I, Omni
12:30 – 3:30 p.m.	Premeeting C-Cell Workshop: Development of Bakery Quality Score through Image Analysis	Kent, Omni
1:00 – 6:00 p.m.	Room Available for Small Meetings	Exec. Board Room, Omni
1:30 – 3:00 p.m.	ICC General Assembly	554 AB, CC
2:00 – 3:30 p.m.	Approved Methods Technical Committee Chairs Meeting	South County, Omni
2:00 – 7:00 p.m.	Speaker Ready Room	558 A, CC
3:30 – 4:00 p.m.	Opening General Session Reception	Narragansett Ballroom, Omni
4:00 – 5:00 p.m.	Opening General Session and Awards Ceremony	Narragansett Ballroom, Omni
5:00 – 6:00 p.m.	Student Division Executive Committee and University Representative Meeting	Exec. Board Room, Omni
5:00 – 7:00 p.m.	AACCI Central Demonstration Station Open	Hall BC, CC
5:00 – 7:00 p.m.	Grand Opening Exhibition	Hall BC, CC

MONDAY, OCTOBER 6

7:00 – 8:30 a.m.	Approved Methods Technical Committee Meetings	
	<ul style="list-style-type: none"> • Asian Products • Bioactive Compounds Methods • Molecular Biomarkers for Grain • Oat and Barley Products • Physical Testing Methods • Pulse and Legume • Vitamins, Minerals, and Lipids 	<ul style="list-style-type: none"> Washington, Omni Bristol, Omni Kent, Omni South County, Omni Blackstone, Omni Newport, Omni Exec. Board Room, Omni
7:00 – 8:30 a.m.	Whole Grains Working Group	Ballroom E, CC
7:00 – 10:00 a.m.	Poster Set-Up by Authors	Hall BC, CC
7:00 a.m. – 5:00 p.m.	Room Available for Small Meetings	Exec. Board Room, Omni
7:00 a.m. – 5:30 p.m.	Speaker Ready Room	558 A, CC
7:30 a.m. – 6:30 p.m.	Registration Open	Prefunction Area, 3rd Floor, CC
8:30 a.m. – 12:20 p.m.	Milling and Baking Focus Session: Baking Market Trends	Ballroom D, CC
8:30 – 10:10 a.m.	Scientific Sessions (descriptions pp. 26 – 27)	
	<ul style="list-style-type: none"> • Cereal Foods: Opportunities in the Oriental World – Symposium (<i>Scientific Initiatives: Engineering & Processing; Health & Nutrition; Ingredients & Innovations</i>) • Modification of Cereal Ingredients – Technical (<i>Scientific Initiative: Chemistry & Interactions</i>) • Noninvasive Sensor Techniques – Symposium (<i>Scientific Initiatives: Engineering & Processing; Quality & Analytical Methods</i>) 	<ul style="list-style-type: none"> 551 AB, CC 555 AB, CC 552 AB, CC

9:00 a.m. – 12:10 p.m.	Supplier Innovation Session I (descriptions p. 27) <ul style="list-style-type: none"> • Best Cooking Pulses, Inc. (9:00 – 9:30 a.m.) • FOSS A/S (9:40 – 10:10 a.m.) • DSM Nutritional Products (10:20 – 10:50 a.m.) • Lallemand Baking Solutions (11:00 – 11:30 a.m.) • Kudos Blends (11:40 a.m. – 12:10 p.m.) 	Grand Ballroom C, CC
9:00 a.m. – 12:20 p.m.	Student Product Development Competition Presentations	553 AB, CC
9:00 a.m. – 3:00 p.m.	AACCI Central Bookstore Open	East Area, 5th Floor, CC
10:00 a.m. – 7:00 p.m.	Poster Viewing	Hall BC, CC
10:40 a.m. – 12:20 p.m.	Scientific Sessions (descriptions pp. 28 – 29) <ul style="list-style-type: none"> • Current Issues in Milling – <i>includes Phil Williams Applied Research Award, Terry Siebenmorgen</i> – Technical (Scientific Initiative: Engineering & Processing) • Protein-Starch Interactions and Their Importance in End-Product Quality – Symposium (Scientific Initiatives: Chemistry & Interactions; Engineering & Processing; Ingredients & Innovations; Quality & Analytical Methods) • Structure and Functionality of Dietary Fiber – Technical (Scientific Initiative: Ingredients & Innovations) 	552 AB, CC
12:20 – 2:00 p.m.	Lunch Break (<i>cash concessions available</i>)	
12:30 – 2:00 p.m.	Engineering & Processing Division Meeting and Lunch*	550 A, CC
12:30 – 2:00 p.m.	Milling & Baking Division Meeting and Networking Lunch with featured speaker Glenn Gaesser – Grains, Body Weight and Health*	Grand Ballroom B, CC
12:30 – 2:00 p.m.	Nutrition Division Meeting and Lunch*	550 B, CC
12:30 – 2:00 p.m.	Rice Division Lunch*	Bristol, Omni
2:00 – 3:50 p.m.	Supplier Innovation Session II <ul style="list-style-type: none"> • Innophos Inc. (2:00 – 2:30 p.m.) • DSM Food Specialties (2:40 – 3:10 p.m.) • CHOPIN Technologies Inc. (3:20 – 3:50 p.m.) 	Grand Ballroom C, CC
2:00 – 4:00 p.m.	Hot Topic: Carbohydrate Quality and Health Impact: The Good, the Bad, and the Ugly!	551 AB, CC
2:00 – 4:00 p.m.	Scientific Sessions (descriptions pp. 29 – 30) <ul style="list-style-type: none"> • Accurate Gluten Quantitation in Foods and Beverages – A Mission Impossible? – Science Café • Conversations Matter... on DON in Cereals – Keys to Successful Global Management • Starch Bioengineering, Structure and Function – Science Café 	552 AB, CC
2:30 – 4:00 p.m.	2015 Centennial Planning Meeting, <i>by invitation</i>	554 AB, CC
2:30 – 4:00 p.m.	Student Division Business Meeting	555 AB, CC
2:30 – 4:30 p.m.	Food Safety System Task Force Meeting	Newport, Omni
4:00 – 7:00 p.m.	AACCI Central Demonstration Station Open	South County, Omni
4:00 – 7:00 p.m.	Beer and Poster Viewing	Washington, Omni
	<i>Student Poster Authors Present (4:00 – 5:00 p.m.)</i>	Hall BC, CC
	<i>Poster Authors Present (odd-numbered posters 5:00 – 6:00 p.m.)</i>	Hall BC, CC
4:00 – 7:00 p.m.	Exhibition Open	Hall BC, CC
5:30 – 6:00 p.m.	Carbohydrate Division Executive Committee Meeting	Grand Ballroom E, CC
6:00 – 7:00 p.m.	Carbohydrate Division Meeting	Grand Ballroom B, CC
7:00 – 9:30 p.m.	Cereals&Europe Section Dinner*†	Offsite, Union Station Brewery
7:00 – 10:00 p.m.	Student Division Social and Dinner*†	Offsite, Rí Rá Irish Pub

TUESDAY, OCTOBER 7

7:00 – 8:00 a.m.	Education Division Meeting*	550 B, CC
7:00 – 8:00 a.m.	Grains for Health Foundation Breakfast Meeting*	553 A, CC
7:00 – 8:00 a.m.	Past Presidents' Breakfast	Grand Ballroom E, CC
7:00 – 8:30 a.m.	Approved Methods Technical Committee Meetings <ul style="list-style-type: none"> • Bread Baking Methods • Chemical Leavening Agents • Food Safety and Microbiology • Protein and Enzyme Methods • Rice Milling and Quality • Spectroscopic Methods • Yeast Evaluation 	Newport, Omni Bristol, Omni South County, Omni Blackstone, Omni Washington, Omni Kent, Omni Exec. Board Room, Omni

*ticket required • † offsite event

Daily Meeting Schedule and Sessions (*Tuesday continued*)

7:00 a.m. – 5:00 p.m.	Room Available for Small Meetings	Exec. Board Room, Omni
7:00 a.m. – 5:30 p.m.	Speaker Ready Room	558 A, CC
7:30 a.m. – 5:00 p.m.	Registration Open	Prefunction Area, 3rd Floor, CC
8:00 a.m. – 12:20 p.m.	Milling and Baking Focus Session: Regulatory Influences of Baking Performance	Grand Ballroom D, CC
8:00 a.m. – 2:30 p.m.	Poster Viewing	Hall BC, CC
8:30 – 10:10 a.m.	Scientific Sessions (descriptions pp. 30 – 31)	551 AB, CC
	• A Fresh Look at Yeast Functionality in Leavened Cereal Dough Systems – Symposium (<i>Scientific Initiatives: Chemistry & Interactions; Engineering & Processing; Quality & Analytical Methods</i>)	
	• Biopolymer Structure – Technical (<i>Scientific Initiative: Chemistry & Interactions</i>)	555 AB, CC
	• Current and Future Potentials of Sprouted Grains as Healthy Ingredients – Symposium (<i>Scientific Initiatives: Health & Nutrition; Ingredients & Innovations</i>)	552 AB, CC
	• Methods for Seed Quality Assessment – includes <i>Walter Bushuk Award, Silvia Thanhäuser</i> – Technical (<i>Scientific Initiative: Quality & Analytical Methods</i>)	556 AB, CC
8:30 – 11:00 a.m.	Best Student Research Paper Competition	554 AB, CC
9:00 – 10:50 a.m.	Supplier Innovation Session III (descriptions p. 32)	Grand Ballroom C, CC
	• Bepex International (9:00 – 9:30 a.m.)	
	• Qalysense (9:40 – 10:10 a.m.)	
	• Almond Board of California (10:20 – 10:50 a.m.)	
9:00 – 11:00 a.m.	AACCI Central Bookstore Open	East Area, 5th Floor, CC
9:00 a.m. – 12:00 p.m.	Tour: Savoring Federal Hill – An Insider’s Culinary Tour *† (<i>Preregistration required. Meet at 8:45 a.m. at the Registration Desk – Prefunction area, 3rd floor</i>)	Offsite
10:40 a.m. – 12:20 p.m.	Scientific Sessions (descriptions pp. 32 – 33)	
	• Digestive Properties of Starch – Technical (<i>Scientific Initiative: Health & Nutrition</i>)	555 AB, CC
	• Emerging Genetic Methods in Cereal Grain Quality Improvement – Symposium (<i>Scientific Initiative: Biotechnology & Sustainability</i>)	552 AB, CC
	• Rheological and Spectroscopic Methods – includes <i>C.W. Brabender Award, Juan de Dios Figueroa Cárdenas</i> – Technical (<i>Scientific Initiative: Quality & Analytical Methods</i>)	556 AB, CC
	• Solutions with Pulse Ingredients in Product Development Applications – Symposium (<i>Scientific Initiatives: Engineering & Processing; Health & Nutrition; Ingredients & Innovations; Quality & Analytical Methods</i>)	551 AB, CC
12:00 – 2:15 p.m.	AACCI Central Demonstration Station Open	Hall BC, CC
12:00 – 2:15 p.m.	Lunch with the Exhibitors and Poster Viewing <i>Poster Authors Present (even-numbered posters 1:00 – 2:00 p.m.)</i>	Hall BC, CC
1:00 – 2:00 p.m.	Professional Development Panel Meeting	Grand Ballroom E, CC
2:20 – 5:30 p.m.	Milling and Baking Focus Session: Technology for the Baker in Response to Regulations and Market Trends	Grand Ballroom D, CC
2:30 – 4:00 p.m.	Exhibit and Poster Take-Down	Hall BC, CC
2:30 – 4:30 p.m.	Scientific Sessions (descriptions p. 34)	
	• Conversations Matter... on Overcoming Barriers to Whole Grain Consumption	554 AB, CC
	• Perennial Grasses: Can They Replace Annual Grains in the Future? – Science Café	552 AB, CC
	• Statistics Supporting Food Safety and Additional AACCI Initiatives – Science Café	551 AB, CC
3:30 – 5:00 p.m.	China Strategies Task Force Meeting	Grand Ballroom E, CC
4:30 – 5:30 p.m.	2015 Technical Program Planning Meeting	550 B, CC
4:30 – 5:30 p.m.	Biotechnology Division Business Meeting	Washington, Omni
4:30 – 5:30 p.m.	Protein Division Business Meeting	Blackstone, Omni
4:30 – 5:30 p.m.	Speed Mentoring Social*	South County, Omni
5:30 – 6:30 p.m.	Protein and Biotechnology Division Joint Social*	Bristol, Omni
6:00 – 9:00 p.m.	Carbohydrate Division Dinner*†	Offsite – The Dorrance

WEDNESDAY, OCTOBER 8

7:00 – 8:15 a.m.	Kansas State University Breakfast*	Grand Ballroom B, CC
7:00 – 8:30 a.m.	Approved Methods Technical Committee Meetings	
	<ul style="list-style-type: none"> • Dietary Fiber and Other Carbohydrates • Experimental Milling • Methods for Grain and Flour Testing • Pasta Products Analysis • Soft Wheat and Flour Products • Statistical Advisory 	Kent, Omni Washington, Omni South County, Omni Newport, Omni Bristol, Omni Blackstone, Omni
7:00 – 8:30 a.m.	North Dakota State University Alumni Breakfast*	Grand Ballroom E, CC
7:00 – 8:30 a.m.	Scientific Advisory Panel	Grand Ballroom C, CC
7:00 a.m. – 12:00 p.m.	Speaker Ready Room	558 A, CC
7:00 a.m. – 5:00 p.m.	Room Available for Small Meetings	Exec. Board Room, Omni
7:30 a.m. – 2:30 p.m.	Registration Open	Prefunction Area, 3rd Floor, CC
8:30 – 10:10 a.m.	Scientific Sessions (descriptions pp. 34 – 35)	
	<ul style="list-style-type: none"> • Enzymes in Cereal-Based Food Products – Symposium <i>(Scientific Initiatives: Chemistry & Interactions; Ingredients & Innovations)</i> • Extrusion Technology for Cereal Products – Technical <i>(Scientific Initiative: Engineering & Processing)</i> • Reformulating Cereal Foods for Special Purposes – Technical <i>(Scientific Initiative: Ingredients & Innovations)</i> • The Use of New Technologies in the Determination and Enhancement of Rice Grain Quality – Symposium <i>(Scientific Initiatives: Engineering & Processing; Quality & Analytical Methods)</i> 	552 AB, CC 556 AB, CC 555 AB, CC 551 AB, CC
9:00 – 11:00 a.m.	AACCI Central Bookstore Open	East Area, 5th Floor, CC
9:00 – 11:00 a.m.	Foundation Board Meeting	Grand Ballroom C, CC
9:00 a.m. – 12:00 p.m.	Tour: Savoring Federal Hill – An Insider’s Culinary Tour *† <i>(Preregistration required. Meet at 8:45 a.m. at the Registration Desk – Prefunction area, 3rd floor)</i>	Offsite
10:00 – 11:00 a.m.	Nominating Committee Meeting	Grand Ballroom E, CC
10:40 a.m. – 12:20 p.m.	Scientific Sessions (descriptions pp. 35 – 36)	
	<ul style="list-style-type: none"> • Effects of Ingredients and Additives on Cereal Product Quality – Technical <i>(Scientific Initiative: Ingredients & Innovations)</i> • Gut Microbiota, the New Frontier – The Role of Cereal Grains and Fiber – <i>includes Young Scientist Research Award, Devin Rose</i> – Symposium <i>(Scientific Initiative: Health & Nutrition)</i> • Phenolic Compounds: Interactions and Health Effects – Technical <i>(Scientific Initiative: Chemistry & Interactions)</i> • Quest for World’s Protein Needs – Cereal & Legume Proteins: Chemistry and Food Applications – Symposium <i>(Scientific Initiatives: Biotechnology & Sustainability; Ingredients & Innovations)</i> 	555 AB, CC 552 AB, CC 556 AB, CC 551 AB, CC
12:30 – 1:30 p.m.	Rheology Division Meeting and Lunch*	550 B, CC
12:30 – 2:00 p.m.	ICC Luncheon*	553 A, CC
12:30 – 2:00 p.m.	Lunch Break <i>(cash concessions available)</i>	
12:30 – 3:30 p.m.	Approved Methods Technical Committee Chairs Meeting and Lunch	South County, Omni
2:00 – 4:00 p.m.	Hot Topic: FSMA/GFSI – Tools for the Trade	551 AB, CC
2:00 – 4:00 p.m.	Scientific Sessions (descriptions p. 37)	
	<ul style="list-style-type: none"> • Conversations Matter... on the Use of GMOs to Improve Cereal Grains • Shelf Life – Navigating the Meaning and Measurement of Shelf Life in Grain Ingredients and Foods – Science Café 	554 AB, CC 552 AB, CC

*ticket required • † offsite event

continued

WEDNESDAY, OCTOBER 2 (*continued*)

4:15 – 6:00 p.m.

Closing General Session and AACCI Historical Happy Hour with Keynote Speaker Peter Shewry – “The Last 50 Years in Cereal Research: Achievements and Challenges”
Join us for diamond daiquiris as we take a look at the advances in cereal research from 1965 to 2014 in preparation for AACCI’s centennial celebration in 2015. This session will also include the following award announcements – Texture Technologies Quality Research Presentation Award for 2014, Best Student Research Paper Competition, and the Cecil F. Pinney Travel Award.

Narragansett Ballroom, Omni

Visit CENTENNIAL

2015 marks the 100-year anniversary of AACCI. Follow the signs to Centennial Corner and take part in the celebration!

- **Watch the food trends video** and share your own thoughts for the future
- **View the presentation of AACCI Highlights: 1966–2014**
- **Pick up a reprint of the *Cereal Foods World* articles** on carbohydrates and rheology, complete with historic timelines
- **Get details on the 2015 Centennial Meeting** in Minneapolis, Minnesota, October 18-21, 2015
- **Pick up a badge ribbon** to show your commitment to attending the Centennial meeting and contributing to the next 100 years!

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Scientific Sessions

All meetings take place at the Omni Hotel or the Rhode Island Convention Center (CC).

SUNDAY, OCTOBER 5

Premeeting Short Course: **Chemometrics without Equations (or Hardly Any)**

8:30 a.m. – 3:00 p.m. • Washington, Omni Hotel

Organizer: Neal B. Gallagher, Eigenvector Research, Inc., Wenatchee, WA, U.S.A.

The target audience for this workshop are those getting started in chemometrics and want a solid introduction to the fundamentals, and managers that are interested in having a better understanding of the problems faced in multivariate measurements and techniques and possibilities available for their applications. This introductory course concentrates on two areas of chemometrics: (1) exploratory data analysis and pattern recognition and (2) regression. Participants learn to apply techniques such as Principal Component Analysis (PCA), SIMCA, Principal Component Regression (PCR) and Partial Least Squares regression (PLS). The most commonly used methods of outlier detection and data pretreatment with also be illustrated. An emphasis will be put on understanding the chemometric process without having to learn matrix algebra.

Premeeting C-Cell Workshop: **Development of a Bakery Quality Score through Image Analysis**

12:30 – 3:30 p.m. • Kent, Omni Hotel

Organizer: Steven Pike, Calibre Control International Ltd, United Kingdom

Explore the development of bakery product scoring systems utilizing key parameters measured by C-Cell.

MONDAY, OCTOBER 6

8:30 a.m. – 12:20 p.m.

Milling and Baking Focus Session: Baking Market Trends

Special Session • Grand Ballroom D, CC

Organizers and Moderators: Jennifer Robinson, Bay State Milling Company, Minneapolis, MN, U.S.A.; Barbara Heidolph, Inno-phos, Inc., Cranbury Township, NJ, U.S.A.; Susan Kay, Bay State Milling Company, Quincy, MA, U.S.A.; Kevin Richter, Horizon Milling, Minnetonka, MN, U.S.A.

Sponsor: Milling & Baking Division

8:30 a.m.

Session Introduction – Jennifer Robinson

8:35 a.m. • 1-S

Global strategies for baked goods. S. SEIBOLD (1). (1) General Mills, Minneapolis, MN, U.S.A.

9:05 a.m. (no abstract submitted)

Food service market trends: Pizza. M.Finnerty, Pizza Hut Inc., Plano, TX, B.King, Yum Brands Inc. Dallas, TX U.S.A.

9:35 a.m. • 2-S

Bakery trends through the eye of Panera...T. GUMPEL (1). (1) Panera Bread, Sarasota, FL, U.S.A.

10:05 a.m. (no abstract submitted)

Bakery sustainability 2014 – How are we doing? K. TROLEVSKY, Consultand, Burien, WA U.S.A.

10:35 a.m.

Break

10:50 a.m. • 3-S

Sprouting Enhances Bread Baking Performance. K. RICHTER (1), K. Richter (1), K. Christiansen (2), G. Guo (1). (1) Horizon Milling, Minnetonka, MN, U.S.A.; (2) Cargill Malt, Spiritwood, ND, U.S.A.

11:20 a.m. • 4-S

Soft durum—A new bakery ingredient. C.F. MORRIS (1), J. Casper (2), M.C. Simeone (3), D. Lafiandra (3), E. Fuerst (4), J. Murray (4), J.A. Engleson (5), K. Ammar (6), E. Elias (7). (1) USDA-ARS Western Wheat Quality Lab, Pullman, WA, U.S.A.; (2) Cargill Bakery Technology, Plymouth, MN, U.S.A.; (3) University of Tuscia, Viterbo, Italy; (4) Washington State University, Pullman, WA, U.S.A.; (5) Southern Methodist University, Dallas, TX, U.S.A.; (6) CIMMYT, El Batán, Mexico; (7) North Dakota State University, Fargo, ND, U.S.A.

11:50 a.m. • 5-S

Oatmeal & Satiety - Quaker Oats Center of Excellence/Pepsi-Co.Y. CHU (1), M. O'Shea (2), Y. Shi (2). (1) Quaker Oats Center of Excellence, PepsiCo Nutrition, Barrington, IL, U.S.A.; (2) PepsiCo Nutrition, Barrington, IL, U.S.A.

11:50 a.m. • 6-S

Withdrawn

12:20 p.m.

Wrap Up – Panel Discussion

Sessions – Monday Morning (8:30 – 10:10 a.m.)

(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Find complete details on the meeting website at www.aaccnet.org/meetings/annual/program/pages

Cereal Foods: Opportunities in the Oriental World •

Symposium • 551 AB, CC

Scientific Initiatives: Engineering & Processing; Health & Nutrition; Ingredients & Innovations

Organizers: Weining Huang, Jiangnan University, Wuxi, China; Jessy Feng Wang, MagiBake International, Inc., Wuxi, China

Moderators: Bob Cracknell, AACC Int. China Strategies Task Force, Australia, Harold Corke, University of Hong Kong, Hong Kong, China; Weining Huang, Jiangnan University, Wuxi, China

Sponsor: China Strategies Task Force

8:30 a.m. • 8-S

New approaches to measurement of texture in starch-based foods. H. CORKE (1). (1) University of Hong Kong, Hong Kong, China

8:50 a.m. • 9-S

Traditional sourdough steamed bread industrialization in China: characterization and profile analysis of flavor compounds. N. Liu (1), X. Cheng (1), Y. Sun (1), W. Huang (1), N. LI (2), F. Arnaut (3). (1) Jiangnan University, Wuxi, China; (2) Puratos China, Guangzhou, China; (3) Puratos NV/SV, Brussels, Belgium

9:10 a.m. • 10-S

The role of cross-cultural sensory research in testing for quality of oriental products..V.A. SOLAH (1), R. Liu (2), Y. Wei (2), G.B. Crosbie (3). (1) Nutrition, Dietetics and Food Science, School of Public Health, Curtin University, Perth, Western Australia, Australia, Perth, Australia; (2) Institute of Agro-Products Processing Science and Technology, Chinese Academy of Agriculture Science /Key Laboratory of Agro-Products Processing, Ministry of Agriculture, Beijing, PR China, Beijing, China; (3) Crosbie Grain Quality Consulting, East Fremantle, Western Australia and Curtin University, Perth, Western Australia, Australia, Perth, Australia

9:30 a.m. • 11-S

Use of rice flour in baked goods: Recent studies in Japan. H. OKUSU (1). (1) Nippon Flour Mills, Kanagawa, Japan

9:50 a.m. • 12-S

Genetic variation and molecular improvement of the quality of *Japonica* rice.Q. LIU (1). (1) Yangzhou University, Yangzhou, China

Modification of Cereal Ingredients • Technical • 555 AB, CC
Scientific Initiative: Chemistry & Interactions

Moderator: Sherrill Cropper, Kansas State University, Manhattan, KS, U.S.A.

8:30 a.m. • 36-O

Effect of alkali treatment on waxy wheat starch.L. COPELAND (1), S. Al-Dhaheer (1). (1) Univ.of Sydney, Sydney, NSW, Australia

8:50 a.m. • 37-O

Modification of wheat bran proteins by enzymatic treatment.E. ARTE (1), K. Katina (1), E. Nordlund (2). (1) University of Helsinki, Helsinki, Finland; (2) VTT Technical Research Centre, Espoo, Finland

9:10 a.m. • 38-O

Effects of Heat Treatment and Moisture Contents on Interactions Between Lauric Acid and Starch Granules.F. CHANG (1), Q. Huang (1), X. He (1), J. Jane (2). (1) South China University of Technology, Guangzhou, China; (2) Iowa State University, Ames, IA, U.S.A.

9:30 a.m. • 39-O

Lipid radical induced oxidative degradation of barley (1→3) (1→4)-β-D-glucans.N. MAKELA (1), Y. Wang (1), N.H. Maina (1), T. Sontag-Strohm (1). (1) University of Helsinki, Helsinki, Finland

Noninvasive Sensor Techniques and Its Potential Application in Cereal Processing • Symposium • 552 AB, CC

Scientific Initiatives: Engineering & Processing; Quality & Analytical Methods

Organizers: Mario Jekle, TU München, Research Group Cereal Process Engineering, Freising, Germany; Chris L. Miller, Kansas State University, Manhattan, KS, U.S.A.

Moderators: Mario Jekle, TU München, Research Group Cereal Process Engineering, Freising, Germany; Guillermo Belido, Novozymes Switzerland AG, Dittingen, Switzerland

8:30 a.m. • 13-S

Ultrasound as a noninvasive technique for assessing dough properties during process operations. M.G. SCANLON (1), S. Kerherve (2), A. Strybulevych (2), D.W. Hatcher (3), J.H. Page (2). (1) Food Science, University of Manitoba, Winnipeg, MB, Canada; (2) Physics & Astronomy, Winnipeg, MB, Canada; (3) Grain Research Laboratory, Canadian Grain Commission, Winnipeg, MB, Canada

8:50 a.m. • 14-S

Image analysis techniques for processing of cereal products. T. BECKER (1). (1) Technische Universität München, Freising, Germany

9:10 a.m. • 15-S

Visible and Near-IR imaging and spectroscopy for grading factors in wheat. S.R. DELWICHE (1). (1) USDA, Beltsville, MB, U.S.A.

9:30 a.m. • 16-S

Monitoring of sourdough fermentation by using fluorescence spectroscopy. B. HITZMANN (1), B. Grote (1). (1) Univ. of Hohenheim, Stuttgart, Germany

Supplier Innovation Session I

9:00 a.m. – 12:10 p.m. • Grand Ballroom C, Convention Center

9:00 – 9:30 a.m.

Company Name: Best Cooking Pulses, Inc.

Name of Product: Best Pulses Flours

Contact Person: Margaret Hughes

Presenter's Name: Margaret Hughes

Presentation Category: Ingredients

Explore the potential of cereal/pulse flour blends to maximize complete protein in bakery products, without the need for fractionation.

9:40 – 10:10 a.m.

Company Name: FOSS A/S

Name of Product: New grain analysis solutions from FOSS

Contact Person: Darren Robey

Presenter's Name: Darren Robey

Presentation Category: Instruments/Equipment/Services

New Foss Infratec, New EyeFoss, Image Analysis and New Falling Number solution from FOSS.

10:20 – 10:50 a.m.

Company Name: DSM Nutritional Products

Name of Product: OatWell Oat Beta-Glucan

Contact Person: Marlena Hidlay

Presenter's Name: Marlena Hidlay

Presentation Category: Ingredients

Overview of OatWell Oat beta-glucan, a soluble oat fiber with and FDA approved cardiovascular health claim, and category market research.

11:00 – 11:30 a.m.

Company Name: Lallemand Baking Solutions

Name of Product: Enzyme based dough conditioners and yeast products

Contact Person: Jan van Eijk

Presenter's Name: Jan van Eijk

Presentation Category: Ingredients

Products (enzyme based dough conditioners, glutathione yeast, starters) and latest developments (yeast for mold inhibition and proof tolerant yeast).

11:40 a.m. – 12:10 p.m.

Company Name: Kudos Blends

Name of Product: KUDOS™ Potassium Bicarbonate/ KUDOS™ SALP Replacer

Contact Person: Amy Clarke

Presenter's Name: Siobhan Foley

Presentation Category: Ingredients

Giving bakers options to produce healthier products – Reducing sodium, increasing potassium & removing aluminum in chemically leavened baked goods.

continued

Student Product Development Competition • 553 AB, CC

9:00 a.m. – 12:20 p.m.

Organizer/Moderator: AACCI Student Division PDC Chair, Elena de la Pena, North Dakota State University**Financial Sponsors:** Ardent Mills, Bay State Milling Company, Clasen Quality Coatings, Inc., Frito-Lay Inc, General Mills, Ingredion Inc, Kellogg Co., Mondelez International, Naturex Inc, Starquest F.O.O.D. Consulting LLC

Get a glimpse of the future of the grain science industry as these young scientists show off their product development skills! This exciting competition challenges students to develop a new product containing at least one cereal product as the main ingredient. All attendees are invited to view the oral and poster presentations. Come cheer on your alma mater!

9:00 a.m.

Welcome. Elena de la Pena, North Dakota State University, Student Division PDC Chair

9:10 a.m.

Team: University of Florida. Gayathri Balakrishnan, Chad G. Uzdevenes

Product: Andean Joy - Red and White blend quinoa herbal tea

9:25 a.m.

Team: Monterrey Tech. Fabiola Elizabeth Ayala-Soto, Enrique Cortes-Ceballos, Marco A. Lazo-Velez, Daniel Mata Ramirez

Product: Chisax - Ancestral nutrition for today's life

9:40 a.m.

Team: University of Nebraska. Franklin Sumargo, Hui Wang
Product: GNB 20+ Home-Style Instant Noodle with 20% Bean Flour

9:55 a.m.

Team: University of Parma – Italy. Sofia Paleari

Product: BEAN-GO! BET YOU LIKE IT?

10:10 a.m.

Team: Texas A&M University. Shima Agah, Derrick B. Amoako, Audrey L. Girard, Dorothy A. Herrman

Product: Southern Pea Hummus

10:25 a.m.

Judging and Sampling

Sessions – Monday Morning (10:40 a.m. – 12:20 p.m.)*(listed in alphabetical order by title)*

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Current Issues in Milling • Technical • 552 AB, CC*Scientific Initiatives: Engineering & Processing***Moderators:** Ming-Hsu Chen, University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.

10:40 a.m. • 13-O

Phil Williams Applied Research Award - Applying material state properties to optimize rice drying. T. SIEBENMORGEN (1). (1) Univ.of Arkansas, Fayetteville, AR, U.S.A.

11:20 a.m. • 12-O

Dry fractionation of wheat bran into arabinoxylans enriched fraction and its contribution to the sustainability of arabinoxylans enriched bread. J. WANG (1), E. Smits (1), M. Buisman (1), R.M. Boom (1), M.A. Schutyser (1). (1) Wageningen University, Wageningen, Netherlands

11:40 a.m. • 14-O

How wheat breaks: New insights from compositional analysis and modelling. G. CAMPBELL (1), S. Galindez-Najera (1), C. Barron (2), V. Lullien-Pellerin (2). (1) Univ.of Manchester, Manchester, United Kingdom; (2) INRA, Montpellier, France

12:00 p.m. • 15-O

Impact of jet-milling on physicochemical properties of wheat flour, dough and breads. A. LAZARIDOU (1), D. Vouris (1), C.G. Biliaderis (1), P. Zoumpoulakis (2). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, 541 24 Greece, Thessaloniki, Greece; (2) Institute of Organic and Pharmaceutical Chemistry, National Hellenic Research Foundation, Vas. Constantinou 48, Athens, Greece

Protein–Starch Interactions and Their Importance in End-Product Quality • Symposium • 551 AB, CC*Scientific Initiatives: Chemistry & Interactions; Engineering & Processing; Ingredients & Innovation***Organizers:** Clyde Don, CDC Foodphysica, Driel, Netherlands; Katharina Konitzer, Deutsche Forschungsanstalt für Lebensmittelchemie, Freising, Germany; Robin Connelly, DuPont Nutrition & Health, St. Louis, MO, U.S.A.; Monjur Hossen, Kellogg Company, Kalamazoo, MI, U.S.A.**Moderators:** Arnaud Dubat, Chopin Technologies, Paris, France; Martin Scanlon, University of Manitoba, Winnipeg, Canada
Sponsors: Rheology Division, Protein Division

10:40 a.m. • 17-S

The role of Gliadin and Glutenin in protein-starch interactions. C. DON (1), R. Mossel (2), P. Koehler (3), A. Dubat (4). (1) CDC Foodphysica, Driel, Netherlands; (2) Cargill BV, Bergen op Zoom, Netherlands; (3) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany; (4) Chopin Technologies, Villeneuve la Garenne, France

11:00 a.m. • 18-S

Probing for interactions with ultrasound..M.G. SCANLON (1), F. Koksels (1), A. Strybulevych (2), J.H. Page (2). (1) Food Science, University of Manitoba, Winnipeg, MB, Canada; (2) Physics & Astronomy, Winnipeg, MB, Canada

11:20 a.m. • 19-S

Processing of cereal proteins and carbohydrates into new bio-based chemicals & products. B. LAGRAIN (1), B.F. Sels (1), D.E. De Vos (1). (1) KU Leuven, Leuven, Belgium

11:40 a.m. • 20-S

Rheology of dough and major flour components starch and protein..B.S. SROAN (1), T.J. Schober (1). (1) Nestle R&D, Solon, OH, U.S.A.

12:00 p.m. • 21-S

Effects of protein-starch interactions from the perspectives of an Engineer..M. JEKLE (1), T. Becker (1). (1) Technische Universität München, Freising, Germany

Structure and Functionality of Dietary Fiber • Technical • 555 AB, CC*Scientific Initiatives: Ingredients & Innovations***Moderators:** Thanh Hien Vu, Kansas State University, Manhattan, KS, U.S.A.

10:40 a.m. • 54-O

Arabinoxylan content and characteristics during the preparation of pancakes. A.M. KISZONAS (1), E. Fuerst (2), C.F. Morris (1). (1) USDA-ARS Western Wheat Quality Lab, Pullman, WA, U.S.A.; (2) Washington State University, Pullman, WA, U.S.A.

11:00 a.m. • 55-O

Structural characterization of feruloylated and non-feruloylated dietary fiber polysaccharides from a.m.aranth and quinoa. D. WEFERS (1), B. Gmeiner (1), D. Schmitt (1), L. Nguyen (1), C.E. Tyl (2), M. Bunzel (1). (1) Karlsruhe Institute of Technology, Karlsruhe, Germany; (2) University of Minnesota, Saint Paul, MI, U.S.A.

11:20 a.m. • 56-O

Revealing the link between water distribution and texture properties in bran rich pasta. T. STEGLICH (1), D. Bernin (2), M. Langton (3). (1) SIK – The Swedish Institute for Food and Biotechnology, Gothenburg, Sweden; (2) Swedish NMR Centre, University of Gothenburg, Gothenburg, Sweden; (3) Department of Food Science, Swedish University of Agricultural Sciences, Uppsala, Sweden

11:40 a.m. • 57-O

Effects of extrusion parameters on in vitro starch digestibility and beta glucan solubility of whole grain oats. S. BRAHMA (1), S.A. Weier (1), D.J. Rose (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.

12:00 p.m. • 58-O

Enzymic modification and measurement of wheat flour arabinoxylan. B.V. MCCLEARY (1), V. McKie (1), J. Larkin (1), A. Draga (1). (1) Megazyme International Ireland, Bray, County Wicklow, Ireland

Hot Topic – Carbohydrates Quality and Health Impact: The Good, the Bad, and the Ugly! • 551 AB, CC

Scientific Initiatives: Health & Nutrition

Organizers & Moderators: Satya Jonnalagadda, Kerry, Beloit, WI, U.S.A.; Anne Birkett, Kellogg Company, Battle Creek, MI, U.S.A.

Sponsors: Nutrition Division, Carbohydrate Division

Financial Sponsor: General Mills, Inc.

32-S

Are all carbohydrates created equal?—An overview..N.M. MCKEOWN (1). (1) JM USDA HNRCA at Tufts University, Boston, MA, U.S.A.

33-S

Cereal grain foods intake trends: Contribution to nutrient intake and diet quality. J. AHUJA (1). (1) Nutrient Data Laboratory, Beltsville Human Nutrition Research Center, Agricultural Research Service, USDA, Beltsville, MD, U.S.A.

34-S

Design of wholesome cereal foods: What about carbohydrates? K.S. POUTANEN (1). (1) VTT, Espoo, Other, Finland

35-S

Carbohydrates and metabolic health: Review of the latest evidence. S. ROBERTS (1). (1) Tufts Univ. Boston, MA, U.S.A.

Sessions – Monday Afternoon (2:00 – 4:00 p.m.)

(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Accurate Gluten Quantitation in Foods and Beverages—A Mission Impossible? • Science Café · 552 AB, CC

Scientific Initiative: Health & Nutrition

Organizers & Moderators: Katharina Konitzer, Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany; Clyde Don, CDC Foodphysica, Driel, Netherlands

Sponsors: Protein Division, Protein and Enzymes Technical Committee

Financial Sponsor: R-Biopharm AG

22-S

An overview of recent developments and current status of gluten ELISA methods..C. DON (1), M. Tilley (2), K. Konitzer (3), P. Koehler (3). (1) CDC Foodphysica, Driel, Netherlands; (2) USDA-ARS, Manhattan, KS, U.S.A.; (3) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

23-S

Comparison of extraction methods for gluten analysis.S. HAAS-LAUTERBACH (1), T. Weiss (1), C. Goesswein (1), T. Dubios (1). (1) R-Biopharm, Darmstadt, HI, Germany

24-S

Pros and cons of immunological methods..M. TILLEY (1), C. Don (2), K. Konitzer (3), P. Koehler (3). (1) USDA-ARS, Manhattan, KS, U.S.A.; (2) CDC Foodphysica, Driel, Netherlands; (3) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

25-S

Challenges of accurate gluten quantitation in selected foods..K. KONITZER (1), H. Wieser (1), P. Koehler (1). (1) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

26-S

Gluten quantitation in food and beverages by LC-MS using grain specific marker peptides. J. SEALEY-VOYKSNER (1), R. Voyksner (1), J. Zweigenbaum (2), J. Syage (3). (1) LCMS Limited, Durham, NC, U.S.A.; (2) Agilent Technologies, Wilmington, DE, U.S.A.; (3) Immunogenics LLC, Corona del Mar, CA, U.S.A.

Conversations Matter...on DON in Cereals – Keys to Successful Global Management • CC Room 554AB

Organizer and Moderator: Glen Weaver, Ardent Mills, Omaha, NE, U.S.A.; Andreia Bianchini, University of Nebraska, Lincoln, NE U.S.A

Deoxynivalenol (DON = VOMITOXIN) is a mycotoxin produced by Fusarium species, which infect numerous grains mostly in the field before harvest. DON has inherent toxicity. Its presence in cereal grains has the potential for widespread human exposure, since the primary route of DON exposure is consumption of contaminated grains. In the USA, the USDA as well as producers, millers, and processors monitor for the presence of DON in order to prevent contaminated grains from entering the food supply.

Speakers:

David Miller, Carleton University, Northfield, MN, U.S.A.
Felicia Wu, Michigan State University, East Lansing, MI, U.S.A.

Lauren Posnick Robin, FDA/CFSAN, College Park, MD, U.S.A.

continued

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Starch Bioengineering, Structure, and Function • Science Café •
555 AB, CC

Scientific Initiatives: Biotechnology & Sustainability

Organizer: Andreas Blennow, University of Copenhagen,
Frederiksberg C, Denmark

Moderators: Andreas Blennow, University of Copenhagen,
Frederiksberg C, Denmark; Eric Bertolt, Abo Akademi
University, Turku, Finland

27-S

Understanding starch biosynthesis in order to control its structure, composition and properties. S. ZEEMAN (1). (1) ETH Zurich, Switzerland

28-S

Understanding roles of starch synthases in the determination of starch structure and function in barley. Z. LI (1), A. Regina (1), M.K. Morell (2), S.A. Jobling (3). (1) CSIRO Plant Industry, Canberra, ACT, AB, Australia; (2) International Rice Research Institute, Manila, AB, Philippines; (3) CSIRO Plant Industry, Canberra, ACT, AB, Australia

29-S

Barley grain composition and metabolism over development and germination..A. BLENNOW (1). (1) Univ.of Copenhagen, Frederiksberg C, Denmark

30-S

Influence of starch synthase III on the cluster structure of maize starch.F. ZHU (1), E. Bertoft (2), K. Seetharaman (2). (1) University of Auckland, Auckland, New Zealand; (2) University of Minnesota, St. Paul, MN, U.S.A.

31-S

Unique properties and applications of waxy wheat flour and starch. Y. SHI (1). (1) Kansas State University, Manhattan, KS, U.S.A.

Supplier Innovation Session II

2:00 – 3:50 p.m. • Grand Ballroom C, Convention Center

2:00 – 2:30 p.m.

Company Name: Innophos Inc.

Name of Product: Leavening Systems to Meet Regulation Driven Requirements

Contact Person: Barbara Bufe Heidolph

Presenter's Name: Barbara Bufe Heidolph

Presentation Category: Ingredients:

In some regional areas, regulations have created restrictions for the use of SALP. Alternative leavening systems have been developed.

2:40 – 3:10 p.m.

Company Name: DSM Food Specialties

Name of Product: Baking Enzymes

Contact Person: Brian Fatula

Presenter's Name: Caroline Van Benschop

Presentation Category: Ingredients

ADA replacement: An innovative Enzyme Solution.

3:20 – 3:50 p.m.

Company Name: CHOPIN Technologies Inc.

Name of Product: Alveolab & SRC

Contact Person: Ian Trood

Presenter Name: Ian Trood

Presentation Category: Instruments/Equipment/Services

Improved flour quality testing is now available by utilizing the completely new Alveolab and automated SRC devices.

TUESDAY, OCTOBER 7

8:00 a.m. – 12:20 p.m.

Milling and Baking Focus Session: Regulatory Influences of Baling Performance • Special Session • Grand Ballroom D, CC
Scientific Initiatives: Chemistry & Interactions

Organizers & Moderators: Jennifer Robinson, Bay State Milling Company, Minneapolis, MN, U.S.A.; Barbara Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.; Susan Kay, Bay State Milling Company, Quincy, MA, U.S.A.; Kevin Richter, Horizon Milling, Minnetonka, MN, U.S.A.

Sponsor: Milling & Baking Division

8:00 a.m.

Session Introduction – Jennifer Robinson

8:05 a.m. • 36-S

Whole grains in schools and the WIC program: Regulations and successes to date. J. ADAMS (1). (1) Wheat Foods Council, Ridgway, CO, U.S.A.

8:35 a.m. • 37-S

Formulating with Whole Grains for the Consumer Packaged Goods Market. S.M. HARTUNIAN SOWA (1), D. CASSONE (1). (1) Mondelez International, East Hanover, NJ, U.S.A.

9:05 a.m. • 38-S

Formulating to remove partially hydrogenated oils (PHO). L. MOREHART (1). (1) Cargill, Plymouth, MN, U.S.A.

9:35 a.m. • 39-S

Wheat lipids - Impact in bread making B. PAREYT (1), L.R. Gerits (1), J.A. Delcour (1) (1) Laboratory of Food Chemistry and Biochemistry, KU Leuven, Leuven, Belgium

10:05 a.m.

Break

10:20 a.m. (no abstract submitted)

Challenges in Developing Ready to Bake Gluten Free Products. D. DOMINGUES, General Mills, Inc., Minneapolis, MN, U.S.A.

10:50 a.m. • 41-S

The Evolution of Gluten-Free Baking to Enhance Nutrition Utilizing Whole Grains.V. KLIMCZAK (1). (1) Bay State Milling, Quincy, MA, U.S.A.

11:20 a.m. • 42-S

Strategies for acrylamide mitigation. D. ORTIZ (1) (1) Kellogg Company, Battle Creek, MI, U.S.A.

11:50 a.m. • 43-S

Sodium reduction and other regulatory impacts on bakers. C.R. MOON (1). (1) Flowers Foods Inc, Thomasville, GA, U.S.A.

Session – Tuesday Morning (8:30 – 10:10 a.m.)

(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

A Fresh Look at Yeast Functionality in Leavened Cereal Dough Systems • Symposium • 551 AB, CC

Scientific Initiatives: Ingredients & Innovations

Organizer & Moderator: Christophe Courtin, KU Leuven, Leuven, Belgium

8:30 a.m. • 56-S

Yeast production and tuning: An industrial perspective. P. KRASUCKI (1). (1) AB Mauri, Chesterfield, MO, U.S.A.

8:50 a.m. • 57-S

Contribution of yeast to flavor of cereal based products. M. STEINHAUS (1), P. Schieberle (1). (1) Deutsche Forschungsanstalt fuer Lebensmittelchemie (German Research Center for Food Chemistry), Freising, Germany

9:10 a.m. • 58-S

Sourdough systems in cereal fermentation and the role of yeast in them..K.K. KATINA (1). (1) University of Helsinki, Helsinki, Other, Finland

9:30 a.m. • 59-S

Evaluating the impact of yeast fermentation on bread dough matrix rheology.C.M. COURTIN (1), M. Rezaei (1), V. Jayaram (1). (1) KU Leuven, Leuven, Other, Belgium

9:50 a.m. • 60-S

Nutritional aspects related to the use of yeast in bread making..J. VERSPREET (1), E. Dornez (1), J.A. Delcour (1), C.M. Courtin (1). (1) KU Leuven, Heverlee Belgium

Biopolymer Structure • Technical • 555 AB, CC

Scientific Initiatives: Chemistry & Interactions

Moderator: Enoch T. Quayson, University of Minnesota, St. Paul, MN, U.S.A.

8:30 a.m. • 1-O

The structural evolution of gluten in refined and whole grain breads: A study of soft and hard wheat breads from flour to final product.J.E. BOCK (1), K. Seetharaman (2). (1) University of Guelph, Guelph, ON, Canada; (2) University of Minnesota, St. Paul, MN, U.S.A.

8:50 a.m. • 2-O

Conformational changes of polymers in model batter systems.N. HESSO (1), C. Loisel (1), S. Chevallier (1), A. Marti (2), A. Le-Bail (1), K. Seetharaman (2). (1) ONIRIS - UMR CNRS GEPEA 6144, Nantes, LA, France; (2) University of Minnesota, St. Paul, MN, U.S.A.

9:10 a.m. • 3-O

Changes in structural conformation of proteins in wheat flour doughs enriched with intermediate wheatgrass (*Thinopyrum intermedium*) flour.A. MARTI (1), J.E. Bock (2), J.E. Bock (2), M. Pagani (3), M. Pagani (3), K. Seetharaman (4), K. Seetharaman (4). (1) Department of Food, Environmental and Nutritional Sciences, University of Milan, Milano, Italy; (2) University of Guelph, Guelph, ON, Canada; (3) Department of Food, Environmental and Nutritional Sciences, University of Milan, Milan, Italy; (4) University of Minnesota, St. Paul, MN, U.S.A.

9:30 a.m. • 4-O

Modification of cell wall structure during malting process in spring and winter barley cultivars.D. STOCK (1), M. Gastl (1), T. Becker (1). (1) Technische Universität München, Freising, Germany

9:50 a.m. • 5-O

Macromolecular properties of oxidatively degraded barley (1→3) (1→4)-β-D-glucans.N.H. MAINA (1), N. Makela (1), T. Sonntag-Strohman (1). (1) University of Helsinki, Helsinki, Finland

Current and Future Potentials of Sprouted Grains as Healthy Ingredients • Symposium • 552 AB, CC

Scientific Initiatives: Health & Nutrition, Ingredients & Innovations

Organizers: Elsayed Abdelaal, Agriculture and Agri-Food Canada, Guelph, ON, Canada; Robert Serrano, Grain Millers, Eugene, OR, U.S.A.; Boris Nemzer, FutureCeuticals, Momence, IL, U.S.A.; Liyi Yang, Texas A&M University, College Station, TX, U.S.A.

Moderators: Elsayed Abdelaal, Agriculture and Agri-Food Canada, Guelph, ON, Canada; Robert Serrano, Grain Millers, Eugene, OR, U.S.A.

Sponsor: Bioactive Compounds Technical Committee

Financial Sponsor: Buhler AG, GrainMillers, FutureCeuticals

8:30 a.m. • 61-S

The Flavors of Diet-Based Chronic Disease Prevention Trials: Lessons from the Field. J.W. FAHEY (1). (1) Johns Hopkins University, School of Medicine, Baltimore, MD, U.S.A.

8:50 a.m. • 62-S

Physiology and genetics of low input malting and brewing. G.B. FINCHER (1). (1) University of Adelaide, Adelaide, Other, Australia

9:10 a.m. • 63-S

Seed sanitation: Secret of safe sprout production and risk management associated with manufacturing of sprouted products. H. FENG (1). (1) University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.

9:30 a.m. • 64-S

Innovations in pulse processing technology and equipment. J. HUNTER (1). (1) Buhler Inc, Minneapolis, MN, U.S.A.

Methods for Seed Quality Assessment • Technical • 556 AB, CC

Scientific Initiatives: Quality & Analytical Methods

Moderator: Yimin Wei, Chinese Academy Agricultural Sciences, Beijing, China; Katharina Konitzer, German Research Center for Food Chemistry: Freising, Germany

8:30 a.m. • 31-O

Walter Bushuk Graduate Research Award - Development of improved methods to evaluate the gluten quality of wheat flours. S.M. THANHAUSER (1), H. Wieser (1), P. Koehler (1). (1) German Research Center for Food Chemistry, Freising, Germany

8:50 a.m. • 32-O

Comparison of quality-related alleles a.m.ong Australian and North a.m.eric an wheat classes exported to Japan.T.M. IKEDA (1), M. Yanaka (2), K. Takata (2). (1) NARO, Western Region Agric Res Ctr, Fukuyama, Japan; (2) NARO, Western Region Agric Res Ctr, Fukuyama, Japan

9:10 a.m. • 33-O

Application of LC-MS-MS to identify niacin in cereal grain aleurone layers of yellow corn, barley and wheat.V.U. NDOLO (1), T. Beta (1), G.R. Fulcher (1). (1) University of Manitoba, Winnipeg, MB, Canada

9:30 a.m. • 34-O

Measurement of α-amylase in pre-harvest sprouted wheat.V.A. MCKIE (1), B.V. McCleary (1), C. Cornaggia (1), D. Mangan (1), R. Ivory (1). (1) Megazyme International Ireland, Bray, County Wicklow, Ireland

9:50 a.m. • 35-O

Critical assessment of the formation of extracellular yeast derived hydrogen peroxide during dough fermentation.M. REZAEI (1), E. Dornez (2), K.J. Verstrepen (1), C.M. Courtin (1). (1) KU Leuven, Heverlee, Belgium; (2) KULeuven, Heverlee, Belgium

Best Student Research Paper Competition • 554 AB, CC

Organizer: Professional Development Panel, Sean Finnie, PDP Chair, Cargill, Inc., Plymouth, MN, U.S.A.

Moderators: see addendum

Financial Sponsors: Archer Daniels Midland Co., B.C. Williams Food Products, Cain Food Industries, Inc., Corbion, Frito-Lay Inc, General Mills, Kellogg Co., McCormick & Co., Inc., MGP Ingredients, Inc., Mitsubishi International Food Ingredients, Mother Murphy's Flavors, PepsiCo Global R&D, The Kroger Co, The Mennel Milling Co., TIC Gums Inc.

8:30 a.m.

Session Introduction

8:35 a.m. • 50-S

Improving aqueous stability of sorghum 3-deoxyanthocyanin pigments for food colorant application. D. HERRMAN (1), J. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.

continued

9:00 a.m. • 51-S

Effect of extrusion conditions on pasting behaviour and micro-structure of re-fabricated rice: A response surface analysis. S.Z. HUSSAIN (1), B. Singh (1). (1) Department of Food Science and Technology, Punjab Agricultural University Ludhiana, Ludhiana, PA, India

9:25 a.m. • 52-S

Improving wheat milling and baking quality via development of novel Puroindoline alleles. J.D. KAMMERAAD (1), J.M. Martin (1), S. Cuesta (2), A. Hogg (1), M. Giroux (1). (1) Montana State University, Bozeman, MT, U.S.A.; (2) University of Cordoba, Cordoba, Spain

9:50 a.m. • 53-S

Arabinoxylan hydrolyzates as immunomodulators. M.M. MENDIS (1), E. Leclerc (1), S. Simsek (1). (1) North Dakota State University, Fargo, ND, U.S.A.

10:15 a.m. • 54-S

Analysis and baking activity of lipase reaction products in wheat breadmaking. M. SCHAFFARCZYK (1), P. Koehler (2), H. Ostdal (3). (1) German Research Center for Food Chemistry, Freising, Germany; (2) Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Other, Germany; (3) Novozymes A/S, Bagsvaerd, Denmark

10:40 a.m. • 55-S

The contribution of glutathione to the destabilizing effect of yeast on wheat dough. C. VERHEYEN (1), M. Jekle (1), T. Becker (1). (1) TU MÜNchen, Institute of Brewing and Beverage Technology, Freising, Germany

Supplier Innovation Session III

9:00 – 10:50 a.m. • Grand Ballroom C, Convention Center

9:00 – 9:30 a.m.

Company Name: Bepex Intenational
 Name of Product: Custom Whole Grain & Flour Heat Treatment
 Contact Person: Rob Grady
 Presenter's Name: Peter Koenig
 Presentation Category: Instruments/Equipment/Services
 Capabilities to produce unique whole grain ingredients by controlled manipulation of moisture, particle size temperature and time under controlled shear.

9:40 – 10:10 a.m.

Company Name: QualySense
 Name of Product: QSorter Explorer
 Contact Person: Francesco Dell'Endice
 Presenter's Name: Francesco Dell'Endice
 Presentation Category: Instruments/Equipment/Services
 The QSorter is a single kernel analyzer and sorter. It's ideal for food R&D and for quality inspection.

10:20 – 10:50 a.m.

Company Name: Almond Board of California
 Name of Product: California Almonds
 Contact Person: Molly Spence
 Presenters Name: Julie M. Jones
 Presentation Category: Ingredients
 This presentation will showcase how California almonds can provide practical solutions for common development challenges in cereal and bar formulations.

Session – Tuesday Morning (10:40 a.m. – 12:20 p.m.)

(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Digestive Properties of Starch • Technical • 555 AB, CC
Scientific Initiatives: Health & Nutrition

Moderators: Vicky Solah, Curtin University, Perth Australia;
 Fengdan Chang, South China University of Technology, Guangdong, China

10:40 a.m. • 17-O

Structure of α -Limit Dextrin Influences the Rate and Quantity of Dietary Glucose Released by Small Intestinal α -Glucosidase. A. MUNIANDY (1), A. Lin (1). (1) Whistler Center for Carbohydrate Research, Purdue University, West Lafayette, IN, U.S.A.

11:00 a.m. • 18-O

The effect of changing wheat particle size on human post-prandial metabolism and degree of starch digestion. T. GRASSBY (1), C. Edwards (1), M. Grundy (1), S. Berry (1), J. Sanderson (1), P. Ellis (1). (1) King's College London, London, United Kingdom

11:20 a.m. • 19-O

Acute effects of consuming sorghum-based breakfast meals on objective and subjective measures of satiety. A. STEFOSKA-NEEDHAM (1), E.J. Beck (1), L.C. Tapsell (1). (1) University of Wollongong, Wollongong, Australia

11:40 p.m. • 20-O

Enzyme-resistant starch from amorphous matrices: Mechanisms and approaches. B. ZHANG (1), S. Dhital (1), B.M. Flanagan (1), P. Luckman (2), P.J. Halley (2), M.J. Gidley (1). (1) Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, University of Queensland, Brisbane, Australia; (2) Australian Institute for Bioengineering and Nanotechnology, School of Chemical Engineering, University of Queensland, Brisbane, Australia

Emerging Genetic Methods in Cereal Grain Quality

Improvement • Symposium • 552 AB, CC
Scientific Initiatives: Biotechnology & Sustainability

Organizer: Andreas Blennow, University of Copenhagen, Frederiksberg C, Denmark

Moderators: Andreas Blennow, University of Copenhagen, Frederiksberg C, Denmark; Christian Ruzanski, Carlsberg Laboratory, Copenhagen, Denmark

10:40 a.m. • 70-S

Increasing resistant starch content in wheat grain using TILLING. B. HAZARD (1), X. Zhang (1), M. Naemeh (1), J. Dubcovsky (1). (1) University of California, Davis, Davis, CA, U.S.A.

11:00 a.m. • 71-S

Targeted mutagenesis using TALENs as means to improve cereal grain quality. I.B. HOLME (1). (1) Aarhus University, Slagelse, DC, Denmark

11:20 a.m. • 72-S

TALENs and CRISPR/Cas9: Genome editing tools for wheat. J. GIL-HUMANES (1), N.J. Baltes (1), D.F. Voytas (1). (1) Univ.of Minnesota, St. Paul, MN, U.S.A.

12:00 p.m. • 73-S

Epitope tagging to study gluten deposition, interactions and impact on grain functionality. P. TOSI (1), P.R. Shewry (2), C. Sanchis Gritsch (2), J. Freeman (2), W. Funatsuki (3). (1) University of Reading, Reading, United Kingdom; (2) Rothamsted Research, Harpenden, United Kingdom; (3) NARO Western Region Agricultural Research Center, Hiroshima, Japan

Rheological and Spectroscopic Methods • Technical •

556 AB, CC

Scientific Initiatives: Quality & Analytical Methods

Moderator: Deanna Scheff, Kansas State University, Manhattan, KS, U.S.A.

10:40 a.m. • 51-O

Carl Wilhelm Brabender Award - Influence of viscoelasticity of wheat kernels, doughs on flour yield and bread volume evaluated by stress relaxation and creep-recovery tests. J. FIGUEROA CARDENAS (1), Z.J. Hernandez (1), P. Rayas-Duarte (2). (1) CINVESTAV Unidad Queretaro, Queretaro, Qro, Mexico; (2) Robert M. Kerr Food & Agricultural Products Research & Technology Center, Stillwater, OK, OK, U.S.A.

11:20 a.m. • 50-O

Potential of Raman Spectroscopy as a Tool for Rapid Detection and Identification of Aflatoxins and Fumonisin in Maize. K. LEE (1), T.J. Herrman (1), J. Davis (1), S. Murray (1), Y. Deng (1), Y. Bisrat (1). (1) Texas A&M Univ, College Station, TX, U.S.A.

11:40 a.m. • 52-O

Utilisation of an X-ray micro-computed tomography (μ CT) density calibration to estimate whole maize kernel density for hardness classification. A. GUELPA (1), A. Du Plessis (2), M. Kidd (3), M. Manley (1). (1) Stellenbosch University, Stellenbosch, South Africa; (2) CT Scanner, CAF, Stellenbosch University, Stellenbosch, South Africa; (3) Centre for Statistical Consultation, Stellenbosch University, Stellenbosch, South Africa

Solutions with Pulse Ingredients in Product Development

Applications • Symposium • 551 AB, CC

Scientific Initiative: Engineering & Processing, Health & Nutrition, Ingredients & Innovations, Quality & Analytical Methods

Organizers: Ning Wang, Canadian Grain Commission, Winnipeg, MB, Canada; Tanya Der, Pulse Canada, Winnipeg, MB, Canada; Heather Maskus, Canadian International Grains Institute, Winnipeg, MB, Canada

Moderators: Lindsay Bourne, Canadian International Grains Institute, Winnipeg, MB, Canada, Heather Maskus, Canadian International Grains Institute, Winnipeg, MB, Canada

Sponsor: Pulse and Legume Technical Committee
Financial Sponsor: Best Cooking Pulses, Inc.

10:40 a.m. • 65-S

Digestibility and nutritional quality of food products containing pulse ingredients. J. BOYE (1). (1) Agriculture Agri-Food Canada, St Hyacinthe, QC, Canada

11:00 a.m. • 66-S

Gluten-free pasta/noodles from pulses: Processing and quality characteristics. N. WANG (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada

11:20 a.m. • 67-S

Pulse fractionation and by-product utilization. R. TYLER (1). (1) University of Saskatchewan, Saskatoon, SK, Canada

11:40 a.m. • 68-S

The effects of yellow pea flour on the physical and sensory properties of Asian noodles. L. BOURRE (1), H. Maskus (1), D. An (1), K. Kaminska (1), E. Assefaw (1), C. Findlay (2). (1) Canadian International Grains Institute, Winnipeg, MB, Canada; (2) Compusense Inc., Guelph, ON, Canada

12:00 p.m. • 69-S

Application of Canadian pea flour in Chinese biscuits. C. Qu (1), Y. KIM (1), F. Wang (1), X. Wang (1). (1) International Grains Institute, Henan University of Technology, Zhengzhou, China

Session – Tuesday Afternoon (2:20 p.m. – 5:30 p.m.)

Milling and Baking Focus Session: Technology for the Baker in Response to the Regulations and Market Trends • Special Session • Grand Ballroom D, CC

Organizers & Moderators: Jennifer Robinson, Bay State Milling Company, Minneapolis, MN, U.S.A.; Barbara Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.; Susan Kay, Bay State Milling Company, Quincy, MA, U.S.A.; Kevin Richter, Horizon Milling, Minnetonka, MN, U.S.A.

Sponsor: Milling & Baking Division

2:20 p.m.

Session Introduction – Jennifer Robinson

2:25 p.m. • 44-S

Whole Grain Milling and Baking Method for Testing Pure Wheat Varieties. R. MILLER (1), J. Jeong (1). (1) Kansas State University, Manhattan, KS, U.S.A.

2:55 p.m. • 45-S

Enzymes in baking. C.M. COURTIN (1). (1) KU Leuven, Leuven, Belgium

3:25 p.m. • 46-S

Wheat Agronomic and Fertilization Impacts to Biscuit Quality. I. MOREIRA DE ALMEIDA (1). (1) Mondelez, Saclay, France

3:55 p.m.

Break

4:05 p.m. • 47-S

Strategies for Sugar and Egg Reduction in Cakes. R. MILLER (1). (1) Kansas State University, Manhattan, KS, U.S.A.

4:35 p.m. (no abstract submitted)

Challenges in Formulating with Whole grain, Domenico Cassone, Mondelez International

5:05 p.m. • 49-S

Sodium reduction in baked goods. B.B. HEIDOLPH (1). (1) Innophos Inc., Cranbury, NJ, U.S.A.

continued

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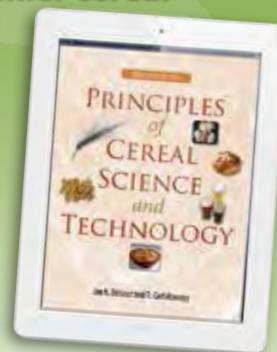


Exhibit Hall Hours

Sunday 5:00 – 7:00 p.m.
Monday 4:00 – 7:00 p.m.
Tuesday 12:00 p.m. – 2:15 p.m.

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April 2014

Tuesday a.m. & p.m.

Session – Tuesday Afternoon (2:30 – 4:30 p.m.)*(listed in alphabetical order by title)*

Session number (1-S) and **technical number** (1-O) refer to the Author Index in the program book.

Conversations Matter...on Overcoming Barriers to Whole Grain Consumption • Room 554 AB, CC

Organizer and Moderator: Devin Rose, University of Nebraska, U.S.A.

6-O

Correlation between whole wheat bread consumer hedonic overall liking score and trained panel quantitative descriptive analysis results G. GUO (1), K. Zhao (1), B.D. Guthrie (2), M.A. Drake (3), E. Uriyo (4). (1) Cargill Horizon Milling, Minnetonka, MN, U.S.A.; (2) Cargill Global Food Research, Wayzata, MN, U.S.A.; (3) Department of Food, Bioprocessing and Nutrition Sciences, North Carolina State University, Raleigh, NC, U.S.A., Raleigh, NC, U.S.A.; (4) Cargill Horizon Milling, Wayzata, MN, U.S.A.

7-O

Perceived barriers to increased whole-grain consumption by older adults in long-term care facilities. *M. COFFMAN (1), M.A. Coffman (1), M. Camire (1). (1) University of Maine, Orono, ME, U.S.A.

**presented by Mary Ellen Camire*

8-O

Factors influencing the use and consumption of brown rice in Chinese restaurants T. LIU (1), X. Wang (2), L.F. Marquart (2). (1) University of Minnesota, St Paul, MN, U.S.A.; (2) University of Minnesota, Saint Paul, MN, U.S.A.

Perennial Grasses: Can They Replace Annual Grains in the Future? • Science Café • 552 AB, CC

Organizers: Baraem Ismail, University of Minnesota, St. Paul, MN, U.S.A.; Mirko Bunzel, Karlsruher Institut für Technologie (KIT), Karlsruhe, Germany; Donald Wyse, University of Minnesota, St. Paul, MN, U.S.A.

Moderators: see addendum

Sponsor: General Mills, Inc.

79-S

Developing cropping systems that produce food and ecosystem services. D. WYSE (1). (1) Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN, U.S.A.

80-S

Perennial crop production may be a cost-effective practice for meeting environmental goals W.F. LAZARUS (1), D. Mulla (2). (1) University of Minnesota, Department of Applied Economics, St. Paul, MN, U.S.A.; (2) University of Minnesota, Department of Soil, Water and Climate, St. Paul, MN, U.S.A.

81-S

Grass to Grain: Sustainable food by design. L.R. DEHAAN (1), X. Zhang (2), J. Anderson (2). (1) The Land Institute, Salina, KS, U.S.A.; (2) University of Minnesota, St. Paul, MN, U.S.A.

82-S

Chemical composition of intermediate wheatgrass. M. BUNZEL (1), C.E. Tyl (2), B. Ismail (2). (1) Karlsruhe Institute of Technology, Karlsruhe, Germany; (2) University of Minnesota, St. Paul, MN, U.S.A.

83-S

Incorporation of Intermediate wheat grass in food products. T.C. SCHOENFUSS (1), K. Seetharaman (1), D.G. Peterson (1). (1) University of Minnesota, Department of Food Science and Nutrition, St. Paul, MN, U.S.A.

Statistics Supporting Food Safety and Additional AACCI Initiatives • Science Café • 551 AB, CC

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

Sponsor: Statistical Advisory Committee

2:30 p.m. • 74-S

Useful Concepts and Tools for Defining the Shelf Life of your Product. M. SEWALD (1). (1) Medallion Labs/General Mills, Inc, Minneapolis, MN, U.S.A.

2:50 p.m. • 75-S

Food Safety & FSMA: Validation Studies and Sampling Plans. STEVENS (1). (1) General Mills, Minneapolis, MN, U.S.A.

3:10 p.m. • 76-S

Designing a collaborative study. T.C. NELSEN (1). (1) Independent, Port Byron, IL, U.S.A.

3:30 p.m. • 77-S

Efficient Design of Experiments. M.M. MANDERFELD (1). (1) General Mills, Minneapolis, MN, U.S.A.

3:50 p.m. • 78-S

Introduction: Food Safety & FSMA: The Important Role of Statistics. STEVENS (1). (1) General Mills, Minneapolis, MN, U.S.A.

WEDNESDAY, OCTOBER 8**Sessions – Wednesday Morning (8:30 – 10:10 a.m.)***(listed in alphabetical order by title)*

Session number (1-S) and **technical number** (1-O) refer to the Author Index in the program book.

Enzymes in Cereal-Based Food Products • Symposium • 552 AB, CC

Scientific Initiatives: Chemistry & Integrations, Ingredients & Innovation

Organizers & Moderators: Kristof Brijs and Bram Pareyt, KU Leuven, Leuven, Belgium

8:30 a.m. • 89-S

New a.m.ylase based freshness solutions in baking. G. BELLIDO (1), A. Christen (1), H. Ostdal (2). (1) Novozymes Switzerland AG, Dittingen, Switzerland; (2) Novozymes A/S, Bagsvaerd, Denmark

8:50 a.m. • 90-S

Elucidating the role of wheat endogenous lipids in bread making. L.R. GERITS (1), B. Pareyt (1), J.A. Delcour (1). (1) KU Leuven, Leuven, Belgium

9:10 a.m. • 91-S

Molecular understanding of endoxylanase functionality in cereal based processing. C.M. COURTIN (1). (1) KU Leuven, Leuven, Belgium

9:30 a.m. • 92-S

Enzymes in gluten-free bread making. C.M. ROSELL (1). (1) Institute of Agrochemistry and Food Technology (IATA-CSIC), Paterna, AB, Spain

9:50 a.m. • 93-S

Malting process-induced enzymatic changes—Application in beverages. M. RITTENAUER (1). (1) TUM - Weihenstephan, Freising, Germany

Extrusion Technology for Cereal Products • Technical •

556AB,CC

*Scientific Initiatives: Engineering & Processing***Moderator:** Joseph Kwesi Gayin, University of Guelph, Guelph, ON, Canada**8:30 a.m. • 26-O**

Waxy wheat extrusion: new possibilities for expanded cereal products. R.J. KOWALSKI (1), C.F. Morris (2), G.M. Ganjyal (1). (1) Washington State Univ, Pullman, WA, U.S.A.; (2) USDA ARS, Pullman, WA, U.S.A.

8:50 a.m. • 27-O

Effect of bran fermentation on structural and textural properties of high fibre extrudates. N. SOZER (1), K. Katina (2), K. Poutanen (1). (1) VTT Technical Research Centre of Finland, Espoo, Finland; (2) University of Helsinki, Helsinki, Finland

9:10 a.m. • 28-O

Stochastic study of flow and expansion of starch-based melts during extrusion – Model development and validation. P. Manepalli (1), H. Dogan (1), J. Mathew (2), S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) FritoLay Research & Development, Plano, TX, U.S.A.

9:30 a.m. • 29-O

Sorghum-Based Extruded Pet Food: Impact of Particle Size and Process Conditions on Physico-Chemical Attributes. T. Putarov (1), F. Cesar Sa (2), M. Joseph (3), A. Carciofi (2), S. ALAVI (4). (1) Sao Paulo State University (UNESP), Botucatu, Brazil; (2) Sao Paulo State University (UNESP), Jaboticabal, Brazil; (3) Kansas State University, Manhattan, KS, U.S.A.; (4) Kansas State Univ, Manhattan, KS, U.S.A.

9:50 a.m. • 30-O

Second generation snacks from mixtures of cottonseed meal and nixtamalized maize flours produced by single screw extrusion. E. DELGADO (1), D. Reyes-Jaquez (2), N. Flores (1), T. Wedegaertner (3). (1) New Mexico State University, Las Cruces, NM, U.S.A.; (2) Instituto Tecnológico de Durango, Durango, Mexico; (3) Cotton Inc, Cary, NC, U.S.A.

Reformulating Cereal Foods for Special Purposes • Technical •

555 AB, CC

*Scientific Initiatives: Ingredients & Innovations***Moderator:** Iker Rodriguez Garcia, Instituto Politecnico Nacional Cereprobi, Yautepec Morelos, Mexico; Susan Kamper, General Mills, Minneapolis, MN, U.S.A.**8:30 a.m. • 45-O**

Insights into aeration and foam stabilization mechanisms for gluten-free dough. D. ELGETI (1), A. Stuttgarten (1), M. Jekle (1), T. Becker (1). (1) Technische Universität München, Freising, Germany

8:50 a.m. • 46-O

Playing With Pressure During Dough Mixing; An Overview In The Case Of Salt & Lipid Reduction In Dough. A. LE BAIL (1), n. NAIR (2), M. SADOT (3), G. LERAY (3), s. CHEVALLIER (3), J. CHEIO (4). (1) GEPEA - CNRS - UMR 6144, Nantes, France; (2) Indian Institute of Crop Processing Technology, Thanjavur, India; (3) ONIRIS-UMR CNRS GEPEA 6144, Nantes, France; (4) VMI, Rue Joseph Gaillard, 85600 Montaigu, France, Montaigu, France

9:10 a.m. • 47-O

The technical feasibility, microbial quality and consumer acceptance of reducing salt in bread with a mineral salt high in magnesium. H.L. MITCHELL (1), D. Rolf (1). (1) Smart Salt, Arnold, CA, U.S.A.

9:30 a.m. • 48-O

What's NEXT? Future Trends & Insights Shaping Natural Products in the Cereal Category. C. Mast (1), B. TUOHIG (1). (1) New Hope Natural Media, Boulder, CO, U.S.A.

9:50 a.m. • 49-O

Wheat flour and gluten replacement in gluten-free bread using the regular bread dough process. M.B. NIETO (1). (1) TIC Gums, Inc, White Marsh, MD, U.S.A.

The Use of New Technologies in the Determination and**Enhancement of Rice Grain Quality** • Symposium • 551 AB, CC*Scientific Initiatives: Engineering & Processing; Quality & Analytical Methods***Organizer:** John Manful, Africa Rice Center, Republic of Benin**Moderators:** John Manful, Africa Rice Center, Republic of Benin;

Jinsong Bao, Zhejiang University, China

Sponsor: Rice Division**8:30 a.m. • 84-S**

New technologies for measuring chalkiness in rice T. SIEBENMORGEN (1). (1) Univ.of Arkansas, Fayetteville, AR, U.S.A.

8:50 a.m. • 85-S

Harnessing the omics as they come online for pushing the boundaries of understanding rice grain quality. M.A. FITZGERALD (1). (1) University of Queensland, St Lucia, Australia

9:10 a.m. • 86-S

Genetics of eating and cooking qualities revealed by genome-wide association mapping. J. BAO (1). (1) Zhejiang University, Hangzhou, AB, China

9:30 a.m. • 87-S

Paddycheck: A new technology for determining the milling quality on paddy rice .H. ANDREN (1). (1) Perten Instruments AB, Hagersten, Sweden

9:50 a.m. • 88-S

Single Kernel Analysis of Rice for 2-Acetyl-1-Pyrroline in aromatic rice C. GRIMM (1), S. Lloyd (1), R. Bryant (2). (1) SRRC-ARS-USDA, New Orleans, LA, U.S.A.; (2) Dale Bumpers National Rice Research Center, Stuttgart, AR, U.S.A.

Sessions – Wednesday Morning (10:40 a.m. – 12:20 p.m.)*(listed in alphabetical order by title)*

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Effects of Ingredients and Additives on Cereal Product Quality • Technical • 555 AB, CC*Scientific Initiatives: Ingredients & Innovations***Moderator:** Nesrin Hesso, ONIRIS, Nantes, France**10:40 a.m. • 21-O**

Impact of concentration, granule size and swelling power on pasting properties of blends of different starches. J. WATERSCHOOT (1), S.V. Gomand (1), E. Fierens (1), J.A. Delcour (1). (1) KULeuven, Leuven, Belgium

11:00 a.m. • 22-O

Starch modification with stearic acid for 'clean' label starches. M. EMMAMBUX (1). (1) Univ. of Pretoria, Pretoria, South Africa

11:20 a.m. • 23-O

Impact of different yeasts on wheat bread quality. M. HEITMANN (1), M. Heitmann (1). (1) University College Cork, Cork, Ireland

11:40 a.m. • 24-O

A new glucose oxidase from *Penicillium* for baking application. C. van Benschop (1), J. GODEFROOIJ (2). (1) DSM Food Specialties, Delft, Netherlands; (2) DSM, Delft, Zuid Holland, Netherlands

continued

Gut Microbiota, the New Frontier—The Role of Cereal Grains and Fiber • Symposium • 552 AB, CC
Scientific Initiatives: Health & Nutrition

Organizers & Moderators: Satya Jonnalagadda, Kerry, Beloit, WI, U.S.A.; Rhonda Witwer, Beneo Institute, Morris Plains, NJ, U.S.A.

Sponsor: Nutrition Division

10:40 a.m. • 100-S

Young Scientist Research Award – Cereal grains: Impact on gut microbiota and health. D. ROSE (1). (1) University of Nebraska, Lincoln, NE, U.S.A.

11:20 a.m. • 99-S

Gut microbiota: Who's there? Overview of the role of gut microbiota and health. S. O'KEEFE (1). (1) Univ.of Pittsburgh, Pittsburgh, PA, U.S.A.

11:40 a.m. • 101-S

Cereal fibers: Impact on gut microbiota and health. G.C. FAHEY (1). (1) University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.

12:00 p.m. • 102-S

Formulating cereal foods to modulate gut microbiota. A. ESTAL (1). (1) Beneo, Inc., Morris Plains, NJ, U.S.A.

Phenolic Compounds: Interactions and Health Effects • Technical • 556 AB, CC

Scientific Initiative: Chemistry & Interactions

Moderator: Victoria Ndolo; University of Manitoba, Winnipeg, MB, Canada

10:40 a.m. • 40-O

Artificial induction of phenolics in wheat grains O. RAMOS (1), R.L. Madl (1). (1) Kansas State Univ, Manhattan, KS, U.S.A.

11:00 a.m. • 41-O

Effects of sorghum polyphenols on wheat protein profile during tortilla processing. K.L. Dunn (1), A.L. GIRARD (1), S.R. Bean (2), J.M. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.; (2) USDA-ARS-GMPRC, Manhattan, KS, U.S.A.

11:20 a.m. • 42-O

Effect Of Malting On Flavonoid Compounds And Antioxidant Activity In Four Australian Sorghums. A. KHODDAMI (1), M.A. Wilkes (1), T.H. Roberts (1). (1) Department of Plant and Food Science, Faculty of Agriculture and Environment, University of Sydney, Sydney, Australia

11:40 a.m. • 43-O

Phenolic Compounds and Antioxidant Properties during Production of Bread from Purple-Colored Wheat Grains L. YU (1), T. Beta (2). (1) Univ.of Manitoba, Winnipeg, MB, Canada; (2) University of Manitoba, Winnipeg, MB, Canada

12:00 p.m. • 44-O

Synergistic effect of combining sorghum and cowpea polyphenols on reducing LPS-induced inflammation in non-malignant colon myofibroblast in vitro. S. AGAH (1), L. Yang (1), J. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.

Quest for World's Protein Needs—Cereal & Legume Proteins: Chemistry and Food Applications • Symposium • 551 AB, CC
Scientific Initiatives: Biotechnology & Sustainability, Ingredients & Innovations

Organizer: Monjur Hossen, Kellogg Company, Battle Creek, MI, U.S.A.

Moderators: Monjur Hossen, Kellogg Company, Battle Creek, MI, U.S.A., Katharina Koritzer, Deutsche Forschungsanstalt fuer Lebensmittelchemie, Freising, Germany

Sponsor: Protein Division

10:40 a.m. • .94-S

Cereal proteins: Fundamental understanding for processing applications .F. BONOMI (1), A. Barbiroli (1), S. Iametti (1), M. Marengo (1), M. Miriani (1), M. Pagani (1). (1) University of Milan, DeFENS, Milan, Italy

11:00 a.m. • 95-S

Pea protein—A sustainable, functional, versatile ingredient. N. VARDE (1). (1) Roquette America, Geneva, IL, U.S.A.

11:20 a.m. • 96-S

Towards 'Synthetic Meat'? Advances in texturization and extrusion of cereal and legume proteins. S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.

11:40 a.m. • 97-S

Cereal protein based biomaterials for food applications. L. CHEN (1), Z. Tian (1). (1) University of Alberta, Edmonton, AB, Canada

12:00 p.m. • 98-S

Protein in Ready-to-Eat Cereals & Snacks: Challenges and Opportunities. M. ASIF (1), M. Hossen (1), V. Ghorpade (1). (1) Kellogg, Battle Creek, MI, U.S.A.

Sessions – Wednesday Afternoon (2:00 – 4:00 p.m.)

(listed in alphabetical order by title)

Session number (1-S) and technical number (1-O) refer to the Author Index in the program book.

Conversations Matter...on the Use of GMO's to Improve Cereal Foods • Room 554 AB, CC

Organizer and Moderator: Derek Stewart, The James Hutton Institute, United Kingdom

Increasing the fiber content of wheat to combat chronic disease. P. SHEWRY, Distinguished Research Fellow, Rothamsted Research, United Kingdom

10-O

Developing plants yielding nutritionally-beneficial starches by site-directed mutagenesis. R.G. GILBERT (1), C. Li (1), I.D. Godwin (2), M. Turner (1). (1) Univ.of Queensland/Huazhong University of Science & Technology, Brisbane, Australia

11-O

Aspergillus nidulans α -L-arabinofuranosidase has high activity on wheat arabinoxylan and a surface binding site interacting with plant polysaccharides. B. SVENSSON (1), C. Wilkens (2), S. Andersen (2), B.O. Petersen (3), D. Cockburn (2), O. Hindsgaul (4), M. Abou Hachem (5). (1) Technical Univ.of Denmark, Lyngby, Denmark; (2) DTU Systems Biology, Lyngby, Denmark; (3) Carlsberg Laboratory, Valby, Denmark; (4) Carlsberg Laboratory, Valby, Denmark; (5) DTU Systems Biology, Lyngby, Denmark

Shelf Life—Navigating the Meaning and Measurement of Shelf Life in Grain Ingredients and Foods • Science Café • 552 AB, CC
Scientific Initiative: Quality & Analytical Methods

Organizer: Elizabeth Arndt, Ardent Mills, Denver, CO, U.S.A.

Moderators: see addendum

103-S

Defining and measuring shelf-life in foods and ingredients. Protecting the sensory gold standard while preventing food waste. M. SEWALD (1). (1) General Mills Inc./Medallion Labs, Minneapolis, MN, U.S.A.

104-S

Origins of Bitterness in aged whole-wheat flour and related bread products. D.G. PETERSON (1), B. Qing (1), D. Jiang (1). (1) Univ. of MN, Dept. of Food Science and Nutrition, Falcon Heights, MN, U.S.A.

105-S

From kernel to table—An overview of conditions and timing in the grain supply chain. B. DAY (1). (1) Ardent Mills, Denver, CO, U.S.A.

106-S

Shelf-life indicators in whole grain flours. D. ROSE (1). (1) Univ. of Nebraska, Lincoln, NE, U.S.A.

107-S

Effects of whole wheat flour storage on quality and consumer preference of baked goods and pasta. E.A. ARNDT (1). (1) Ardent Mills, Denver, CO, U.S.A.

Hot Topic: FSMA/GFSI – Tools for the Trade • 551 AB, CC

Organizer: Barbara B. Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.

Moderator: Barbara B. Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.; Gina Clapper, AOCS, Urbana, IL, U.S.A.

This hot topic session will look at the science of bulk material food safety management systems with related traceability, in preparation for FSMA. The practical use of the AACCI Food Safety Systems Task Force products will be presented along with case studies for participants to gain added perspective on this important issue.

2:00 p.m.

Background/History of Food Safety – Presenter to be announced

How to Evaluate a Facility for Weakness Regarding Food Safety/Traceability: Three Case Studies

2:15 p.m.

Case Study: Bulk Grain – Charles Hurburgh, Iowa State University, Ames, IA U.S.A.

2:35 p.m.

Case Study: Flour Mill – Jan Levenhagen, The Mennel Milling Co., Fostoria, OH U.S.A.

2:55 p.m.

Case Study: Bakery – Yan Li, Kellogg Company, Battle Creek, MI U.S.A.

3:15 p.m.

Environmental Monitoring Practices (EMP), Lakshmikantha Channaiah, AIB International, Manhattan, KS U.S.A.

3:25 p.m.

Specification Limitations – Terry Nelsen, Retired, Port Byron, IL U.S.A.

3:35 p.m.

Shelf Life Testing – Development of Standardized Methods – Mark Sewald, General Mills, Minneapolis, MN U.S.A.

3:45 p.m.

How to Get Involved – Barbara B. Heidolph, Innophos, Inc., Cranbury Township, NJ, U.S.A.

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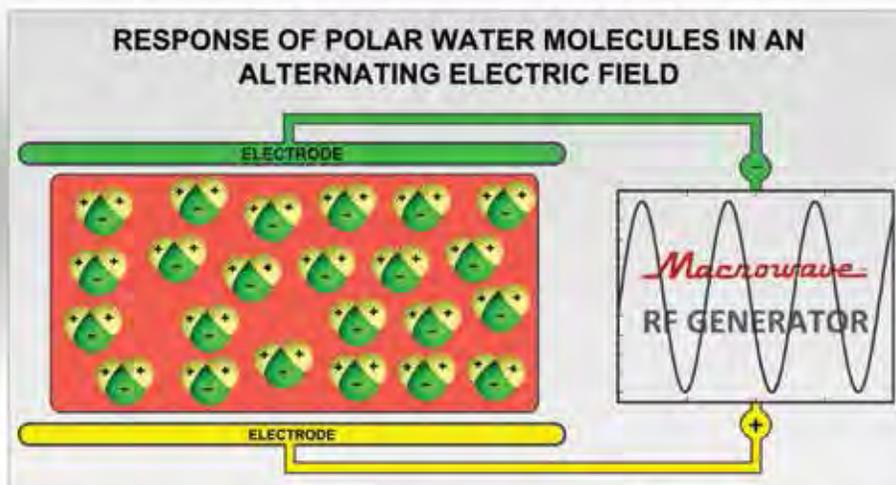
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The illustration above depicts a radio frequency heating system with material between the electrodes. The figures in the material represent polar water molecules. Note how the polar water molecules face the oppositely charged electrode. When the electric field reverses, as the RF generator oscillates at 40.68mhz, the molecular agitation cause a rapid and uniform temperature rise. The very rapid and precisely controllable RF heating process offers the advantages of reduced processing times, maintenance of protein functionality, and consistent log reductions.

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Poster abstracts are available online at www.aaccnet.org/meet. See left-side navigation option for “Searchable Abstracts.” A PDF of poster abstracts is also available online.

Poster Schedule

Monday, October 6

7:00 – 10:00 a.m.

Poster Set-Up by Authors

10:00 a.m. – 7:00 p.m.

Poster Viewing

4:00 – 7:00 p.m.

Exhibits with Beer and Poster Viewing with Authors Present

Student Poster Authors Present (4:00 – 5:00 p.m.)

Poster Authors Present (odd-numbered posters 5:00 – 6:00 p.m.)

Tuesday, October 7

8:00 a.m. – 2:30 p.m.

Poster Viewing

12:00 – 2:15 p.m.

Lunch with the Exhibitors

Poster Authors Present (even-numbered posters 1:00 – 2:00 p.m.)

2:30 – 4:00 p.m.

Exhibit and Poster Take-Down

Poster Categories

Listed alphabetically by subject matter.

Analytical Methods (Posters 1–14)

Cake, Cookies, & Donuts (Posters 15–22)

Conversations: Whole Grain (Poster 23)

Corn & Tortillas (Posters 24–32)

Dietary Fiber (Posters 33–45)

Germination (Posters 46–50)

Ingredients (Posters 51–64)

Legumes (Posters 65–74)

Milling & Baking (Posters 75–89)

Pasta & Noodles (Posters 90–95)

Phenolics, Antioxidants, & Health (Posters 96–107)

Protein & Gluten (Posters 108–120)

Rheology (Posters 121–137)

Rice (Posters 138–149)

Starch Digestion (Posters 150–159)

Starch Structure & Properties (Posters 160–172)

Whole Grain (Posters 173–184)

Poster Titles and Authors

Listed by subject matter and scientific initiatives. Affiliations are listed as provided by the organizer/presenter.

Analytical Methods

Scientific Initiative: Quality & Analytical Methods

- 1-P Spectroscopic Methods for Aflatoxin Analysis in Maize: A Comparison of Raman, FT-NIR and FTIR Spectroscopies.**
K. LEE (1), T.J. Herrman (1), J. Davis (1), S. Murray (1), Y. Deng (1). (1) Texas A&M Univ, College Station, TX, U.S.A.
- 2-P Surface-Enhanced Raman Spectroscopy as a Rapid, Inexpensive, and Accurate Tool for Detection of Aflatoxins in Maize.**
K. LEE (1), T.J. Herrman (1), Y. Bisrat (1), S. Murray (1). (1) Texas A&M Univ, College Station, TX, U.S.A.
- 3-P An Example of NIR Calibration Development Limit: Alveographic Criteria on Common Wheat Flour.**
A. DUBAT (1), O. Le Brun (1), N. Boinot (1). (1) CHOPIN Technologies, Villeneuve la Garenne, France
- 4-P X-ray density scanning as a technique for the characterization of extruded food products.**
R.J. KOWALSKI (1), C.D. Morrow (2), A.G. McDonald (2), G.M. Ganjyal (1). (1) Washington State Univ, Pullman, WA, U.S.A.; (2) Univ. of Idaho, Moscow, ID, U.S.A.
- 5-P WITHDRAWN**
- 6-P Improved allergen testing in raw & processed food products – Achieving better sensitivity, throughput, & reliability.**
A. Schreiber (1), L. Bailey (2), M. WOODCOCK (2). (1) AB SCIEX, Toronto, Canada; (2) AB SCIEX, Framingham, MA, U.S.A.
- 7-P Innovations for high-throughput, multi-mycotoxin quantitation in cereals & grains.**
O. Cabrices (1), A. Schreiber (2), L. Bailey (3), M. WOODCOCK (3). (1) Gerstel, Inc., Linthicum, MD, U.S.A.; (2) AB SCIEX, Toronto, Canada; (3) AB SCIEX, Framingham, MA, U.S.A.
- 8-P Evaluating the Kramer Shear cell and Ottawa cell for determining texture of cooked macaroni.**
Y. LIU (1), F.A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 9-P Evaluation of nuclear magnetic resonance spectroscopy for monitoring hydrolytic rancidity in intermediate wheatgrass (*Thinopyrum intermedium*)**
C. TYL (1), M. Bunzel (2), B. Ismail (1). (1) Univ.of Minnesota, Saint Paul, MN, U.S.A.; (2) Karlsruhe Institute of Technology, Karlsruhe Germany
- 10-P A comparative study of two testing methods for degree of gelatinization in pelleted animal feed.**
L. Zhu (1), L. Lewis (1), C. Jones (1), Y. Shi (1), S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 11-P Comparing Various Methods of Quantifying Reducing sugars and improving the measurement.**
Y. Shao (1), (. LIN (1). (1) Purdue University, West Lafayette, IN, U.S.A.

continued

- 12-P **Determining pentosan content of whole wheat and flour by the phloroglucinol colorimetric assay and GLC of alditol acetates of arabinose and xylose.**

Y. WU (1), A. Rogiewicz (1), H.D. Sapirstein (1), B.A. Slominski (1). (1) Univ.of Manitoba, Winnipeg, MB, Canada

- 13-P **The Molecular BioMarkers for Grain Technical Committee.**

R.D. SHILLITO (1). (1) Bayer CropScience LP, Morrisville, NC, U.S.A.

- 14-P **A stable isotope dilution LC-MS/MS method for the quantification of ferulic acid and its microbial metabolites.**

A. Hildebrand (1), M. Waterstraat (1), D. Brockmann (2), D.D. Gallaher (2), A.Y. Arikawa (2), M. BUNZEL (1). (1) Karlsruhe Institute of Technology, Karlsruhe, Germany; (2) University of Minnesota, St. Paul, MN, U.S.A.

Cake, Cookies & Donuts

Scientific Initiative: Ingredients & Innovations

- 15-P **Amylase and phospholipase combination improves cake desirable attributes.**

D.L. AUSTIN (1). (1) Novozymes, Wake Forest, NC, U.S.A.

- 16-P **Impact of sugar and egg proteins on the physico-chemical properties of cake batters.**

N. HESSO (1), P. Le-Bail (2), C. Loisel (1), S. Chevallier (1), A. Marti (3), A. Le-Bail (1), K. Seetharaman (3). (1) ONIRIS - UMR CNRS GEPEA 6144, Nantes, LA, France; (2) INRA, Nantes, LA, France; (3) Univ.of Minnesota, Saint Paul, LA, U.S.A.

- 17-P WITHDRAWN

- 18-P **The development of a clean label high ratio cake concentrate.**

T. PENNY (1). (1) Horizon Milling, Burlington, ON, Canada

- 19-P **Comparison of two AACC methods for sugar-snap cookies and influence of altitude on cookie diameter.**

C. JIANG (1), C. Jiang (2), C. Butti (3), N. Milanowski (2), J. Battistone (3), M. Javener (2), S. Phillips (3). (1) Cargill Horizon Milling, Minnetonka, MN, U.S.A.; (2) Cargill Horizon Milling, Minnetonka, MN, U.S.A. (3) Syngenta, Berthoud, CO, U.S.A.

- 20-P **Application of whole Japanese sweet chestnut (*C. crenata*) flour in cookies.**

A.C. Monteiro (1), A.K. Costa (1), F.M. Guedes (1), G.G. Baptista (1), M. Vettorato (1), R. Shinzato (1), R.C. dos Reis (1), A.V. Moreira (1), G.A. SEHN (1), C.J. Steel (1). (1) State University of Campinas, Campinas, Brazil

- 21-P **Improvement of Volume and Appearance of High Ratio Cake Baked from Non-chlorinated Soft Wheat Flour.**

B. BAIK (1), T. Donelson (1). (1) Soft Wheat Quality Laboratory, USDA ARS-Corn, Soybean & Wheat Quality Research Unit, Wooster, OH, U.S.A.

- 22-P **Texture profile analysis in wheat flour dough and donuts with added flour peel *Oxalis tuberosa*.**

N. GUEMES-VERA (1), E. Santos Ribera (1), S. Espino Manzano (1), J. Piloni Martini (1), J. Hernandez Uribe (1). (1) Univ.Autonoma del Estado de Hidalgo, Tulancingo, Mexico

Conversations: Whole Grain

Scientific Initiative: Health & Nutrition

- 23-P **Preference mapping of commercial whole wheat breads.**

A.J. BERNSTEIN (1), D.J. Rose (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.

Corn & Tortillas

Scientific Initiative: Engineering & Processing

- 24-P **Corn tortilla elaborated with an ecological nixtamalization: proximal composition and starch digestibility.**

L.A. BELLO-PEREZ (1), P.C. Flores-Silva (2), J.D. Figueroa-Cardenas (3). (1) CEPROBI-IPN, Yautepec, Morelos, Mexico; (2) Instituto Politecnico Nacional, Yautepec, Morelos, Mexico; (3) CINVESTAV, Queretaro, Mexico

- 25-P **Production of nixtamalized corn flour and tortillas fortified with bean (*Phaseolus vulgaris*) seed coat extract.**

A. Salinas Valdes (1), J.R. SORDO ALFARO (1), A. Lavin Diaz de Leon (1), R.A. Chavez-Santoscoy (1), E. Perez Carrillo (2). (1) ITESM, Monterrey, Mexico; (2) Tec de Monterrey, Monterrey, Mexico

- 26-P **Effect of microwave treatment and moisture content on physicochemical properties of corn flour.**

L. Roman (1), M.M. Martinez (1), C.M. Rosell (2), M. GOMEZ (1). (1) Valladolid University, Palencia, Spain; (2) Institute of Agrochemistry and Food Technology (IATA-CSIC), Paterna (Valencia), Spain

- 27-P **Characterising maize hardness using rapid visco analyser (RVA) viscograms and locally weighted partial least squares (LW-PLS) regression models.**

A. GUELPA (1), M. Bevilacqua (2), F. Marini (2), K. O'Kennedy (3), P. Geladi (4). (1) Stellenbosch University, Stellenbosch, South Africa; (2) University of Rome, Rome, Italy; (3) Sasko Strategic Services, Division of Pioneer Foods (Pty.), Paarl, South Africa; (4) Institute of Forest Biomaterials and Technology, Swedish University of Agricultural Sciences, Umea, Sweden

- 28-P **Partial characterization of physicochemical and functional properties of starches of Mexican blue maize obtained by wet-milling.**

M. URIARTE-ACEVES (1), P. Sanchez-Pena (1), C. Reyes-Moreno (1), J. Milan-Carrillo (1). (1) Universidad Autonoma de Sinaloa, Culiacan, Mexico

- 29-P **Effect of processing on the fatty acid profiles and antioxidant capacity of pigmented creole maize races for production of tortillas.**

A. MILAN-NORIS (1), S.A. Rodriguez-Espitia (2), I. Contreras-Andrade (1), C. Reyes-Moreno (1), J. Milan-Carillo (1), E.O. Cuevas-Rodriguez (1). (1) Programa Regional de Posgrado en Biotecnologia, Universidad Autonoma de Sinaloa, Culiacan, Mexico; (2) Maestria en Ciencia y Tecnologia en Alimentos, Universidad Autonoma de Sinaloa, Culiacan, Mexico

- 30-P **The effect of temperature induced stress cracks on the process quality of yellow dent corn.**

D. SCHEFF (1), J. Frederick (1), C. VanBibber (1), A. Bingham (1), H. Dogan (1), K. Ambrose (1). (1) Kansas State Univ, Manhattan, KS, U.S.A.

- 31-P **Development of a laboratory scale corn flaking procedure to simulate commercial processing conditions and to characterize flake product.**

G. KANDHOLA (1), N.J. Engeseth (2), M. Bohn (2), K.D. Rausch (2). (1) Univ.of Illinois At Urbana Champaign, Champaign, IL, U.S.A.; (2) Univ.of Illinois at Urbana Champaign, Champaign, IL, U.S.A.

- 32-P **Antioxidant capacity of tortilla elaborated from extruded and nixtamalized Mexican pigmented maize flour. A.**

CORRALES-BANUELOS (1), D. Angulo-Serrano (1), E. Osuna-Gallardo (1), C. Reyes-Moreno (1), E. Cuevas-Rodriguez (1), R. Gutierrez-Dorado (1), J. Milan-Carrillo (1), S. Mora-Rochin (1). (1) Universidad Autonoma de Sinaloa, Culiacan Sinaloa, AB, Mexico

Dietary Fiber

Scientific Initiative: Quality & Analytical Methods

- 33-P **Polysaccharide composition of triticale (Triticosecale) produced over three years in the Great Plains of the USA.**

J. YANG (1), D. Rose (2), P. Baenziger (2). (1) Univ.of Nebraska, Lincoln, NE, U.S.A.; (2) Univ.of Nebraska, Lincoln, NE, U.S.A.

- 34-P Evaluation of functionality of internal pea fiber in high moisture food systems.**
C. PERERA (1). (1) Roquette America Inc, Geneva, IL, U.S.A.
- 35-P Thermo-mechanical extrusion and sodium hydroxide pretreatments for ethanol production from destarched corn fiber.**
G. RYU (1), L. Myat (2). (1) Kongju Natl Univ, Choongnam South Korea; (2) Kongju National Univ, Yesan South Korea
- 36-P The energy value of a common source of dietary fiber, resistant maltodextrin.**
D.T. GORDON (1). (1) PIC&PC, Cathlamet, WA, U.S.A.
- 37-P Production, Separation and Functional Tests of Xylooligosaccharides from *Miscanthus x giganteus* in the Cellulosic Ethanol Process.**
M. CHEN (1), M.J. Bowman (2), B.S. Dien (2), M.A. Cotta (2), L.B. Iten (2), K.D. Rausch (3), M.E. Tumbleson (1), T.R. Whitehead (2), V. Singh (1). (1) University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.; (2) NCAUR-USDA, Peoria, IL, U.S.A.; (3) University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.
- 38-P Extraction and characterisation of wheat arabinoxyloligosaccharides from animal feed co-products of bioethanol production.**
R. Bell (1), D. Sushil (1), N. Cukelj (1), G. CAMPBELL (1). (1) Univ of Manchester, Manchester United Kingdom
- 39-P Evaluating the effect of barley Beta-glucan on mechanical properties of white salted and yellow alkaline noodles using ultrasound.**
A. SALIMI KHORSHIDI (1), A. Strybulevych (1), D. Daugelaite (2), M.G. Scanlon (1), J.H. Page (1), D.W. Hatcher (3). (1) Univ of Manitoba, Winnipeg, MB, Canada; (2) Univ of Manitoba, Winnipeg, MB, Canada; (3) Canadian Grain Commission, Winnipeg, MB, Canada
- 40-P Correlations between the substitution of wheat flour by fine wheat bran, dough rheological parameters and loaf specific volume.**
G.A. Sehn (1), N.S. Sasaki (1), P.F. Salek (1), C.J. STEEL (1). (1) University of Campinas (UNICAMP), Campinas, SP, Brazil
- 41-P Exploring the relationship between corn arabinoxylan structure and gut bacterial growth behavior.**
X. NIE (1), E. Martens (2), B. Hamaker (1). (1) Purdue University, West Lafayette, IN, U.S.A.; (2) University of Michigan, Medical School, Ann Arbor, MI, U.S.A.
- 42-P Function and mechanism of action of soluble & insoluble fibers in dough systems.**
Y. ZHAO (1). (1) Kansas State Univ, Manhattan, KS, U.S.A.
- 43-P Sensory acceptability and satiety of a heart-healthy β -glucan-added spaghetti-type pasta.**
J.P. Vivanco (1), X. LOPEZ (2), C. Barraza (1), J.M. Munoz (3), M. Alvina (4). (1) Consorcio de Cereales Funcionales S.A. - Universidad de Chile, Facultad de Ciencias Químicas y Farmacéuticas, Departamento de Ciencia de los Alimentos y Tecnología Química, Santiago de Chile Chile; (2) Consorcio de Cereales Funcionales S.A. - Granotec Chile S.A., Santiago de Chile Chile; (3) Empresas Carozzi S.A., Santiago de Chile Chile; (4) Universidad de Valparaíso, Facultad de Farmacia, Departamento de Nutrición y Alimentos, Valparaíso Chile
- 44-P Characterization of feruloylated arabinoxylans from the perennial grain species intermediate wheat grass (*Thinopyrum intermedium*).**
R.R. Kylo (1), A. Becker (1), M. BUNZEL (1). (1) Karlsruhe Institute of Technology, Karlsruhe, Germany
- 45-P The importance of dietary fiber derived from added fiber, a case study with Resistant Maltodextrin.**
A. BUCK (1). (1) Archer Daniels Midland Co, Decatur, IL, U.S.A.

Germination

Scientific Initiative: Quality & Analytical Methods

- 46-P Germination loss of silo stored barley is a result of membrane integrity disruption and partially, low ascorbate peroxidase activity.**
J. MOLOI (1), M.T. Labuschagne (2). (1) Univ of the Free State, Bloemfontein South Africa; (2) University of the Free State, Bloemfontein South Africa
- 47-P WITHDRAWN**
- 48-P Effect of Processing Conditions during the Partial Germination of Whole Yellow Peas on the Quality of Spaghetti and Extruded Snacks.**
P. FROHLICH (1), G. Boux (1), L. Malcolmson (1). (1) Canadian International Grains Institute, Winnipeg, MB, Canada
- 49-P Optimization of the germination bioprocess of amaranth seeds to increase the antioxidant activity, total phenolic and flavonoid contents.**
J.X. PERALES SÁNCHEZ (1), R. Gutierrez Dorado (2), C. Reyes Moreno (2), M.A. Gomez Favela (2), J. Milan Carrillo (2), A. Valdez Ortiz (2), E. Cuevas Rodriguez (2). (1) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico; (2) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico
- 50-P Physical, Physicochemical and Functional Characterization of Desi Chickpea (*Cicer arietinum* L.) Cultivars During Germination.**
M. HEIRAS PALAZUELOS (1), D. Ruelas Zavala (2), C. Reyes Moreno (2), J. Garzon Tiznado (2). (1) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico; (2) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico

Ingredients

Scientific Initiative: Ingredients & Innovations

- 51-P Improvement of dietary fiber, ferulic acid and calcium contents in pan bread enriched with nejayote solids from white maize (*Zea mays*).**
B.A. ACOSTA-ESTRADA (1), M.A. Lazo-Valez (1), Y. Nava-Valdez (1), J.A. Gutierrez-Urbe (1), S.O. Serna-Saldavara (1). (1) Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Monterrey Mexico
- 52-P WITHDRAWN**
- 53-P Sensory effects of replacing sodium chloride with a mineral salt high in magnesium in white bread.**
H. MITCHELL (1), D. Rolf (1). (1) Smart Salt Inc, Arnold, CA, U.S.A.
- 54-P Microbial effects of replacing sodium chloride with a mineral salt high in magnesium in white bread.**
H. MITCHELL (1), D. Rolf (1). (1) Smart Salt Inc, Arnold, CA, U.S.A.
- 55-P Chinese steamed bread from quinoa-wheat composite flour.**
S. WANG (1), A. Opasathavorn (2), F. Zhu (2). (1) Niagara College, Niagara-on-the-lake, ON, Canada; (2) University of Auckland, Auckland New Zealand
- 56-P Fat Reduction in Hot Press Whole Wheat Flour Tortilla With Inuline and Oatmeal.**
I. PALOMERA SANTANDREU (1), S. Payan Tamez (1), A. Martinez Martinez (1), E. Heredia-Olea (1), S. Guajardo-Flores (1), E. Perez-Carrillo (1). (1) ITESM, Monterrey Mexico
- 57-P Effect of xanthan gum on improvement of the bread height and volume on baking with frozen and thawed dough.**
M. SEGUCHI (1), A. Tabara (1), N. Morimoto (1). (1) Kobe Women's University, Kobe Japan
- 58-P WITHDRAWN**

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- 59-P **Evaluation of the effects of hydrocolloids on frozen dough properties during proofing with the Rheo F4.**
G. VERICEL (1), (1) CHOPIN Technologies, Villeneuve la Garenne, NY, France
- 60-P **Using almonds as ingredients: predicting lipid release from particle size.**
T. GRASSBY (1), M. Grundy (1), P. Ellis (1), (1) King's College London, London United Kingdom
- 61-P **Functional properties of raw and extruded gluten free flours.**
G. KAUR CHANDI (1), S. G Rudra (2), A. Mahendru (3), J. Nishad (3), N. Jakhar (3), C. Kaur (2), (1) Brabender GmbH & Co. KG Kulturstr. 51-55 47055 Duisburg, Germany, Brampton, ON, Canada; (2) Indian Agricultural Research Institute, New Delhi India; (3) Indian Agriculture Research Institute, New Delhi India
- 62-P **Gel from ground chia (*Salvia hispanica* L.) as hydrocolloid for wheat bread production.**
V. Zettel (1), A. Kramer (1), F. Hecker (1), B. HITZMANN (1), (1) University of Hohenheim, Stuttgart Germany
- 63-P **Physico-chemical and functional properties of the main nutrients of flax seeds.**
V. MARKINA (1), M. Kireeva (2), (1) St Petersburg Univ, St-Petersburg Russia; (2) St Petersburg University St-Petersburg Russia
- 64-P **The Wheat Aleurone Ingredient in Breakfast Cereals**
W. VON REDING (1), (1) Buhler AG, Oberaegeri, ZG Switzerland
- Legumes**
Scientific Initiative: Ingredients & Innovations
- 65-P **Development and Quality Evaluation of Navy Bean Flour Steamed Bread.**
D. AN (1), E. Assefaw (1), B. Fu (2), (1) Canadian International Grains Institute, Winnipeg, MB, Canada; (2) Canadian Grain Commission, Winnipeg, MB, Canada
- 66-P **Development of a partial germination process for yellow peas and resultant pea flours in white layer cakes.**
J. HAN (1), A. Buchko (1), (1) Government of Alberta, Leduc, AB, Canada
- 67-P **Characterization of protein content, starch morphology and compositions in field peas.**
J. LU (1), (1) Agriculture and Agri-Food Canada, Lethbridge, AB, Canada
- 68-P **Molecular and sensory approachesto the characterization of soybean-enriched rice-based snacks.**
J. MANFUL (1), H.F. Akoto (2), P.T. Johnson (3), E. Sakyi-Dawson (4), M. Marengo (5), L. Azzini (5), F. Bonomi (5), S. Buratti (5), S. Benedetti (5), M. Zanoletti (5), M.A. Pagani (5), A. Barbiroli (5), S. Iametti (5), (1) Africa Rice Center, Cotonou Benin; (2) Department of Nutrition and Food Science, University of Ghana, Accra Ghana; (3) CSIR- Head Office, Accra Ghana; (4) Department of Nutrition and Food Science, University of Ghana, Accra Ghana; (5) DeFENS, University of Milan, Milan Italy
- 69-P **Germinated wheat and pulse flours and their baking applications**
J. HU (1), K. Richter (1), G. Nelson (1), W. Quan-hum (2), E. Uriyo (3), (1) Cargill - Horizon Milling, Minnetonka, MN, U.S.A.; (2) Cargill - Horizon Milling, Burlington, ON, Canada; (3) Cargill - Horizon Milling, Wayzata, MN, U.S.A.
- 70-P **Physicochemical properties of starch from selected Canadian grown lentils.**
Q. LIU (1), Z. Lu (2), K. Humphries (2), E. Donner (2), D. Ramdath (2), (1) Agric & Agri-Food Canada, Guelph, ON, Canada; (2) Agriculture and Agri-Food Canada, Guelph, ON, Canada
- 71-P **Development of gluten-free breads enriched with chickpea and acorn flours using response surface methodology.**
I. Gkoutenoudi-Eskitzi (1), A. LAZARIDOU (1), A.M. Goula (1), C.G. Biliaderis (1), (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, P.O. Box 235, Thessaloniki, 541 24, Greece, Thessaloniki Greece
- 72-P **Effects of particle size reduction by air-jet milling on the properties of *Phaseolus Vulgaris* L. var. Pinto bean flour.**
F. SUMARGO (1), W.S. Ratnayake (1), S.A. Weier (1), (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.
- 73-P **Wheat-pea composite flour quality and its effect on bread quality.**
L.D. DAVIES-HOES (1), M.G. Scanlon (1), D.L. Nizio (2), (1) Univ.of Manitoba, Winnipeg, MB, Canada; (2) Agriculture and Agri-Food Canada, Winnipeg, MB, Canada
- 74-P **Effect of Germination Time on Proximate Composition of *Desi Chickpea* (*Cicer arietinum* L.) Cultivars Grown in Northwest of México.**
M. HEIRAS PALAZUELOS (1), D. Ruelas Zavala (2), C. Reyes Moreno (2), J. Garzan Tiznado (2), (1) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico; (2) Universidad Autonoma de Sinaloa, Culiacan, Sinaloa Mexico
- Milling & Baking**
Scientific Initiative: Quality & Analytical Methods
- 75-P **Effect of water diffusion into wheat kernels during tempering on the hardness of wheat kernels.**
Y. Harima (1), N. Tsuge (2), A. Horigane (3), M. Yoshida (4), K. NAKAMURA (5), (1) Nisshin Flour Milling Inc., Tyuou-ku Tokyo Japan; (2) Nisshin Flour Milling Inc., Tsukuba-city, Ibaraki Japan; (3) National Food Research Institute, Tsukuba-city Ibaraki Japan; (4) Nippon Veterinary and Life Science University, Musashino-city, Tokyo Japan; (5) Nisshin Flour Milling Inc, Tsukuba-city Ibaraki Japan
- 76-P **Test Baking: What Does Loaf Volume Tell Us?**
B. DUPUIS (1), B. Fu (1), (1) Canadian Grain Commission, Winnipeg, MB, Canada
- 77-P **Cold plasma: a novel technology for flour treatment.**
N. Bahrami (1), G.A. Chohe (2), S.P. PENSON (2), I.D. Fisk (1), (1) University of Nottingham, Sutton Bonington United Kingdom; (2) Campden BRI, Chipping Campden United Kingdom
- 78-P **A Systematic Study Of Breadmaking Settings For Obtaining Small Scale Bread.**
C. ROSELL (1), (1) IATA - CSIC, Paterna, Valencia Spain
- 79-P **Dark, Hard and Vitreous Kernel Content Effect on Flour and Baking Quality of Hard Red Spring Wheat.**
T. BAASANDORJ (1), J. Ohm (2), S. Simsek (3), (1) NDSU, Fargo, ND, U.S.A.; (2) USDA-ARS, Fargo, ND, U.S.A.; (3) North Dakota State University, Fargo, ND, U.S.A.
- 80-P **Impact Of Waiting Time Between End Of Baking And Depaning On Depaning Of Sliced Bread. "Satin" Project (2012-2015).**
A. LE-BAIL (1), A. Rzigue (2), K. Marmi (3), E. Purlis (4), V. Jury (3), j. Monteau (3), j. Grua (3), C. Prost (3), (1) GEPEA - CNRS, Nantes France; (2) ONIRIS - UMR GEPEA-CNRS 6144, Nantes France; (3) ONIRIS - UMR GEPEA - CNRS 6144, Nantes France; (4) CIDCA - CONICET La Plata - Universidad Nacional de La Plata Argentina, La Plata Argentina
- 81-P **Effect of postharvest conditions on grain quality.**
D. RAMCHANDRAN (1), K.D. Rausch (1), M.E. Tumbleson (1), V. Singh (1), (1) University of Illinois, Urbana-Champaign, IL, U.S.A.
- 82-P **The suggested mechanism of First Break milling on debranned wheat described with the Double Normalised Kumaraswamy Breakage Function.**
S. Galindez-Najera (1), G. CAMPBELL (1), (1) Univ.of Manchester, Manchester United Kingdom
- 83-P **Characterization of bread samples enriched with fish flour (*Cobia*, *Rachycentrumcanadum*).**
G. Fagundes (1), M. Salas-Mellado (2), L. Azzini (3), M. Marengo (3), M. Zanoletti (3), S. Iametti (3), M. PAGANI (3), (1) Food Technology Laboratory (LTA), Universidade Federal do Rio Grande, Rio Grande DR Brazil; (2) Food Technology Laboratory (LTA), Universidade Federal do Rio Grande, Rio Grande DS Brazil; (3) DeFENS, University of Milan, Milan Italy

- 84-P Milling moisture treated black beans (*Phaseolus vulgaris* L.) using a burr mill/roller mill milling system.**
H. ANDO (1), C.E. Carter (1), F.A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 85-P Adaptation of conventional wheat flour milling system to refine sorghum, corn and cowpea grains.**
M. Joseph (1), L. Zhu (1), A. Adedeji (2), J. Gwartz (3), S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) McGill University, Montreal Canada; (3) JAG Services, Inc., Manhattan, KS, U.S.A.
- 86-P Influence of Storage Time of Wheat Flour and Grain on Reliability of End-Use Quality Evaluation.**
B. BAIK (1), T. Donelson (1), T. Ji (1). (1) Soft Wheat Quality Laboratory, USDA ARS Corn, Soybean & Wheat Quality Research Unit, Wooster, OH, U.S.A.
- 87-P Impact and mitigations of high altitude on wheat/flour quality analysis.**
C. KUZNIK (1), C. Butti (2), J. Battistone (2), M. Hughes (1), D. Fehrenbach (1), B. Fishburn (2), D. French (2). (1) Cargill/Horizon Milling, LLC, Minnetonka, MN, U.S.A.; (2) Syngenta Wheat Quality Lab, Berthoud, CO, U.S.A.
- 88-P True cost of increased mill extraction yield with a low stability wheat crop.**
N. MILANOWSKI (1), K. Pfrang (1), M. Anderson (1), E. McDaniel (2), S. Hafemeyer (1). (1) Cargill Horizon Milling, Wayzata, MN, U.S.A.; (2) Cargill Horizon Milling, Chattanooga, TN, U.S.A.
- 89-P Evaluation of a Vacuum Dough Expansion System for Estimation of Dough Expansion Volume.**
P. KRISHNAN (1). (1) South Dakota State Univ, Brookings, SD, U.S.A.

Pasta & Noodles

Scientific Initiative: Quality & Analytical Methods

- 90-P Characteristics of gluten-free pasta prepared from different lentil varieties by high temperature extrusion.**
N. WANG (1), L. Maximkiuk (1), J. Santos (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada
- 91-P Dough hydration level alters physical and cooking properties of non-traditional spaghetti.**
E. DE LA PEÑA (1), F.A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 92-P Study on the Dry Processing Parameters and Its Model for Chinese Dried Noodle.**
Y. WEI (1), J. Wang (1), Y. Zhang (1), B. Zhang (1), J. Wang (2). (1) Inst of Agro-Products Processing Sci & Tech, CAAS, Beijing China; (2) Institute of Agro-Products Processing Sci-Tech, CAAS, Haidian district, Beijing China
- 93-P Performance of industrial dough mixers and effects on noodle quality.**
R. Liu (1), Y. WEI (2), Y. Zhang (1), B. Zhang (1). (1) Inst of Agro-Products Processing Sci & Tech, CAAS, Beijing China; (2) Inst of Agro-Products Processing Sci & Tech, CAAS, Beijing China
- 94-P Changes in semolina yellow pigment content and carotenoid composition during pasta processing.**
C. CHIREMBA (1), S. Nam (1), L. Schlichting (1), C. Pozniak (2), B. Fu (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada; (2) University of Saskatchewan, Saskatoon, SK, Canada
- 95-P Characteristics of cassava fortified instant noodles.**
I.O. ONIGBOGI (1), Moshood Abiola (2) (1) Poltechnic, Abeokuta, Ogun State, OR, Nigeria; (2) Moshood Abiola Polytechnic, Abeokuta, OR, Nigeria

Phenolics, Antioxidants & Health

Scientific Initiative: Health & Nutrition

- 96-P Concentrations of phenolic compounds in grain sorghum and their relevance to performance of broiler chickens offered sorghum-casein diets.**
A. KHODDAMI (1), H.H. Truong (2), S.Y. Liu (2), T.H. Roberts (3), P.H. Selle (2). (1) Faculty of Agriculture and Environment, University of Sydney, Sydney Australia; (2) Poultry Research Foundation, The University of Sydney, Sydney Australia; (3) Department of Plant and Food Science, Faculty of Agriculture and Environment, University of Sydney, Sydney Australia
- 97-P Detailed Identification of Anthocyanin Pigments in Purple Wheat Bran and Powder Isolates.**
E. ABDEL-AAL (1), P. Hucl (2), I. Rabalski (1). (1) Agriculture and Agri-Food Canada, Guelph, ON, Canada; (2) University of Saskatchewan, Saskatoon, SK, Canada
- 98-P Effects of the interaction of sorghum proanthocyanidins with ungelatinized corn starch on starch digestibility.**
D.B. AMOAKO (1), J.M. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.
- 99-P Relationship between degree of sprouting and total phenolic compounds of eight soft wheat varieties with diverse milling properties grown in Michigan.**
J. SUN (1), Y. Ai (1), B. Karakkat (1), E. Olson (1), P.K. Ng (1). (1) Michigan State Univ, East Lansing, MI, U.S.A.
- 100-P Effects of Germination on Phenolic Acid Contents and Related Enzyme Activities in Brown Rice.**
D. CHO (1), S. Lim (1). (1) Korea University, Seoul South Korea
- 101-P WITHDRAWN
- 102-P Iron and zinc concentration in white flour of bread wheat cultivars grown in the three production regions of South Africa.**
M.T. LABUSCHAGNE (1), A. van Biljon (2). (1) Univ.of the Free State, Bloemfontein South Africa; (2) University of the Free State, Bloemfontein South Africa
- 103-P WITHDRAWN
- 104-P Inhibition of nitric oxide production in lipopolysaccharide-activated RAW 264.7 macrophages by tortillas elaborated through extrusion.**
J. AGUAYO (1), S. Mora-Rochin (2), E. Cuevas-Rodriguez (2), H. Lopez-Moreno (2), C. Reyes-Moreno (2), J. Milan-Carrillo (2). (1) Univ. de Sinaloa, Culiacan, AB, Mexico; (2) Universidad Autonoma de Sinaloa, Culiacan Sinaloa, AB, Mexico
- 105-P WITHDRAWN
- 106-P Tocopherols, phenolic content, antioxidant activity of raw and sprouted quinoa and amaranth.**
G. BALAKRISHNAN (1), R. Goodrich Schneider (1). (1) University of Florida, Gainesville, FL, U.S.A.
- 107-P Inactivation of condensed tannins in sorghum flour by alkali treatment.**
A.I. Adetunji (1), J.R. Taylor (1). (1) University of Pretoria, Pretoria South Africa
- Protein & Gluten**
- Scientific Initiative: Chemistry & Interactions*
- 108-P Gluten structural evolution during pasta processing in refined and whole grain pasta: the influence of mixing, drying, and cooking.**
J.E. BOCK (1), R. West (1), S. Iametti (2), F. Bonomi (2), M. Marengo (2), K. Seetharaman (3). (1) University of Guelph, Guelph, ON, Canada; (2) Universita Degli Studi di Milano, Milan Italy; (3) University of Minnesota, St. Paul, MN, U.S.A.
- 109-P WITHDRAWN

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- 110-P Direct comparison of protein extractability of wheat flour, bran and whole wheat by aqueous solutions with varying pH.**
K. LIU (1). (1) USDA ARS, Aberdeen, ID, U.S.A.
- 111-P Cereal protein based biomaterials for food applications.**
L. CHEN (1), Z. Tian (2). (1) Univ.of Alberta, Edmonton, AB, Canada; (2) University of Alberta, Edmonton, AB, Canada
- 112-P Protein content, amino acid profiles and mineral constituents of aleurone and endosperm botanical fractions of yellow corn, purple barley and wheat.**
V.U. NDOLO (1), T. Beta (1). (1) University of Manitoba, Winnipeg, MB, Canada
- 113-P Optimization of the aqueous-alcohol washing process for production of protein concentrates from air-classified field pea and other pulses.**
R. PETER (1), V. Meda (1), R.T. Tyler (1). (1) University of Saskatchewan, Saskatoon, SK, Canada
- 114-P Molecular properties of wheat lines containing combinations of three HMW-GS transgenes.**
T. Aussenac (1), L. RHAZI (2), F. BARRO (3). (1) Inst Polytechnique LaSalle Beauvais, Beauvais France; (2) LaSalle Beauvais, Beauvais France; (3) Instituto de Agricultura Sostenible, Cordoba Spain
- 115-P Effects of ozone pretreatment on the molecular properties of wheat grain proteins.**
T. Aussenac (1), L. RHAZI (2), P. GOSE (2). (1) Inst Polytechnique LaSalle Beauvais, Beauvais France; (2) LaSalle Beauvais, Beauvais France
- 116-P Correlations between vital wheat gluten protein fractions, gluten index and specific volume obtained from a gluten expansion test.**
F. ORTOLAN (1), K. Urbano (1), F.M. Netto (1), C.J. Steel (1). (1) State University of Campinas, Campinas Brazil
- 117-P Atomistic modeling of maize α -zein peptides and their propensities for aggregation and β -sheet structuring.**
D.P. ERICKSON (1), E. Hamed (2), S. Keten (2), O.H. Campanella (1), B.R. Hamaker (1). (1) Purdue Univ, West Lafayette, IN, U.S.A.; (2) Northwestern University, Evanston, IL, U.S.A.
- 118-P Protein-protein interactions and amino acid composition of meat analogue obtained at high and low moisture extrusion.**
M. Schmiele (1), M.D. Gurgueira (1), M.S. Clerici (1), Y.K. CHANG (1). (1) University of Campinas, Campinas Brazil
- 119-P Effect of mixing temperature on protein secondary structure and thiols in soft and hard wheat flour dough.**
E.T. QUAYSON (1), K. Seetharaman (1), A. Marti (2). (1) University of Minnesota, St. Paul, MN, U.S.A.; (2) University of Minnesota, St. Paul, MN, U.S.A.
- 120-P Changes in protein conformation and sulphhydryl content in soft and hard wheat flours during mixing.**
E.T. QUAYSON (1), K. Seetharaman (1), A. Marti (2). (1) University of Minnesota, St. Paul, MN, U.S.A.; (2) University of Minnesota, Saint Paul, MN, U.S.A.
- 121-P Evaluation of Texture Differences among Varieties of Cooked Quinoa.**
G. WU (1), C.F. Morris (2), K.M. Murphy (1). (1) Washington State University, Pullman, WA, U.S.A.; (2) USDA-ARS Western Wheat Quality Lab, Pullman, WA, U.S.A.
- 122-P Physicochemical properties of hard red spring wheat flour/hydrocolloid blends measured with micro-viscoamylograph.**
K. WHITNEY (1), S. Simsek (1). (1) North Dakota State Univ, Fargo, ND, U.S.A.
- 123-P Thermal, pasting and gel textural properties of nine types of starches.**
S. Li (1), Y. Zhang (1), Y. WEI (2), W. Zhang (1), B. Zhang (1). (1) Inst of Agro-Products Processing Sci & Tech, CAAS, Beijing China; (2) Inst of Agro-Products Processing Sci & Tech, CAAS, Beijing China
- 124-P Prediction of Noodles and Steam Bread Score With the Mixolab.**
A. DUBAT (1), H. Sun (2), H. Yu (3), O. Le Brun (1), J. Latchoumia (1), N. Boinot (1). (1) CHOPIN Technologies, Villeneuve la Garenne France; (2) Academy of State Administration of Grain, Beijing China; (3) Chopin (Beijing) Trading Company Ltd., Beijing China
- 125-P Assessment of white and whole wheat flour quality using the micro-viscoamylograph.**
K. WHITNEY (1), D. Olsen (1), S. Simsek (2). (1) North Dakota State Univ, Fargo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.
- 126-P Physical and molecular characterization of starches from *Oryza glaberrima* accessions.**
J.K. GAYIN (1), J. Manful (2), E. Bertoft (3), K. Seetharaman (4). (1) University of Guelph, Guelph, ON, Canada; (2) Africa Rice Center, Cotonou Benin; (3) University of Minnesota, St Paul, MN, U.S.A.; (4) Associate Professor, Dept. of Food Science and Nutrition, Univ.of Minnesota, St Paul, MN, U.S.A.
- 127-P Viscosity measurement of β -glucan containing cereal products using Rapid Visco Analyser: A collaborative study.**
T.H. Gamel (1), E.M. ABDEL-AAL (1), S.M. Tosh (2). (1) Agriculture and Agri-Food Canada, Guelph, ON, Canada; (2) Agric and Agri-Food Canada, Guelph, ON, Canada
- 128-P A study of factors influencing the farinograph absorption of Canadian hard red winter wheats with a focus on pentosan content.**
Y. WU (1), H.D. Sapirstein (1), R.J. Graf (2). (1) Univ.of Manitoba, Winnipeg, MB, Canada; (2) Agriculture and Agri-Food Canada Lethbridge Research Centre, Lethbridge, AB, Canada
- 129-P Physical and rheological approaches for defining the overall quality of cowpea-enriched breakfast cereals.**
M. PAGANI (1), L. Baffour (2), J. Manful (3), P. Johnson (4), S. Firibu (2), L. Azzini (1), F. Bonomi (5), M. Marengo (1), S. Buratti (1), S. Benedetti (1), M. Zanoletti (1), S. Iametti (1). (1) DeFENS, University of Milan, Milan Italy; (2) Department of Nutrition and Food Science, University of Ghana, Accra Ghana; (3) AfricaRice, Cotonou Benin; (4) CSIR- Head Office, Accra Ghana; (5) DeFENS University of Milan, Milan Italy
- 130-P Effects of nitrogen availability during grain filling on the wheat protein-Alveograph W linear relationship.**
D. VAZQUEZ (1), A.G. Berger (2), E. Johansson (3). (1) INIA, Colonia Uruguay; (2) INIA, La Estanzuela Uruguay; (3) The Swedish University of Agricultural Sciences, Alnarp Sweden
- 131-P A modified dough preparation protocol for Extensograph test of dough strength.**
B. Fu (1), B. Dupuis (1), J. SUCHY (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada
- 132-P Effects of enzymes and emulsifiers on the rheological properties of whole-wheat dough and the quality attributes of whole-wheat raw noodle.**
M. Niu (1), G. HOU (2), J. Kindelspire (3), P. Krishnan (3), Z. Chen (1). (1) Jiangnan University, Wuxi China; (2) Wheat Marketing Center, Portland, OR, U.S.A.; (3) South Dakota State University, Brookings, SD, U.S.A.
- 133-P Evaluating Dough Mixing Properties at Different Mixing Speeds with Farinograph-AT.**
K. GEHRING (1), G. Hou (2), B. Lee (1). (1) Wheat Marketing Center, Inc., Portland, OR, U.S.A.; (2) Wheat Marketing Center, Portland, OR, U.S.A.
- 134-P Characterization of Increased Elastic Compression-Recovery Behavior of Gluten Treated with β -Glucan-Containing Oat Bran Materials.**
S.R. KAHN (1), S.J. Mulvaney (1). (1) Cornell University, Ithaca, NY, U.S.A.

Rheology

Scientific Initiative: Quality & Analytical Methods

- 121-P Evaluation of Texture Differences among Varieties of Cooked Quinoa.**
G. WU (1), C.F. Morris (2), K.M. Murphy (1). (1) Washington State University, Pullman, WA, U.S.A.; (2) USDA-ARS Western Wheat Quality Lab, Pullman, WA, U.S.A.
- 122-P Physicochemical properties of hard red spring wheat flour/hydrocolloid blends measured with micro-viscoamylograph.**
K. WHITNEY (1), S. Simsek (1). (1) North Dakota State Univ, Fargo, ND, U.S.A.

- 135-P Understanding the Surface Properties of Flour from Different Wheat Classes and their Relation to Flow Behavior.**
K. Siliveru (1), J.W. Kwek (2), G. Lau (3), D. Pai (3), K. AMBROSE (4). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) Institute of Chemical and Engineering Sciences, A*STAR, Singapore Singapore; (3) Institute of Chemical and Engineering Sciences (ICES), A*STAR, Singapore Singapore; (4) Kansas State Univ, Manhattan, KS, U.S.A.
- 136-P Impact of intermediate wheat grass (*Thinopyrum intermedium*) on dough rheological properties.**
X. QIU (1), A. Marti (2), K. Seetharaman (1). (1) University of Minnesota, St. Paul, MN, U.S.A.; (2) University of Milan, Milan Italy
- 137-P The influence of abiotic stress conditions on Mixsmart characteristics of two commercial bread wheat cultivars.**
M.J. MOLOI (1), M.T. Labuschagne (1). (1) University of the Free State, Bloemfontein South Africa

Rice

Scientific Initiative: Engineering & Processing

- 138-P Effect of soaking temperature on properties of comingled rice.**
K. LEETHANAPANICH (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.
- 139-P Effects of soaking and steaming regimes on the quality of artisanal parboiled rice.**
J. MANFUL (1), S. Ndindeng (1), S. Graham-Acquaah (1), D. Tchatcha (2). (1) Africa Rice Center, Cotonou Benin; (2) University of Abomey Calavi, Cotonou Benin
- 140-P Influence of growing location on anthocyanin composition and antioxidant activity of several colored rice.**
S. BAE (1), Y. Jin (1), D. Seong (1), Y. Kim (1), Y. Cho (1), H. Shin (1). (1) Gyeongsangnam-do Agricultural Research & Extension Services, Jinju South Korea
- 141-P WITHDRAWN
- 142-P WITHDRAWN
- 143-P Milled Rice Fissuring Rates of Pureline- and Hybrid-Cultivar Lots.**
S. MUKHOPADHYAY (1), T.J. Siebenmorgen (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.
- 144-P Impact of Rapid Moisture Adsorption on Rice Milling Yields.**
S. MUKHOPADHYAY (1), T.J. Siebenmorgen (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.
- 145-P Exploring Rice Quality Traits of Importance to Export Markets.**
J. Jinn (1), J. PATINDOL (2), Y. Wang (1), T. Siebenmorgen (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.; (2) Univ.of Arkansas, Fayetteville, AR, U.S.A.
- 146-P Micronutrient Fortified Extruded Rice Kernels: Impact of Processing and Formulation on Physico-Chemical Attributes.**
A. Adedeji (1), M. Joseph (2), S. ALAVI (3). (1) McGill University, Montreal Canada; (2) Kansas State University, Manhattan, KS, U.S.A.; (3) Kansas State Univ, Manhattan, KS, U.S.A.
- 147-P Effect of water treatment on rice grain quality.**
R.J. BRYANT (1), M. Anders (2), K. Yeater (3). (1) USDA ARS DBNRR, Stuttgart, AR, U.S.A.; (2) University of Arkansas Rice Research and Extension Center, Stuttgart, AR, U.S.A.; (3) USDA, ARS, Southern Plains Area, College Station, TX, U.S.A.
- 148-P Changes in morphology of starch in parboiled rice kernels.**
S. Sittipod (1), Y. SHI (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 149-P Effects of manufacturing factors and rice flour properties on the physicochemical characteristics of whole rice bread.**
M. Su (1), S. LU (1). (1) China Grain Products R&D Institute, Taipei Taiwan

Starch Digestion

Scientific Initiative: Health & Nutrition

- 150-P Repeated cooking and freezing of whole wheat flour modifies in vitro starch digestion and fecal fermentation.**
J.A. ARCILA-CASTILLO (1), D.J. Rose (1). (1) University of Nebraska Lincoln, Lincoln, NE, U.S.A.
- 151-P α -Amylolysis of Great Northern bean starches isolated from five selected cultivars.**
H. WANG (1), W.S. Ratnayake (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.
- 152-P Development of rice products with slower digestibility.**
R. HSU (1). (1) China Grain Product R&D Institute, New Taipei Taiwan
- 153-P Kinetics of starch digestion of Mexican blue maize varieties as whole grain flours and isolated starches obtained by wet-milling.**
M. URIARTE-ACEVES (1), P. Sanchez-Pena (1), R. Gutierrez-Dorado (1), C. Reyes-Moreno (1), J. Milan-Carrillo (1). (1) Universidad Autonoma de Sinaloa, Culiacan Mexico
- 154-P Impact of processing conditions and botanical source on the structures of starch hydrolysates following salivary and luminal amylases.**
K.K. NANTANGA (1), E. Bertoft (2), K. Seetharaman (2). (1) Univ.of Namibia, Windhoek, ON, Namibia; (2) University of Minnesota, St. Paul, MN, U.S.A.
- 155-P Synergistic Amylomaltase and Branching Enzyme Catalysis To Suppress Cassava Starch Digestibility.**
W. Sorndech (1), D. Sagnelli (1), A. BLENNOW (2), S. Tongta (3). (1) University of Copenhagen, Frederiksberg C Denmark; (2) Univ.of Copenhagen, Frederiksberg C Denmark; (3) Suranaree University of Technology, Amphur Muang Thailand
- 156-P Slowly digestible enriched starch powder from gelatinized high-amylose starch by hydrothermal treatment.**
E. AGAMA-ACEVEDO (1), B. Lee (2), B.R. Hamaker (2). (1) CEPRO-BI-IPN, Yautepec, Morelos Mexico; (2) Purdue University, West Lafayette, IN, U.S.A.
- 157-P Processing methods to improve sorghum digestibility.**
J. LI (1), Y. Wang (1), G. Atungulu (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.
- 158-P Polyphenols have multiple effects on the intestinal α -glucosidases.**
M. SIMSEK (1), R. Quezada-Calvillo (2), R. Quezada-Calvillo (3), B.L. Nichols (3), B.R. Hamaker (1). (1) Whistler Center for Carbohydrate Research, Food Science, Purdue University, West Lafayette, IN, U.S.A.; (2) Department of Chemistry, San Luis Potosi Mexico; (3) Pediatrics-Nutrition, Houston, TX, U.S.A.
- 159-P Direct in-vitro assay of resistant starch in phosphorylated cross-linked starch.**
R. Shukri (1), L. Zhu (1), P.A. Seib (1), C. Maningat (2), Y. SHI (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) Manildra Group USA, Shawnee Mission, KS, U.S.A.

Starch Structure & Properties

Scientific Initiative: Chemistry & Interactions

- 160-P Application of the novel food emulsifier aggregates to flour or starch based products.**
A. OGAWA (1), S. Arima (2). (1) Mitsubishi-Kagaku Foods Corporation, Yokohama-city Japan; (2) Mitsubishi-Kagaku Foods Corporation, Yokohama Japan

continued

161-P Molecular Encapsulation by amylose of two essential poly-unsaturated fatty acids.

P. LE BAIL (1). (1) INRA, Nantes France

162-P Characterizing the structure of Hylon VIII maize starch.

G. PEYMANPOUR (1), K. Seetharaman (2), E. Bertoft (3), M. Marcone (1), I. Tetlow (4). (1) Dept. of Food Science, University of Guelph, Guelph, ON, Canada; (2) Dept. of Food Science and Nutrition, University of Minnesota, St. Paul, MN, U.S.A.; (3) Dept. of Food Science, Uppsala BioCenter, Swedish University of Agricultural Sciences, Uppsala Sweden; (4) Dept. of Molecular and Cellular Biology, University of Guelph, Guelph, ON, Canada

163-P Rheological properties of chestnut and normal maize starches esterified with octenyl succinic anhydride.

V.d. Santos (1), G.A. SEHN (1), M. Schmiele (1), Y.K. Chang (1), C.J. Steel (1). (1) State University of Campinas, Campinas Brazil

164-P Freeze-drying changes the structure and digestibility of B-polymorphic starches.

B. ZHANG (1), K. Wang (1), J. Hasjim (1), E. Li (1), B.M. Flanagan (1), M.J. Gidley (1), S. Dhital (1). (1) Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, University of Queensland, Brisbane Australia

165-P Genetic differences in starch synthases control starch fine structure and gelatinization properties in rice.

K. WANG (1), J. Hasjim (2), E. Li (1), R.J. Henry (1), R.G. Gilbert (3). (1) Univ. of Queensland, Brisbane Australia; (2) Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, University of Queensland, Brisbane Australia; (3) Univ. of Queensland/Huazhong Uni of Science & Technology, Brisbane Australia

166-P Preparation and characterization of water-dispersible starch-fatty acid complexes.

T. SEO (1), S. Lim (1). (1) Korea University, Seoul South Korea

167-P Physicochemical properties of starch produced by intercrossing between normal and waxy maize.

H. YANGCHENG (1), H. Jiang (2), J. Jane (1). (1) Iowa State University, Ames, IA, U.S.A.; (2) Ingredient, Bridgewater, NJ, U.S.A.

168-P Observations on the structure of starch from barley grown under constant light conditions.

A. GOLDSTEIN (1), E. Bertoft (2), A. Blennow (3), K. Seetharaman (2). (1) Dept. of Food Science and Nutrition, University of Minnesota, St Paul, MN, U.S.A.; (2) Dept. of Food Science and Nutrition, University of Minnesota, St. Paul, MN, U.S.A.; (3) Dept. of Plant and Environmental Sciences, University of Copenhagen, Frederiksberg C Denmark

169-P Unit and internal chain profiles of amylopectin from African rice (*Oryza glaberrima*).

J.K. GAYIN (1), E. Bertoft (2), J. Manful (3), K. Seetharaman (4). (1) University of Guelph, Guelph, ON, Canada; (2) University of Minnesota, St Paul, MN, U.S.A.; (3) Africa Rice Center, Cotonou Benin; (4) Dept. of Food Science and Nutrition, Univ. of Minnesota, St Paul, MN, U.S.A.

170-P Properties of Starches from Hybrid and Pureline Rice Cultivars.

J. PATINDOL (1), J. Li (2), Y. Wang (2), T. Siebenmorgen (2). (1) Univ. of Arkansas, Fayetteville, AR, U.S.A.; (2) University of Arkansas, Fayetteville, AR, U.S.A.

171-P Starch nanoparticles formed by rapidly cooling dispersions of jet-cooked amylose-oleic acid complexes.

F.C. FELKER (1), G.F. Fanta (1), J.A. Kenar (1). (1) USDA ARS NCAUR, Peoria, IL, U.S.A.

172-P WITHDRAWN

Whole Grain

Scientific Initiative: Engineering & Processing

173-P Influence of diet on the in vitro fecal fermentation properties of whole grain wheat.

J. YANG (1), D. Rose (2). (1) Univ. of Nebraska, Lincoln, NE, U.S.A.; (2) Univ. of Nebraska, Lincoln, NE, U.S.A.

174-P Enzymatic Hydrolysis of Whole Grain Amaranth.

J. LUTZ (1), L. Hansen (2), J. Faubion (3). (1) General Mills, Minneapolis, MN, U.S.A.; (2) General Mills, Minneapolis, MN, U.S.A.; (3) Kansas State University, Manhattan, KS, U.S.A.

175-P Quality Improvement of Whole Wheat Parboiled Alkaline Noodles.

W. WANG (1), G.G. Hou (2), E. Arndt (3), L. Marquart (1). (1) University of Minnesota-Twin Cities, St Paul, MN, U.S.A.; (2) Wheat Marketing Center, Inc., Portland, OR, U.S.A.; (3) ConAgra Foods, Inc, Omaha, NE, U.S.A.

176-P WITHDRAWN

177-P Effect of durum cultivar and growing environment on cooking qualities of whole-wheat pasta.

L. DENG (1), F.A. Manthey (2). (1) North Dakota State Univ, Fargo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.

178-P Influence of wholegrain wheat flour and extrusion conditions on texture characteristics of breakfast cereals before and after immersion in milk.

L.C. Oliveira (1), M.G. Reis (2), C.J. STEEL (1). (1) University of Campinas (UNICAMP), Campinas, SP Brazil; (2) Instituto de Tecnologia de Alimentos (ITAL), Campinas, SP Brazil

179-P Pre-milling interventions to reduce the microbial load of straight-grade and whole grain flours with minimal impact on flour functionality.

L. Sabillán (1), J. Stratton (1), D. Rose (2), R. Flores (1), A. BIANCHINI (1). (1) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.; (2) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.

180-P Pre-milling interventions to reduce lipase activity and lipid degradation of straight-grade and whole grain flours during storage.

L. SABILLÁN (1), A. Bianchini (1), J. Stratton (1), R. Flores (1), D. Rose (2). (1) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.; (2) University of Nebraska - Lincoln, Lincoln, NE, U.S.A.

181-P WW bread consumer segmentation by cluster analysis.

Q. ZHAO (1), G. Guo (1), B. Guthrie (2), M. Drake (3), E. Uriyo (1). (1) Horizon Milling, Wayzata, MN, U.S.A.; (2) Cargill Global Food Research, Wayzata, MN, U.S.A.; (3) Department of Food, Bioprocessing and Nutrition Sciences, North Carolina State University, Raleigh, NC, U.S.A.

182-P An indirect rapid heat moisture treatment method in improving functionality of whole wheat flour.

M. KHAMIS (1), J. Wilson (2), H. Dogan (3). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) USDA ARS, Manhattan, KS, U.S.A.; (3) Kansas State Univ, Manhattan, KS, U.S.A.

183-P Evaluating the effects of rapid indirect heat moisture treatment on whole wheat flour protein.

M. KHAMIS (1), S. Bean (2), H. Dogan (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) USDA ARS, Manhattan, KS, U.S.A.

184-P Whole grain likeability among undergraduate college students.

T. MELLETTE (1), M.E. Camire (2), M. Dougherty (2). (1) University of Maine, Bangor, ME, U.S.A.; (2) University of Maine, Orono, ME, U.S.A.

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2014 AACC International Awardees

Congratulations to the following members selected to receive AACCI awards in honor of their significant contributions to the field of cereal grain science. Please join us at the Opening General Session and Awards Ceremony October 5, 2014, to celebrate their accomplishments. Lecture times for individual awards are noted below.

AACC International Fellows

The AACC International Board of Directors established a Fellows Program in 1985 to honor association members who have made distinguished contributions to the field of cereal science and technology in research, industrial achievement, leadership, education, administration, communication, or regulatory affairs. Anyone who has been a member for at least 10 years and made such a contribution is eligible.



Clodualdo "Ody" Maningat, Ph.D., is currently Vice President, R&D and Technical Services at Manildra Milling Corporation and Adjunct Faculty at the Department of Grain Science and Industry, Kansas State University. He was previously Vice President, Applications Technology and Technical Services at MGP Ingredients, Inc. He is a member/former chair of the Advisory Board of Food Processing Center, University

of Nebraska, Lincoln. He has published a book, 31 papers and 41 patents. Dr. Maningat received his B.S. Chemistry (Adamson University, Philippines), M.S. Agricultural Chemistry (University of the Philippines), and Ph.D. Grain Science (Kansas State University). He is a professional member of AACCI, IFT, ACS and ASB.



Terry Nelsen has served as a statistical resource for AACCI for many years. In addition to being a team member on many research and technical projects, he continues as a consultant to the Approved Methods Committee. He organized and was the initial chair of the Statistics Committee. He is a long time member of the Check Sample Committee and has served on several Technical Committees. He organized

and presented many stats symposia at AACCI meetings. Retired from USDA-ARS, he stays active with AACCI, does a bit of stats consulting and enjoys life on a small farm in northwestern Illinois.

Carl Wilhelm Brabender Award

The Carl Wilhelm Brabender Award was established to honor the distinguished contributions to the application of rheology in milling and baking. Sponsored jointly by C. W. Brabender Instruments, Inc., South Hackensack, NJ, and Brabender OHG, Duisberg, Germany, the award is presented every three years and is administered alternately by AACC International and the Arbeitsgemeinschaft Getreideforschung, Detmold, Germany. The award provides a plaque and a travel grant to enable the recipient to visit scientists and laboratories in other parts of the world. Recipients are professionally active in rheology.



Juan de Dios Figueroa Cárdenas is a professor in the department of Material Science, where he works with the Bio-organic materials group at CINVESTAV-IPN (Center for Advanced Studies and Research of the National Polytechnic Institute in Querétaro, Mexico). Dr. Figueroa has worked together with a multidisciplinary group of physicists, chemists, engineers, and electronic specialists to improve the

making of the tortilla and rheology by applying the tools of modern science and tackle social and health problems that are important to Mexico and the World and do high-quality research at the same time. Juan explores the basic principles that govern functionality of grains for industrial applications. His areas are the Maxwell (stress relaxation) and Kelvin-Voigt (creep) generalized models for studying visco-elastic properties and high fiber-low fat tortillas to prevent obesity, diabetes type II and cardiovascular diseases. He developed the Dry nixtamalization; Wet ecological nixtamalization; Ohmic process among other technologies.

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This year's award lecture, Influence of viscoelasticity of wheat kernels, doughs on flour yield and bread volume evaluated by stress relaxation and creep-recovery tests, will take place at 10:40 a.m., Tuesday, October 7.

Edith Christensen Award for Outstanding Contributions in Analytical Methodology

This award recognizes scientific and technical contributions that have advanced the grain science field. Recipients of the award have demonstrated excellence through their contributions to the development of new analytical technologies, the application of new analytical technologies to cereal grain products, and/or the application of existing analytical technologies to solving detection and measurement problems in the field of grain science. They have also demonstrated leadership in methods activity within AACCI.



Elaine Sopiwnyk joined Cigi in 2000 and currently holds the position of director of science and innovation. In this role Elaine oversees applied research conducted at Cigi that assists with creating value and opportunities for Canadian field crops. Elaine has considerable knowledge related to methods used to analyze grain quality, which she has gained through extensive international travel. Prior to joining Cigi, Elaine was

a cereal quality biologist at the Agriculture and Agri-Food Canada Cereal Research Centre in Winnipeg, MB, where she evaluated and analyzed the quality of cereal grains and their end products. Elaine holds an M.S. degree in foods and nutrition from the University of Manitoba.

Excellence in Teaching Award

The Excellence in Teaching Award is presented to a member and teacher who has made significant contributions through teaching in the broad field of cereal science and technology.



Les Copeland is a professor of agriculture at the University of Sydney. His research interests are the chemistry of food grains and plants, with emphases on the structure–function relationships of food starches, effects of growing conditions on cereal grain quality, and origins of the human diet. Les also has worked extensively on the biochemistry of the nitrogen-fixing symbioses of legumes. He teaches undergraduate

courses in food and grain science and plant biochemistry and has acted as the primary supervisor for 34 Ph.D. students, many from diverse international backgrounds. Les is a former dean of agriculture and was the foundation president of the Australian Council of Deans of Agriculture. He has B.S. and Ph.D. degrees in biochemistry from the University of Sydney and is a graduate of the Australian Institute of Company Directors. He also held postdoctoral appointments at Yale University and the University of Buffalo and was a Fulbright Fellow at the University of California, Davis.

Texture Technologies Quality Research Awards

This two-part award is presented to an author who either writes or presents high quality research that broadly involves instrumental texture analysis. The Paper Award will be awarded to an author from either Cereal Chemistry or CFW that was published over the past year. The paper award will be presented for the first time this year. The Presentation Award will be awarded to an author who has presented a poster/paper at this year's AACCI Annual Meeting. Submitted papers and posters are judged by the Texture Technologies Quality Research Award Committee.

Best Paper Award

Cereal Chemistry, September 2014, volume 90, number 5, pages 430-438.

Rheological Hardness Index for Assessing Hardness of Hexaploids and Durums.

Authors: Réka Haraszi, Angela Juhász, Mike Sissons, Mariann Rakszegi, Laszlo Tamás, and Robert S. Anderssen.



Robert (Bob) Anderssen specializes in mathematical modeling and has worked on electromagnetic induction in the earth, vibrating piano strings, wheat-flour dough rheology, drying of pasta, and analysis of NIR spectroscopic data. Currently, he is working on pattern formation in plants and the rheology of cereal grain hardness. He has been president of the Australian Mathematical Society and awarded the George

Szekeres, Joe Moyal, and ANZIAM medals and is a Fellow of the Australian Mathematics Society.

*Joel Abecassis will accept the award on behalf of Anderssen.

Best Presentation Award

The recipient will be announced during the Closing Session on Wednesday, October 8.

Nominate Your Colleague for 2015 AACCI Awards

The call is now being made for 2015 AACCI award nominations to be presented in at the 2015 AACCI Annual Meeting. Nominations must be submitted on or before January 31, 2015, using the online nomination form at www.aaccnet.org/membership/awards/_layouts/AACCforms/AwardNomination.aspx

A full list of award descriptions, previous award winners, and criteria are found online www.aaccnet.org/membership/awards.

Phil Williams Applied Research Award

Established in 2005, the AACC International Phil Williams Applied Research Award is presented to an individual or team for their significant body of distinguished contributions to the application of science in the cereals area. The award consists of a \$2,000 honorarium and a plaque. Recipients of the Phil Williams Applied Research Award are also accorded the status of AACCI fellow for their contributions leading to this award. Awardees will have the opportunity to present a lecture during an annual meeting of the association.



Terry Siebenmorgen is a university professor in the Food Science Department at the University of Arkansas. He also serves as director of the University of Arkansas Rice Processing Program, an industry-focused program that conducts rice processing research and is supported by rice producers and processing companies. Terry's research encompasses rice property characterization, drying, milling, and quality assessment.

He also teaches food process engineering. Terry holds a B.S. degree in agricultural engineering from the University of Arkansas, an M.S. degree in agricultural engineering from Purdue University, and a Ph.D. degree in engineering from the University of Nebraska.

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This year's award lecture, Applying material state properties to optimize rice drying, will take place at 10:40 a.m., Monday, October 6.

William F. Geddes Memorial Award

The William F. Geddes Memorial Award was created in 1961 to honor the zeal and unselfish industry of an individual member and emphasize the importance of his or her contributions to the work of the association. Geddes served the association long and unselfishly as president (1938–1939), vice president (1937–1938), editor-in-chief of Cereal Chemistry (1943–1961), active member, and committee member. Over the long span of his association with AACC International, Geddes influenced the organization in many ways, contributing to its work and progress, increasing its usefulness to its members, and boosting its reputation in the fields of fundamental and applied cereal science.

2013 Recipient: Steven C. Nelson, AACC International

2014 Recipient: The name of the recipient is kept secret until unveiled during the Awards Ceremony.

Young Scientist Research Award

The AACCI Young Scientist Research Award is presented to an individual for outstanding contributions in basic and applied research to cereal science with the expectation that contributions will continue. This award recognizes research relevant to the broad aims and interests of AACC International. Awardees must not be older than 40 years by June 1 of the year the award is given. The recipient will receive a \$1,000 honorarium and a plaque and will be encouraged to present a lecture at the AACC International meeting of the year in which the award is given.



Devin Rose received his Ph.D. degree from Purdue University for research focused on creating slowly fermentable dietary fibers for improved gut health. After completing his Ph.D. degree Rose worked as a postdoc with the USDA Agricultural Research Service on creating functional food ingredients from by-products of the grain milling industry. He is now an assistant professor at the University of Nebraska-Lincoln,

where he teaches Food Carbohydrates, Sensory Evaluation, and Food Product Development Concepts courses. His research is focused on whole grain processing and gut health. He is an author or coauthor of 37 peer-reviewed publications.

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This year's award lecture, Cereal grains: Impact on gut microbiota and health, will take place at 10:40 a.m., Wednesday, October 8.

Protein Division Walter Bushuk Graduate Research Award in Cereal Protein Chemistry

Best Paper Award

Recognizes Ph.D. students who have made outstanding contributions in basic and/or applied research in cereal protein chemistry. This award recognizes research in relevant to the broad aims of AACCI. The research can be either fundamental/basic or applied.



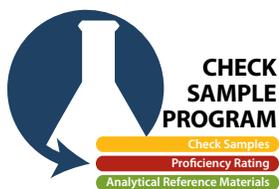
Silvia Maria Thanhäuser was born in 1985 in Schongau (southern Germany). After completing her A-levels, she joined the Technical University of Munich, where she studied food chemistry. After graduating, she began work on her Ph.D. thesis at the German Research Center for Food Chemistry in the Structure-Function Relationships of Biopolymers working group led by head Professor Peter Koehler. The main

objectives of her research were characterization of wheat storage proteins correlated with baking quality and development of simple methods for protein quantitation. Currently, she is finishing her training with vocational studies in food law at the Bavarian Health and Food Safety Authority.

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This year's award lecture, Development of improved methods to evaluate the gluten quality of wheat flours, will take place at 8:30 a.m., Tuesday, October 7.

AACC International Analytical Accuracy Awardees for 2013 Announced



Awardees of AACC International's Analytical Accuracy awards, based on 2013 check sample results, have been announced. This is the 15th year of the AACC International Analytical Accuracy awards. Awardees receive a certificate suitable for

posting and are listed in the 2014 Sept-Oct issue of CFW and on the AACCI website.

All subscribers to the AACCI check sample program series that include a proficiency rating option are eligible. Subscription to the proficiency program is not required but highly recommended. To be eligible for an award, laboratories must have met all the requirements for results submission in the award year.

The award in each series is presented to the laboratory submitting the most accurate analyses (the accuracy score). The accuracy score is determined with the same statistical procedures used to evaluate the proficiency ratings. The required analyses in each check sample series are considered first. In addition, to encourage subscribers to include the results of optional analyses in their reports, these results are also included if they improve the accuracy score.

Formal entry for the award competition is not necessary - all check sample subscribers in a given check sample series are automatically entered if they have submitted the required results on all samples for the award year.

The accuracy award results relate to the performance of the awardee's analyst or laboratory and not that of other analysts and laboratories who may be equally qualified.

Check sample subscribers or others who would like more information about AACC International Check Sample and Proficiency Rating Service are invited to visit: www.aaccnet.org/resources/checksample.

Check Sample A—Hard Wheat Flour, Monthly
Bay State Milling Company, Mooresville, NC

Check Sample B—Hard Wheat Flour, Bimonthly
Johor Bahru Flour Mill Sdn Bhd, Johore, MALAYSIA

Check Sample C—Soft Wheat Flour
Atyab Food Tech LLC, Muscat, OMAN

Check Sample D—Feed Analyses
Southern African Grain Laboratory, Pretoria, SOUTH AFRICA

Check Sample DF—Dietary Fiber
Grain Growers Ltd, North Ryde, AUSTRALIA

Check Sample HL—Farinograph
McKee Foods Corp, Collegedale, TN

Check Sample HS – Farinograph
North Dakota State University, Fargo, ND

Check Sample I—Amylograph
ConAgra, Omaha, NE

Check Sample J—Mixograph
Agriculture & Agri-Food Canada, Ottawa, CANADA

Check Sample K—Fat and Fatty Acids
General Mills, Inc., Minneapolis, MN

Check Sample MBA—Microbiological Analyses (Including Pathogens)
Advanced Testing Lab, Inc., Cincinnati, OH

Check Sample MBB—Microbiological Analyses
AFB International, O'Fallon, MO

Check Sample SA—HPLC Sugar Analysis
Customs & Border Protection, Chicago, IL

Check Sample VMP—Vitamin Analyses
Silliker Canada Co., Markham, CANADA

Check Sample VMP—Mineral Analyses
Covance Laboratories, Battle Creek, MI

Check Sample VMP—Proximate and Vitamin Analyses
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Check Sample VMP—Vitamins, Minerals, and Proximate Analyses
Silliker Canada Co., Markham, CANADA

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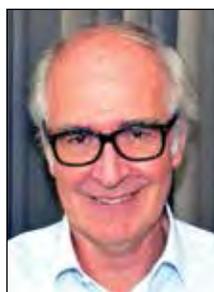
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Volunteering to serve on an AACCI committee provides opportunities to gain skills and experience as well as the chance to give something back to the grains community while enriching your membership. Thank you to the following volunteers who served on the following committees; your dedication is appreciated!

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1929: M. A. Gray*	1976: W. Bushuck
1930: C. G. Harrel*	1977: D. G. McPherson*
1931: R. K. Durham*	1978: L. F. Marnett*
1932: L. D. Whiting*	1979: R. A. Morck*
1933: R. C. Sherwood*	1980: W. J. Hoover*
1934: M. M. Brooke*	1981: J. J. Watson*
1935: W. Platt*	1982: N. L. Betz
1936: H. D. Liggitt, Jr.*	1983: D.R. Lineback
1937: C. H. Bailey*	1984: B. L. D'Appolonia
1938: W. F. Geddes*	1985: W. M. Schewecke
1939: G. F. Garnatz*	1986: J. Vetter
1940: C. F. Davis*	1987: L. F. Hood
1941: C. N. Frey*	1988: R. R. Hahn
1942: J. M. Doty*	1989: R. C. Hosoney
1943: B. Sullivan*	1990: J. J. Warthesen*
1944-1946: O. Skovholt*	1991: B. Stillings
1946: P. Logue*	1992: A. A. Betschart
1947: R. M. Sandstedt*	1993: W. A. Atwell
1948: W. L. Haley*	1994: D. G. Medcalf
1949: F. C. Hilderbrand*	1995: H. Faridi
1950: J. A. Shellenberger*	1996: W. Hurley*
1951: H. K. Parker*	1997: O. K. Chung
1952: J. A. Anderson*	1998: F. Hegele
1953: R. A. Barackman*	1999: J. M. Jones
1954: F. R. Schwain*	2000: J. BeMiller
1955: W. H. Cathcart*	2001: B. B. Heidolph
1956: L. Zeleny*	2002: B. J. Donnelly
1957: W. B. Bradley*	2003: J. Dexter
1958: C. L. Brooke*	2004: G. Lookhart
1959: D. B. Pratt, Jr. *	2005: S. Craig
1960: J. A. Johnson*	2006: R. Hamer
1961: J. W. Evans*	2007: B. Bruinsma
1962: M. M. MacMasters*	2008: M. Camire
1963: J. W. Pence*	2009: K. Khan
1964: P. E. Ramstad*	2010: B. McCleary
1965: R. H. Cotton*	2011: D. Rogers
1966: W. S. Claus*	2012: D. Hahn
1967: K. L. Harris*	

*Deceased

Note: Presidential terms run from annual meeting to annual meeting. Year listed is year term began.



NETWORK WITH THE FACES OF THE FUTURE

2015 AACC International Centennial Meeting

October 18–21

Minneapolis, MN, U.S.A.



aacnet.org/meet

LAUREN RENEE BREWER

R&D Scientist, General Mills, Inc.
2015 Program Planning Team Member

“As individuals, we bring a name and a face to the future of cereal grain science. Collectively, we will write the history of the next 100 years as we solve complicated global challenges. Be part of our next stage in history starting at the Centennial Meeting in Minneapolis.”

Making Better Food. Naturally.

Ingredients for Coatings: Batter & Breading Systems

The perfect coating doesn't have to be loaded with a dozen ingredients... especially not chemically modified ones. With state-of-the-art technology, Siemer is capable of adding functionality to standard flour – a single-ingredient solution to help you create a product that performs like no other for food service or the home kitchen. And you can include “natural” on its label.



- Highly controlled batter viscosity
- Superior adhesion to substrate
- Texture: crisp to crunchy
- Shear Stability
- Freeze-thaw stable
- Reconstitution in oven or fryer
- Extended hold times under heat lamp

Flour Treated for Food Safety

Food safety is top-of-mind in today's market – something to consider when building a product with flour that may be consumed prior to applying a proper kill step. This Siemer treatment protects both your reputation and consumer wellbeing.



- Designed for food safety-sensitive applications
- Unique process for greater control of microbiological presence
- Functional properties of Soft Wheat Flour
- Flavor neutral
- Ideal for ice cream inclusions, refrigerated/frozen cookie dough, seasoning blends

Ingredients for Nutritional Products

Adding nutritional ingredients to your products can be difficult due to extremely short shelf lives. Siemer's completely natural stabilization process lets you take popular food bars and other products to the shelf with the grain's essential nutrients and pleasant, nutty flavor intact.



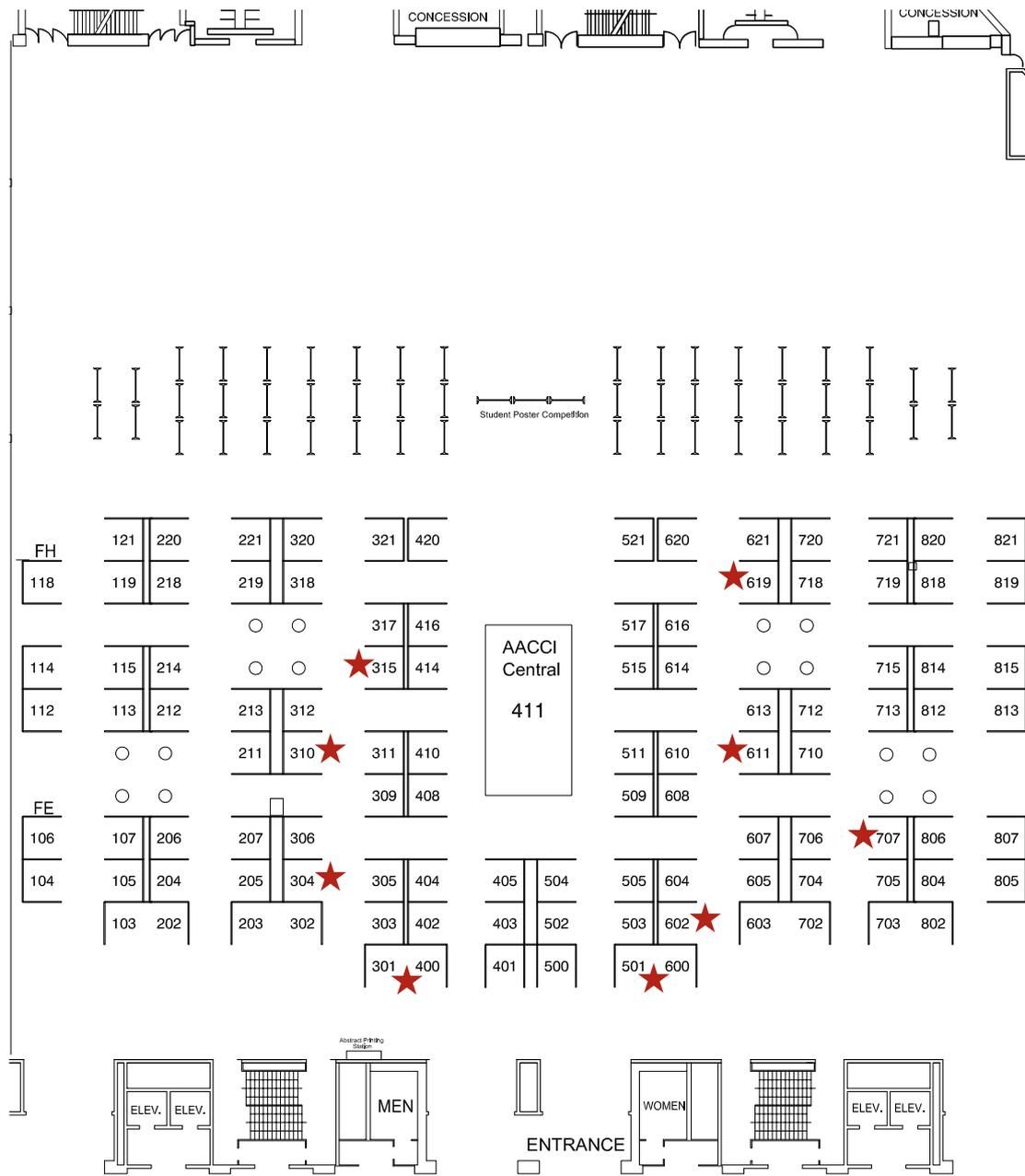
- Does not alter nutritional profile or label identification
- Extended shelf life (6-9 months) at ambient temperature
- Stabilized Wheat Germ, Wheat Bran and Whole Wheat Flour for Whole Grain claim
- Vitamin E, Omega 3, protein and fiber may be added to improve appeal of label and flavor
- Various granulations available in both Red and White Wheat varieties



Learn more about the benefits of heat-treated products.

Call 1.800.826.1065 or visit www.siemersi.com

Rhode Island Convention Center • Hall BC



Stop by these booths for exhibit-sponsored prize drawings on Monday and Tuesday!

Must be present to win.

★ Prize drawing booth

Monday's Booths

Booth	Company	Drawing
301/400	Cablevey Conveyors	4:30 p.m.
602	FONA International	5:00 p.m.
501/600	FOSS	5:15 p.m.
304	Innophos Inc.	5:30 p.m.
315	McCormick & Company, Inc.	6:00 p.m.
310	Medallion Labs	6:30 p.m.

Tuesday's Booths

Booth	Company	Drawing
619	Bepex International LLC	12:15 p.m.
602	FONA International	12:45 p.m.
501/600	FOSS	1:15 p.m.
707	Manildra Group USA	1:30 p.m.
310	Medallion Labs	1:45 p.m.
611	MGP	2:00 p.m.

Numerical Listing of Exhibitors

Bold Type indicates an advertising company. Page numbers for advertisers are listed on the Advertiser's Index on page 74.

103/202	Perten Instruments	502	ICL Food Specialties
104	Balchem Encapsulates	503	Florida Food Products, Inc.
105	C-Cell by Calibre Control International Ltd.	504	Almond Board of California
106	Farmer Direct Foods Inc.	505	Buhler Inc.
107	Clasen Quality Coatings, Inc.	509	Grain Millers, Inc.
112	Lallemund Baking Solutions	511	Brookfield Engineering
113	BENEO Inc.	515	ADM/Matsutani LLC
114	Nutraceuticals World	517	ADM
115	R-Biopharm Inc.	521	Carl Zeiss Microscopy, LLC
119	International Fiber Corp.	602	FONA International
203/302	DSM Nutritional Products	603/702	CHOPIN Technologies Inc.
204	Best Cooking Pulses, Inc.	604	The Mennel Milling Company
205	Firmenich Incorporated	605	Wenger Manufacturing Inc.
206	CEREX	607	Tree Top, Inc.
207	Thymly Products, Inc.	608	Gold Coast Ingredients Inc.
211	David Michael & Co.	610	Enzyme Development Corp.
212	Bunge North America	611	MGP
213	CE Elantech Inc.	613	Corbion
214	DuPont Nutrition & Health	614	Great Plains Analytical Laboratory
219	Malt Products Corporation	616	Research Products Company
220	SunOpta	619	Bepex International LLC
221	Penford Food Ingredients	620	NP Analytical Laboratories
301/400	Cablevey Conveyors	621	Ingredion Inc.
303	DSM Food Specialties U.S.A., Inc.	703/802	Ardent Mills
304	Innophos, Inc.	704	Radio Frequency Co.
305	Blue Diamond Growers	705	REVTECH
306	Riviana Foods Inc.	706	Budenheim
309	Baker Perkins Inc.	707	Manildra Group USA
310	Medallion Labs	710	QualySense AG
311	California Natural Products	713	Domino Specialty Ingredients
312	TIC Gums	715	Bruker Optics
315	McCormick & Company, Inc.	718	Dakota Specialty Milling
317	CPM Wolverine Proctor	719	NEXIRA
318	ANKOM Technology	720	Northern Crops Institute
320	Sensus America, Inc.	721	Prayon Inc.
401	C.W. Brabender® Instruments, Inc.	804	GNT USA, Inc.
402	Carmi Flavor & Fragrance Inc.	805	VICAM, A Waters Business
403	Palsgaard Incorporated	806	Brolite Products Inc.
404	Megazyme	807	Hesco, Inc.
405	Glanbia Nutritional	812	J.Rettenmaier
408	Siemer Specialty Ingredients	813	Church & Dwight Co., Inc.
410	California Fig Advisory Board	814	Cereal Ingredients Inc.
414	Texture Technologies Corp.	815	BI Nutraceuticals
416	MANE, Inc.	818	Kudos Blends
420	Grain Processing Corporation (GPC)	819	ICC/MoniQA/HEALTHGRAIN
500	Brabender® GmbH & Co. KG	820	Richardson Milling
501/600	FOSS	821	SPEX SamplePrep

Exhibit Hall

Visit the 2014 Annual Meeting Exhibition to discover the latest products and services that advance the work of the industry. To help plan your time with the exhibitors and find your desired products and services, please use the following descriptions supplied directly from the exhibiting company. Exhibitors reserving space after this section went to press are listed in your Program Addendum.

Exhibits Hours

Hall BC, Rhode Island Convention Center

Sunday, October 5	5:00 – 7:00 p.m.	Grand Opening Exhibition
Monday, October 6	4:00 – 7:00 p.m.	Exhibits with Beer and Poster Viewing with Authors Present
Tuesday, October 7	12:00 – 2:15 p.m.	Lunch with the Exhibitors

Alphabetical Listing of Exhibitors

† AACC International Corporate Member

* Participant in Supplier Innovation Session

- 517† ADM**, 4666 Faries Pkwy, Decatur, IL 62526 U.S.A.; Telephone: 1.800.637.5843; Web: www.adm.com; E-mail: food@adm.com. For more than a century, the people of ADM have transformed crops into products that serve vital needs. Today, 31,000 ADM employees around the globe convert oilseeds, corn, wheat and cocoa into products for food, animal feed, industrial and energy uses.
- 515† ADM/Matsutani LLC**, 4666 Faries Parkway, Decatur, IL 62526 U.S.A.; Telephone: +1.217.451.4377 or +1.630.250.8720; Web: www.fibersol.com; E-mail: info@fibersol.com. Fibersol®, a supplier of soluble dietary fiber, offers a full line of fiber ingredients that can be used to improve the nutritional profile and increase the fiber content of any food application without compromising taste, quality and enjoyment for the consumer.
- 504* Almond Board of California**, 1150 Ninth Street, Suite 1500, Modesto, CA 95354 U.S.A.; Telephone: +1.209.549.8262; Fax: +1.209.549.8267; Web: www.almonds.com/food-professionals; E-mail: staff@almondboard.com; Facebook: www.facebook.com/californiaalmonds; Twitter: @almonds. Consumers worldwide enjoy California almonds as a natural, wholesome and quality food product. The Almond Board of California promotes almonds through its research-based approach to all aspects of marketing, farming and production on behalf of the more than 6,000 California Almond growers and processors.
- 318† ANKOM Technology**, 2052 O'Neil Rd., Macedon, NY 14502 U.S.A.; Telephone: +1.315.986.8090; Fax: +1.315.986.8091; Web: www.ankom.com; E-mail: ntedesche@ankom.com; Facebook: <https://www.facebook.com/ANKOMTechnology>; Twitter: <https://twitter.com/ANKOMTech>. ANKOM Technology manufactures and markets analytical instrumentation for the food and feed industry. Our latest system includes automating Total Dietary Fiber analysis following AOAC 991.43, 985.29, 2009.01 and 2011.25. Our Fat and Fiber systems will increase your productivity while reducing labor and cost.
- 703/ Ardent Mills**, 1875 Lawrence Street, Denver, CO 80202 U.S.A.; Telephone: 1.800.851.9618; Web: www.ArdentMills.com. Ardent Mills offers the industry's broadest range of flours, mixes, blends and specialty products, customized to meet your needs and backed by unrivaled technical support, customer service and the supply assurance of a coast-to-coast network of 40 community mills, three bakery-mix centers and a specialty bakery.
- 802†**
- 309† Baker Perkins Inc.**, 3223 Kraft Ave SE, Grand Rapids, MI 49512-2027 U.S.A.; Telephone: +1.616.784.3111; Fax: +1.616.784.0973; Web: www.bakerperkins.com; E-mail: bpinc@bakerperkins.com; Facebook: [facebook.com/bakerperkinsgroup](https://www.facebook.com/bakerperkinsgroup); Twitter: @bakerperkins. Baker Perkins supplies complete process lines and unit machines for breakfast cereals from flakes to co-extruded pillows. Either traditional rotary steam cookers or twin-screw cooker-extruders are used in conjunction with flaking rolls, toasters, shredders, dryers and syrup coating units to form versatile plants that can be easily extended.
- 104 Balchem Encapsulates**, 52 Sunrise Park Road, New Hampton, NY 10958 U.S.A.; Telephone: +1.845.326.5600; Web: www.balchem.com. Balchem specializes in development and manufacture of microencapsulated solutions for food and produces choline. Proprietary technology enables manufacturers to extend shelf life, enhance bioavailability, lower sodium content and develop innovative products. Our products are used in a variety of applications – nutritional fortification, dough leavening, meat enhancements and sodium reduction.
- 113† BENE0 Inc.**, 201 Littleton Road, 1st Floor, Morris Plains, NJ 07950 U.S.A.; Telephone: +1.973.867.2140; Fax: +1.973.867.2141; Web: www.beneo.com; E-mail: joe.oneill@beneo.com. The BENE0 Inc. portfolio consist of naturally derived functional food ingredients with nutritional and technical advantages derived from chicory roots, beet sugar and rice. Key nutritional benefits include 'less fat', 'less sugar', 'added fiber' or 'gluten-free', just to name a few. Key technological benefits focus on taste and texture improvements.

- 619†*** **Bepex International LLC**, 333 NE Taft St., Minneapolis, MN 55413 U.S.A.; Telephone: +1.612.331.4370 or 1.800.372.3739; Web: www.BEPEX.com; E-mail: info@bepex.com; Twitter: @bepexintl. Bepex International is the global leader in material processing systems. With the broadest range of process equipment in the world, our team of process engineers has helped customers realize their potential through process development for decades. We work to advance the usage of whole grains & pulses through enhanced functionality.
- 204†*** **Best Cooking Pulses, Inc.**, 124 10th St NE, Portage la Prairie, MB R1N 1B5 Canada; Telephone: +1.204.857.4451; Fax: +1.204.239.6885; Web: www.bestcookingpulses.com; E-mail: margaret@bestcookingpulses.com; Facebook: <http://www.facebook.com/pages/Best-Cooking-Pulses/165336630182583>; Twitter: @bestpulses. Canadian family-owned agri-foods company active in the international pulse trade since 1936. BEST gluten-tested pulse flours (pea chickpea lentil bean), protein combining, pea fiber, whole/split pulses. NA raw materials, strong grower relations, proprietary milling. CGC HACCP, Organic, Kosher, & WBEN certified. Pulse ingredients for healthy diets and a sustainable world.
- 815** **BI Nutraceuticals**, 2550 El Presidio Street, Long Beach, CA 90810 U.S.A.; Telephone: +1.310.669.2100; Fax: +1.310.637.3644; Web: www.botanicals.com; E-mail: contact@botanicals.com. BI is the largest supplier of botanical ingredients in the U.S., for the food & beverage, dietary supplements personal care, and pet care industries. We manufacture and supply hundreds of botanical powders, extracts, vitamin mineral blends, and more. We are cGMP compliant and SQE, Organic, Kosher, Halal, and Gluten-Free certified.
- 305** **Blue Diamond Growers**, 1802 C Street, Sacramento, CA 95811 U.S.A.; Telephone: 1.916.446.8500; Fax: +1.916.446.8332; Web: www.bdingredients.com; E-mail: ingredientsales@bdgrowers.com. Blue Diamond Growers, established in 1910, is the world's largest processor and marketer of almonds. The Blue Diamond is known for quality and service in over 90 countries. Our industrial products include inshell, brown and manufactured almonds – in a variety of forms for applications across confectionery, bakery, dairy, and snacking.
- 500†** **Brabender® GmbH & Co. KG**, Kulturst. 51-55, Duisburg 47055, Germany; Telephone: 49-203-7788-0; Fax: 49-203-7788-101; Web: www.brabender.com; E-mail: food-sales@brabender.com. Brabender® is a forerunner in manufacturing the highest quality instrumentation for testing physical properties and quality of materials utilized by the Milling, Baking, Starch industries & more. For sample preparation, R&D, evaluation, quality control, new product development and production environments, Brabender® GmbH & Co. KG is ... where quality is measured.
- 806†** **Brolite Products Inc.**, 1900 S Park Av, Streamwood, IL 60107 U.S.A.; Telephone: +1.630.830.0340; Fax: +1.630.830.0356; Web: www.bakewithbrolite.com; E-mail: k.skrzypiec@broliteproducts.com. Brolite Products is an 85-year-old family-owned business supplying high-quality ingredients to the grain-based industries. Our product groups include grain blends, cultures and sours, egg replacers for bakery items, stabilizers for icings and fillings, dough improvers: clean label, natural and organic. Let us blend a custom product just for you!
- 511†** **Brookfield Engineering**, 11 Commerce Blvd., Middleboro, MA 02346 U.S.A.; Telephone: +1.508.946.6200 or 1.800.628.8139; Fax: +1.508.946.6262; Web: www.brookfieldengineering.com; E-mail: sales@brookfieldengineering.com. Brookfield Engineering is the world's leading manufacturer of viscometers and rheometers for laboratory and online process measurement and control. Brookfield also offers solutions for both texture analysis and powder flow applications in the form of our low-cost CT3 Texture Analyzer and PFT Powder Flow Tester.
- 715** **Bruker Optics**, 19 Fortune Drive, Billerica, MA 01821 U.S.A.; Telephone: +1.978.439.9899; Web: www.bruker.com; E-mail: info@brukeroptics.com; Facebook: www.facebook.com/bruker.corp; Twitter: www.twitter.com/bruker. Cereals are the cornerstone of daily nutrition for most people around the world. Bruker offers solutions for the analysis of wheat, various flour types and co-products based on FT-NIR Spectroscopy. Ready-to-use calibration NIR packages give you results in seconds and are a highly cost-effective solution compared to conventional testing methods.
- 706†** **Budenheim**, 2219 Westbrooke Drive, Columbus, OH 43228 U.S.A.; Telephone: +1.614.345.2400; Fax: +1.614.345.2440; Web: www.budenheim.com. The world of food is a finer place with Budenheim. For more than 100 years, we've provided the best ingredients and strictest quality control to put great and healthy food on the table every day.
- 505†** **Buhler Inc.**, 13105 12th Avenue N., Plymouth, MN 55441 U.S.A.; Telephone: +1.763.847.9900; Fax: +1.763.847.9911; Web: www.buhlergroup.com. Buhler is your global technology partner for the food industry. We are a market leader in processing equipment for various industries including grain milling and extrusion systems. The new Buhler Food Innovation Center, located in Plymouth, MN is a food-grade facility designed for research, education and consumer ready testing.
-
- See our ad on the back of the Sessions/Posters tab.**
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- 212†** **Bunge North America**, 11720 Borman Drive, St Louis, MO, 63146 U.S.A.; Telephone: +1.314.292.2000; Web: www.bungenorthamerica.com. Bunge is a leading supplier of oils and milled corn/rice ingredients from bulk commodity to premium packaged value-added products. Bunge products feature functional ingredient performance balanced with customer commitment. Experience Simplified Solutions in our quality and innovative ingredients targeted to give you an edge in growing your product lines.
- 401†** **C.W. Brabender® Instruments, Inc.**, 50 East Wesley Street, South Hackensack, NJ 07606 U.S.A.; Telephone: +1.201.343.8425; Fax: +1.201.343.0608; Web: www.cwbrabender.com; E-mail: foodsales@cwbrabender.com. C.W. Brabender® is a forerunner in manufacturing the highest quality instrumentation for testing physical properties and quality of materials utilized by the Milling, Baking, Starch industries & more. For sample preparation, R&D,

evaluation, quality control, new product development and production environments, C.W. Brabender® Instruments, Inc. is ... where quality is measured.

See our ad on the inside front cover.

- 301/ 400 Cablevey Conveyors**, P.O. Box 148, 2397 Hwy 23, Oskaloosa, IA, 52577 U.S.A.; Telephone: +1.641.673.8451; Fax: +1.641.673.7419; Web: www.cablevey.com. Conveying breakfast cereal for top processors in the world requires gentle handling of valuable materials. Cablevey Conveyors specializes in conveying friable materials at various points in your process line. The highly efficient system drags materials within enclosed tubes safely to the next destination. Urethane wiper discs eliminate any residual fines.

See our ad on the front of the Recognition tab.

- 105† C-Cell by Calibre Control International Ltd.**, 5-6 Asher Court, Lyncastle Way, Warrington, Cheshire WA4 4ST United Kingdom; Telephone: + 44 1925 860401; Web: www.c-cell.info; E-mail: info@c-cell.info; Twitter: @CalibrePaul. C-Cell is the worlds most advanced system for monitoring Bakery product quality. C-Cell provides data and images of the structure of Bakery products. New developments include Crust Measurements and distribution 'scoring' for inclusions such as Fruit, Nuts and ingredients. Visit our stand or Sundays Bread scoring workshop for further info.
- 410 California Fig Advisory Board**, 392 West Fallbrook Avenue, Suite 105, Fresno, CA 93711 U.S.A.; Telephone: +1.559.243.8600 or +1.559.281.0440; Fax: +1.559.243.8605; Web: www.californiafigs.com; E-mail: kstockli@californiafigs.com; Facebook: California figs; Twitter: #CAFigs. The California Fig Advisory Board promotes awareness and the use of California-produced dried fig and fig ingredients domestically and internationally. Ingredients: Whole Figs, Fig Paste, Fig Juice Concentrate, Fig Nuggets, Fig Pieces and Fig Powder. Contact us for your product development needs. When you think Figs, think California!
- 311† California Natural Products**, 1250 East Lathrop Road, Lathrop, CA 95330 U.S.A.; Telephone: +1.209.858.2525; Web: www.cnp.com; E-mail: john.ashby@cnp.com. CNP manufactures in the USA syrups and solids from rice and tapioca providing natural and organic bakers and food product developers with syrups, binders, glycemic control, sugar reduction, fat & saturated fat reduction, emulsification and shelf life extension. OU Kosher, QAI Organic, SQF Level III, and GIG certified gluten free.
- 521 Carl Zeiss Microscopy, LLC**, One Zeiss Drive, Thornwood, NY 10594 U.S.A.; Telephone: 1.800.233.2343; Web: www.zeiss.com/microscopy; E-mail: micro@zeiss.com; Facebook: www.facebook.com/zeissmicroscopy; Twitter: www.twitter.com/zeiss_micro. ZEISS provides measuring devices with NIR technology for quality control of grain, barley, corn, wheat, flour and other agricultural and food products. The CORONA Extreme and InProcess Software are ideal for measurement of the ingredient composition and color of bulk materials in pipes, on conveyer lines and for Incoming goods.
- 402 Carmi Flavor & Fragrance Inc.**, 6030 Scott Way, Commerce, CA 90040 U.S.A.; Telephone: +1.323.888.9240 or 1.800.421.9647; Fax: +1.323.888.9339; Web: <http://www.carmiflavors.com>; E-mail: sales@carmiflavors.com; Facebook: <http://www.facebook.com/carmiflavors>; Twitter: @carmiflavors. Since 1979 Carmi Flavors has been an industry leader in supplying flavors and fragrances to the food industry. We are dedicated to enhancing consumer products through innovative and health-conscious ingredients, finished products and professional grade equipment.
- 213 CE Elantech Inc.**, 170 Oberlin Ave. N., Suite 5, Lakewood, NJ 08701 U.S.A.; Telephone: 1.888-CE-CHNSO (232-4676) or +1.732.370.5559; Fax: +1.732.370.3888; Web: www.ceelantech.com; E-mail: sales@ceelantech.com. CE Elantech will feature Thermo Scientific Flash 2000 N/Protein Analyzer. The Flash is ideal for analysis of all organic samples (solid and liquid). CE Elantech also distributes Next Instruments Near-Infrared Analyzers and SeedCount Image Analyzers for rapidly & accurately analyzing a sample of grain to determine its principal characteristics.
- 814† Cereal Ingredients Inc.**, 4720 South 13th St., Leavenworth, KS 66048 U.S.A.; Telephone: +1.913.727.3434; Fax: +1.913.727.3681; Web: www.cerealingredients.com. Cereal Ingredients is a centrally located, independently owned business with two manufacturing BRC rated "A" facilities. Products are customized to your requirements, including: Soy, Pea and Wheat crisp to add protein, fiber and/or texture. Our Flav-R-Bites deliver flavor and color excitement to your finished products. See us to discuss your specific needs.
- 206† CEREX**, Moselen Strasse 8, Wiedlisbach, CH-4537 Switzerland; Telephone: +41 31 511 3434; Web: www.cerex.ch. CEREX is the leading producer of puffing-systems. We also constantly increase our market share for cooking lines. CEREX offers you the most efficient industrial rotary cookers. In combination with our flaker and toaster, you are setting new quality standards at competitive prices. CEREX, your partner in processing of breakfast cereals.
- 603/ 702†* CHOPIN Technologies Inc.**, 19955 West 162nd Street, Olathe, KS 66062 U.S.A.; Telephone: +1.913.707.5000; Web: www.chopin.fr; E-mail: itrood@chopininc.com. CHOPIN Technologies, a Tripette & Renaud subsidiary, is specialized in methods and equipment for the quality control of cereals, flours, and their by-products. The company offers products and services to cereal industries needing to carry out analyses to satisfy operational requirements and current regulations and to meet customer specifications.
- 813 Church & Dwight Co., Inc.**, 469 N. Harrison St., Princeton, NJ, 08543 U.S.A.; Telephone: 1.800.221.0453; Web: www.ahperformance.com. Church & Dwight is the leading North American producer of sodium bicarbonate, well recognized as Arm & Hammer.

107 Clasen Quality Coatings, Inc., 5126 West Terrace Drive, Madison, WI 53718 U.S.A.; Telephone: 1.877.459.4500 or +1.608.467.1130; Fax: 608.249.4573; Web: www.clasen.us; E-mail: info@clasen.us; Facebook: <https://www.facebook.com/pages/Clasen-Quality-Coatings/142576942476546>; Twitter: <https://twitter.com/ClasenCoatings>. Clasen Quality Coatings (CQC) is a manufacturer of confectionery coatings, chocolate and fillings. Our product lines include varieties of milk, dark, white, yogurt, and peanut butter, colored and flavored formulations. We also offer nutritionally enhanced, all-natural, no sugar added and trans-free coatings.

613† Corbion, 7905 Quivira Rd., Lenexa, KS, 66221 U.S.A.; Telephone: 1.800.669.4092; Web: www.corbion.com; E-mail: info@caravaningredients.com. Built on the strong foundations of Caravan Ingredients and Purac, Corbion has a wealth of expertise in biobased food ingredients and biochemicals. Corbion is the global market leader in lactic acid and derivatives and lactides, and a leading company in functional blends containing enzymes, emulsifiers, minerals, and vitamins.

317† CPM Wolverine Proctor, 251 Gibraltar Rd., Horsham, PA, 19044, U.S.A.; Telephone: +215.443.5200; Fax: +215.443.5206; Web: www.wolverineproctor.com. E-mail: sales@cpmwolverineproctor.com. Offering a complete line of energy-efficient equipment, including the new ultra sanitary design SCF III dryer, dryers, coolers, impingement ovens (jet-tube or parajet nozzle), Jetzone fluid bed dryers/puffers/toasters, shredding mills, flaking mills, and batch cookers. Our Tech Center offers continuous and batch testing for a wide range of products.

See our ad on page 25.

718† Dakota Specialty Milling, 4014 15th Ave NW, Fargo, ND 58102 U.S.A.; Telephone: 1.800.426.7045 or +1.701.282.9656; Fax: +1.701.282.9743; Web: www.dakotaspecialtymilling.com; E-mail: sales@dakotaspecialtymilling.com. Dakota Specialty Milling is the trusted global supplier of custom milled whole-grain, multigrain and ancient grain blends for bakers and processors of variety breads, hot and RTE cereals, crackers, granolas, nutrition bars, snacks, and donuts. We focus on creating and delivering the highest levels of quality, consistency, performance and value.

211† David Michael & Co., 10801 Decatur Road, Philadelphia, PA 19154 U.S.A.; Telephone: +1.215.632.3100 or 1-800-DM-FLAVORS; Fax: +1.215.637.3920; Web: www.dmflavors.com; E-mail: dmflavor@dmflavors.com. Innovation Starts Here®, at David Michael & Co. As a leading global manufacturer of flavors, stabilizers and natural colors, we have over 118 years of experience, providing everything from vanilla to savory flavors, and trends research to total product development. Let us put our innovation to work for you!

713 Domino Specialty Ingredients, One North Clematis Street, Suite 400, West Palm Beach, FL 33401 U.S.A.; Telephone: +1.561.366.5150 or +1.561.248.1852; Web: www.dominospecialtyingredients.com; E-mail: lynda.law@asr-group.com. Domino Specialty Ingredients, producing high quality, functional sweetener solutions: certified

organic sugars, both liquid & dry; molasses, honey & malt as well as organic tapioca, agave, rice, rice syrup, rice bran, rice flour, rice syrup solids. We proudly offer Fair Trade Sugars. Visit our booth or website for more information.

See our ad on page 12.

303†* DSM Food Specialties U.S.A., Inc., 3502 North Olive Road, South Bend, IN 46628 U.S.A.; Telephone: +.574.232.5000 or 1.800.522.8110; Fax: +.574.232.2468; Web: www.dsm-food-specialties.com. DSM offers you a complete portfolio of the best food enzymes, providing maximum flexibility to meet your unique needs. Millions of people consume products with our ingredients every day; our advanced ingredients make an important contribution to the world's favorite food brands. Please visit www.dsm-foodspecialties.com for more information.

203/ 302* DSM Nutritional Products, 2105 Technology Dr., Schenectady, NY 12308 U.S.A.; Telephone: 518.372.5155; Web: www.dsm.com; E-mail: jaleen.sherrange@dsm.com; Fortitech® Premixes by DSM, is the one-stop source for food, beverage and pharmaceutical manufacturers looking to fortification as a way to differentiate their products from their competition, as well as helping meet the nutritional needs of consumers around the world. Certified FS 22000 globally, more information is available at www.fortitechpremixes.com.

See our ad on page 4.

214 DuPont Nutrition & Health, 4 New Century Pkwy., New Century, KS, 66031 U.S.A.; Telephone: 1.800.255.6837; +1.913.764.8100; Web: dupont.com. At DuPont, our ingredients provide enhanced bioprotection, improved nutritional profile, and better taste and texture with greater cost efficiency and lower environmental impact, meeting the needs of manufacturers of food and beverages, dietary supplements, and pet food worldwide.

610† Enzyme Development Corp., 505 8th Ave – Suite 1500, New York, NY 10018-6505 U.S.A.; Telephone: 212.736.1580; Web: www.enzymedevelopment.com; E-mail: info@enzymedevelopment.com. Manufacturer of a wide range of baking enzymes to enhance quality or optimize production. Headquarters in New York City with production & labs in Scranton PA. On-site assistance available. Please contact us.

106 Farmer Direct Foods Inc., 511 Commercial, P.O. Box 326, Atchison, KS 66002, U.S.A.; Telephone: +1.913.367.4422; Fax: +1.913.367.4443; Web: www.farmerdirectfoods.com.

205 Firmenich Incorporated, P.O. Box 5880, Princeton, NJ 08540 U.S.A.; Telephone: +1.609.452.1000; Fax: +1.609.452.6077; Web: www.firmenich.com; E-mail: nicole.derrick@firmenich.com. As a leading flavor supplier, Firmenich's expertise goes beyond taste: it is the sum of our passion, inspiration and knowledge that allows us to create the best flavors and most innovative technologies for the bakery and cereal market.

- 503† Florida Food Products, Inc.**, 2231 West SR 44, Eustis, FL 32726 U.S.A.; Telephone: +1.352.357.4141; Website: www.floridafood.com. Florida Food Products, Inc. (1954), introduces FiberGel LC a FiberColloid that like no other fiber, GELS. After baking a bound calcium/moisture matrix develops a leavened like structure that is irreversible and bake stable. FiberGel LC is the Ideal solution for increasing egg prices, reduced fat products and gluten free.
- 602† FONA International**, 1900 Averill Road, Geneva, IL 60134 U.S.A.; Telephone: +1.630.578.8600; Fax: +1.630.578.8601; Web: www.fona.com; E-mail: feedback@fona.com; Facebook: <https://www.facebook.com/FONAIInternational>. FONA International Inc. creates and manufactures flavors for many of the largest food, beverage, nutraceutical and pharmaceutical companies in the world. FONA combines world-class expertise, technology, innovation, and quality programs with the focus, speed, and flexibility of a service-oriented, values-based organization.
- 501/ 600†* FOSS**, 8091 Wallace Road, Eden Prairie, MN 55344 U.S.A.; Telephone: 1.800.547.6275; Web: www.foss.us; E-mail: info@fossna.com. FOSS analytical solutions provide the global standard in grade trading and calibrations based on 30 years of harvest data. We offer highly accurate solutions for all stages from farm to end product. This ensures our customers achieve the highest product consistency and profitability. Analyze protein, moisture, ash and other parameters.
- 405† Glanbia Nutritionals**, 5951 McKee Rd., 2: Suite 201, Fitchburg, WI 53719 U.S.A.; Telephone: +1.608.316.8500 or 1.800.336.2183; Fax: +1.608.316.8504; Web: www.glanbia-nutritionals.com; E-mail: nutrition@glanbia.com. Glanbia Nutritionals' growing chia, flaxseed and ancient grain portfolio includes OptiSol® functional flaxseed and whey systems for moisture management/shelf life extension, egg replacement, and binding systems for sugar reduction in baked goods and cereal products. Additional ingredients provide clean label emulsifier replacement and texture improvement in gluten-free baked goods.
- 804† GNT USA, Inc.**, 660 White Plains Road, 6th Floor, Tarrytown, NY 10591 U.S.A.; Telephone: +1.914.524.0600; Web: www.gnt-group.com; E-mail: knewsome@gntusa.com; Twitter: @KellySNY. GNT is the global leader in natural color ingredients made from fruits, vegetables and edible plants. At AACC 2014, we will have a range of grain based applications colored naturally with EXBERRY®, such as crackers, chips and bread. All GNT products are GMO-Free, Kosher and Halal.
- 608† Gold Coast Ingredients Inc.**, 2429 Yates Avenue, Commerce, CA 90040 U.S.A.; Telephone: 1.800.352.8673; Fax: 1.323.724.9354; Web: www.goldcoastinc.com; E-mail: kendra@goldcoastinc.com. Gold Coast Ingredients, Inc. is a full service flavor and color manufacture. We pride ourselves on great customer service, efficient lead times, reasonable minimum quantities, and the ability to custom formulate based on our customers specific needs. Taste us on the web @ www.GoldCoastInc.com.
- 509† Grain Millers, Inc.**, 10400 Viking Drive, Suite 301, Eden Prairie, MN 55344 U.S.A.; Telephone: 1.800.232.6287; Fax: +1.952.829.8819; Web: www.grainmillers.com. Conventional, organic, and gluten-free miller of specialty grains, seeds, legumes, and natural fibers. Specializing in micro ground flours, fibers, FunctionalFlours, rolled/flakes, whole grains, bran, meals and blends for cereals, bakery products, beverages, bars, snacks, meal replacement, and more. In addition, our line of SafeFlax products ensure stability and functionality.
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- 420† Grain Processing Corporation (GPC)**, 1600 Oregon Street, Muscatine, IA 52761 U.S.A.; Telephone: +1.563.264.4265; Fax: +1.563.264.4289; Web: www.grainprocessing.com; E-mail: food.sales@grainprocessing.com. Quality ingredients for the food industry from GPC: MALTRIN® maltodextrins and corn syrup solids, MALTRIN QD® (quick dispersing) maltodextrins and corn syrup solids, PURE-COTE® binding/coating starches, INSCOSITY® cold water swelling starches, PURE-DENT® PFP and specialty starches, PURE-SET® thin-boiling starches, PURE-GEL® stabilized starches and TruBran® corn bran.
- 614† Great Plains Analytical Laboratory**, 9503 N Congress Avenue, Kansas City, MO 64153 U.S.A.; Telephone: +1.303.774.8262; Web: www.gpalab.com; E-mail: gstewart@gpalab.com. Great Plains is the leading cereal chemistry laboratory in the United State with focus on serving the milling, baking and grain industries. Known for rapid turnaround and full food service testing with microbiology, mycotoxins, full rheology, bake lab and chromatography. Providers of the annual Wheat Crop Quality Survey. ISO 17025.
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- 807† Hesco, Inc.**, 500 19th St SW, Watertown, SD 57201 U.S.A.; Telephone: +1.605.884.1100; Fax: +1.605.884.1133; Web: www.hesco-inc.com; E-mail: hescoinc@hesco-inc.com. Hesco Inc. is a privately-held, certified Women's Business Enterprise with multiple production facilities and custom grower networks. Hesco specializes in cleaning, milling, cracking, and blending of conventional and organic grains. Hesco's facilities are BRC certified, FDA-registered, USDA and QAI certified Organic, and OU certified Kosher.
- 819 ICC/MoniQA/HEALTHGRAIN**, Marxergasse 2, Vienna, 1030 Austria; Telephone: +43170772020; E-mail: office@icc.or.at. ICC is the pre-eminent international association in the field of cereal science and technology, committed to international cooperation through the dissemination of knowledge, conducting research, and developing standard methods that contribute to advance innovation, improve food quality, food safety and food security for the health and well-being of all people.

502† ICL Food Specialties, 622 Emerson Road, Suite 500, St. Louis, MO 63141 U.S.A.; Telephone: 1-855-ICL-SPEC or +1.314.983.7500; Web: www.iclfood.com; E-mail: experts@iclfood.com. ICL Food Specialties connects ideas to innovations. Our ingredient portfolio has expanded and our application experts inspire formulators to deliver bakery products that are healthy yet indulgent. Stop by our booth to experience and taste innovation in the form of new culinary concepts with a twist. Ingredients with endless possibilities!

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621 Ingreddion Inc., 5 Westbrook Corporate Center, Westchester, IL, 60154 U.S.A.; Telephone: +1.708.551.2600; Web: www.ingredion.com. Ingreddion offers nature-based ingredients that deliver sweetness, texture and nutrition to help food and beverage manufacturers develop new products, reinvigorate hallmark brands or achieve formulation and manufacturing efficiencies. Our broad portfolio of ingredients and our comprehensive applications development and technical support are key resources to successfully develop and market innovative foods that resonate with consumers.

304†* Innophos, Inc., 259 Prospect Plains Road – Building A, Cranbury, NJ, 08512 U.S.A.; Telephone: +1.609.495.2495; Web: www.innophos.com; E-mail: customerservice@innophos.com. Innophos offers a complete range of leavening acids for your baking applications. From chemical leavening to mineral fortification, phosphates play an important role in the baking industry. Innophos has developed formulations including CAL-RISE® to meet new regulation requirements and continues to research healthier and tastier ingredients for the baking market.

119 International Fiber Corp., 50 Bridge St., North Tonawanda, NY, 14120 U.S.A.; Telephone: +1.716.693.4040; Web: www.ifcfiber.com. International Fiber Corporation gives you many ways to improve your products using Solka-Floc, JustFiber, and Fibrex functional fibers. We can assist you whether you want to make a fiber claim or need the functionality that fiber can offer. We have the fiber solutions to improve your product success and help manage your costs.

812† J.Rettenmaier, 16369 US 131 Highway S, Schoolcraft, MI 49087 U.S.A.; Telephone: +1.269.679.2340; Fax: +1.269.679.3234; Web: www.jrsusa.com; E-mail: tradeshows@jrsusa.com. J. RETTENMAIER manufactures multi-functional, label-friendly Dietary Fibers. Benefits include nutritional, increased satiety, and calorie reduction, to a variety of fiber-enriched food and beverage applications and technologically advanced food products. Products: VITACEL® powdered cellulose, oat, wheat, potato, pea, sugarcane, apple, and orange fibers. VIVAPUR® cellulose gels, modified cellulose, and microcrystalline cellulose.

818†* Kudos Blends, Old Station Business Park, Clebury Mortimer, Worcestershire, DY14 8SY, United Kingdom; Telephone: +44 (0)1299 271 333; Web: <http://www.kudosblends.com>; E-mail: info@kudosblends.com. Continuous scientific focus and innovation at Kudos Blends drives the development of technically driven leavening agents for

the bakery industry. The combination of chemistry and baking means that Kudos offer solutions to reduce sodium through patented KUDOS™ Potassium Bicarbonate, enabling bakers to produce healthier choices for baked goods.

112†* Lallemand Baking Solutions, 1620 Prefontaine, Montreal: QC H1W 2N8, Canada; Telephone: +1.514.251.3620; Fax: +1.514.255.6861; Web: www.lallemand.com. Lallemand Baking Solutions is the specialty baking ingredients business of Lallemand Inc., the Canadian yeast and bacteria company developing and supplying ESSENTIAL enzyme-based dough conditioners, FERMAID yeast-based dough relaxers, FLORAPAN cultures as well as customized product solutions to the global baking industry.

219† Malt Products Corporation, 88 Market Street, P.O. Box 898, Saddle Brook, NJ 07663 U.S.A.; Telephone: +1.201.845.4420 or 1.800.526.0180; Fax: +1.201.845.0028; Web: www.maltproducts.com; E-mail: john@maltproducts.com. Your Source for National and Organic Sweeteners Malt – Molasses – Tapioca Syrup – Rice Syrup – Brown Rice Syrup – Agave -Invert – Honey – Evaporated Cane Juice Syrup – Honey – Oat Extract – Black Malt Extract. Locations in U.S.A. – Canada – Europe

416† MANE, Inc., 2501 Henkle Drive, Lebanon, OH 45036 U.S.A.; Telephone: +1.513.248.9876; Fax: +1.513.248.8808; Web: www.mane.com; E-mail: requests@mane.com. MANE is a privately held company, ranked among the top ten leading flavor and fragrance companies in the world. Founded in 1871, MANE combines unique expertise for designing value added solutions with an unrivaled knowledge of natural raw materials and technologies to deliver cutting-edge flavors and flavor-driven seasoning blends.

707 Manildra Group USA, 4210 Shawnee Mission Parkway, 312A, Shawnee Mission, KS 66208 U.S.A.; Telephone: +1.913.362.0777; Fax: +1.913.362.0052; Web: www.manildrausa.com. Manildra has earned a worldwide reputation as the leader in vital wheat gluten and wheat starches. This status has been achieved by delivering timely and personal service to all our customers. This consistency of service and excellence has brought us success and stands as a singular commitment to our customers.

315† McCormick & Company, Inc., 226 Schilling Circle, Hunt Valley, MD 21031 U.S.A.; Telephone: +1.410.771.7500; Web: www.mccormick.com. McCormick is a global leader in flavor. McCormick's Industrial Business partners with multinational food manufacturers, quick service restaurants and foodservice distributors to create innovative flavor solutions for their brands. McCormick provides high quality ingredients and exceptional service our partners know they can trust.

310† Medallion Labs, 9000 Plymouth Ave N., Minneapolis, MN 55427 Country: U.S.A.; Telephone: 1.800.245.5615 or +1.763.764.4453; Fax: +1.763.764.4010; Web: www.medallionlabs.com; E-mail: info@medlabs.com. Medallion Labs, a division of General Mills, is an analytical testing facility. Since 1974, we have served thousands of clients, earning us a reputation for quality, reliability and flexibility. Medallion's areas of expertise include: Nutritional Testing, Specialty Fibers, Microbiology, Physical Testing, Shelf Life Studies, and Product Evaluations.

- 404 Megazyme**, Bray Business Park, Southern Cross Road, Bray, Co. Wicklow, Ireland; Telephone: +35312861220; Web: www.megazyme.com; E-mail: sales@megazyme.com; Facebook: <https://www.facebook.com/pages/Megazyme-International/279187735558577>; Twitter: <https://twitter.com/megazyme>. Megazyme develops, manufactures and supplies innovative test kits and reagents for quality management in the cereals, food, wine and biofuels industries. These kits measure components such as dietary fiber, sugars, organic acids and enzymes. Recently Megazyme invested heavily in expanding its molecular biology and synthetic organic chemistry capabilities.
- 604† The Mennel Milling Company**, P.O. Box 806, Fostoria, OH 44830 U.S.A.; Telephone: +1.419.435.8151; Fax: +1.419.436.5150; Web: www.mennel.com; E-mail: dbaun@mennel.com. The Mennel Milling Company, one of the leading soft wheat millers in the country and specializes in custom milling. In addition, Mennel produces hard and spring wheat flours. Mennel also produces heat treated flours. Mills are located in Fostoria and Bucyrus, OH; Dowagiac, MI; Roanoke, VA; and Mt. Olive, IL.
- 611† MGP**, 100 Commercial Street, P.O. Box 130, Atchison, KS 66002 U.S.A.; Telephone: 1.866.547.2122; Fax: +1.913.360.5717; Web: www.mgpingredients.com. In business since 1941, MGP provides a host of specialty wheat proteins and starches, including dietary fiber for use in bakery and prepared foods, as well as lightly hydrolyzed proteins and protein isolates for protein enrichment, textured proteins for vegetarian products, and multiple starches for reduced sodium applications.
- 719 NEXIRA**, 15 Somerset Street, Somerville, NJ 08876 U.S.A.; Telephone: +1.908.707.9400; Fax: +1.908.707.9405; Web: www.nexira.com; E-mail: info-usa@nexira.com; Twitter: @NexiraInc. Nexira is a global leader in natural ingredients and botanical extracts for food, nutrition and dietary supplements. Nexira built its reputation as the world leader in acacia gum and now manufactures a wide range of ingredients, antioxidants and active botanicals for weight management, sports nutrition, digestive and cardiovascular health.
- 720† Northern Crops Institute**, NDSU Dept. 7400, P.O. Box 6050, Fargo, ND 58108-6050 U.S.A.; Telephone: +1.701.231.7736; Web: <http://www.northern-crops.com/>; E-mail: david.h.hahn@ndsu.edu; Facebook: <https://www.facebook.com/NorthernCropsInstitute#!>. NCI provides new product and process development, pilot plant testing and technical training for customers from around the world. We have pilot processing for: twin screw extrusion, pasta production and wheat milling. NCI has lab facilities for baking, flour rheology and chemical analysis of grain based products.
- 620† NP Analytical Laboratories**, Checkerboard Square, St. Louis, MO 63164 U.S.A.; Telephone: 1.800.423.6832 or +1.314.982.1310; Fax: +1.314.982.1078; Web: www.npal.com; E-mail: npal@purina.com. NP Analytical Laboratories provides comprehensive testing of foods and ingredients for nutrients, contaminants, microbial pathogens, and quality indicators. Services include measurement of vitamins, minerals, dietary fiber, fatty acids, sugars, amino acids, preservatives, fat quality and stability, pesticides, mycotoxins, and complete nutrition labeling services. Microbial shelf-life and challenge studies also offered.
- 114 Nutraceuticals World**, 70 Hilltop Road, Suite 3000, Ramsey, NJ 07446 U.S.A.; Telephone: +1.201.825.2552; Fax: +1.201.825.0553; Web: www.nutraceuticalsworld.com; E-mail: slipscomb@rodmanmedia.com. Nutraceuticals World is the premier international magazine serving manufacturers of functional foods, sports and nutritional beverages, and dietary supplements, providing valuable information on marketing trends, ingredient sourcing, packaging, and manufacturing equipment. Nutraceuticals World is an important resources for industry executives worldwide. NutraceuticalsWorld.com offers exclusive online articles. NutraceuticalsWorldNow offers timely industry news.
- 403† Palsgaard Incorporated**, 101 Gibraltar Drive, Suite 2B, Morris Plains, NJ 07950 U.S.A.; Telephone: +1.973.998.7951; Fax: 1.973.998.7953; Web: www.palsgaard.com; E-mail: rr@us.palsgaard.com. Palsgaard is a specialist in manufacturing emulsifiers, stabilizers and other specialized ingredients for application in the bakery, dairy, chocolate, ice cream, margarine and fine food sectors. With pilot plants within these areas, Palsgaard offers comprehensive customer support, making the step between initial ideas and production as small as possible.
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- 221† Penford Food Ingredients**, 7094 South Revere Pkwy, Centennial, CO 80112 U.S.A.; Telephone: 1.800.652.4732; Web: www.penford.com; E-mail: pfi-sales@penford.com. Penford Food Ingredients is a premier carbohydrate company that provides NON-GMO potato, corn, tapioca, waxy maize and rice starches, resistant starches, specialty gums and customized ingredient systems for dairy, snacks, bakery, coatings, meats, confectionery, beverages and sauces.
- 103/ 202† Perten Instruments**, 6444 S. 6th Street Road, Springfield, IL 62712 U.S.A.; Telephone: +1.217.585.9440; Fax: +1.217.585.9441; Web: www.perten.com; E-mail: info@perten.com. Instruments and analyzers for cereal chemists. Test and measure physical, chemical, and rheological properties of grains, ingredients, and finished products. Speak with our experts to discuss your particular analysis needs.
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- See our ad on page 1.**
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- 721 Prayon Inc.**, 1610 Marvin Griffin Road, Augusta, GA 30906 U.S.A.; Telephone: 1-800-4PRAYON; Fax: +1.706.771.3469; Web: www.prayon.com; E-mail: food@prayoninc.com. Prayon Inc. offers a complete range of Praylev leavening agents and Prayphos mineral enrichment phosphates for baking and cereal applications. Our latest innovations include Prayphos calcium phosphates – for free flow applications and infant foods and Fortipray – a calcium phosphate salt and fat-soluble vitamin complex.
- 710+* QualySense AG**, c/o EMPA, Überlandstrasse 129, Dübendorf 8600, Switzerland; Telephone: +41 44 824 35 80; Web: www.qualysense.com; E-mail: info@qualysense.com; Facebook: <https://www.facebook.com/qualysense-sorters>. QualySense develops high-end solutions for grains, seeds and beans quality inspection and sorting. The unique and proprietary devices enable precise one-by-one sorting

by biochemical and geometrical properties. Our sorting devices, the QSorter series, generate outstanding benefits in quality control, process optimization, breeding, R&D and risk management.

- 704† Radio Frequency Co.**, 150 Dover Rd., Millis, MA 02054 U.S.A.; Telephone: +1.508.376.9555, Fax: +1.508.376.9944; Web: www.radiofrequency.com; E-mail: tclark@radiofrequency.com. Radio Frequency is promoting its new Ultra-Series Macrowave™ Pasteurization System designed for food safety and ease of sanitation. Systems assure uniform volumetric product heating conveyed in bulk or bags. Rapid, uniform heating of material achieves up to a 5log reduction of pathogens without adversely affecting protein functionality is achieved. Available from 1,000lbs/hr to 50,000lbs/hr.

See our ad on page 38.

- 115† R-Biopharm Inc.**, 870 Vossbrink Dr., Washington, MO, 63090 U.S.A.; Telephone: +1.269.789.3033; 1.877.789.3033; Fax: 1.866.922.5856; Web: www.r-biopharm.com; E-mail: sales@r-biopharm.com. R-Biopharm develops, manufactures, and markets rapid enzyme immunoassays for the detection of residues in food and feed. They include test kits for mycotoxins, hormones, and anabolics, antibiotics, vitamins, food allergens, microbiology, and hygiene. R-Biopharm has a complete portfolio of allergen testing formats ranging from lateral flow, ELISA, and real-time PCR.

- 616† Research Products Company**, P.O. Box 1460, Salina, KS 67402-1460 U.S.A.; Telephone: +1.785.825.2181; Fax: +1.785.825.8908; Web: www.researchprod.com; E-mail: info@researchprod.com. Since 1946, Research Products Company has provided the milling and baking industries with innovative ideas, services and products second to none. We've supplied the industry with vitamin and mineral premixes, standard-setting flour oxidation and maturing services, micro-ingredient dispensing systems, and on-site field servicing.

- 705 REVTECH**, PA Champgrand, 50 allée des abricotiers, Loriol sur Drôme, 26270 France; Telephone: +33475601633; Fax: +33475601627; Web: www.revtech-process-systems.com; E-mail: revtech@revtech.fr. Revtech designs continuous units for the heat treatment of cereal products. Units from 500 to 10 000 lbs/h can be used for various applications: • Drying • Pasteurizing • Stabilizing • Toasting • Heat treating flour to modify properties. Same machine can be used for flour, bran, germs, flakes, grains.

- 820† Richardson Milling**, 4800 Main Street, Suite 501, Kansas City, MO 64112 U.S.A.; Telephone: +1.816.994.7600; Fax: +1.816.994.7629; Web: www.richardson.ca; E-mail: kelly.henderson@richardson.ca; Richardson Milling offers a full range of whole grain oat products, higher fiber oat brans, and specialty clusters and coated grains. Our R&D team works closely with customers to provide innovative ingredients to meet the growing consumer demand for healthier products. Richardson Milling is a division of Richardson International.

- 306† Riviana Foods Inc.**, 2777 Allen Pkwy., Houston, TX, 77019 U.S.A.; Telephone: +1.713.529.3251; Fax: +1.713.529.1661; Web: www.RivianaIndustrial.com. Riviana Foods Industrial division supplies a wide range of rice products to many major food companies. These include quick cooking rice items, milled and parboiled rice, crisp rice, and specialty rices. Rivland Partnership offers a variety of rice flours. We have a reputation for dependable service and quality products.

- 320† Sensus America, Inc.**, 100 Lenox Drive, Ste 104, Lawrenceville, NJ 08648 U.S.A.; Telephone: +1.646.452.6140; Fax: +1.646.452.6150; Web: www.sensus.us; E-mail: contact@sensus.us. Sensus America, Inc. is the leading manufacturer for Chicory Root Fiber (Inulin). Our newest product is Fructose® SF75. Fructose® SF75 is a low-calorie, all-natural sweetener, specifically designed to help manufacturers reduce sugar in their products. The product delivers 65% the sweetness of sugar at just 2 kcal/gram.

- 408 Siemer Specialty Ingredients**, 201 W. Main, Teutopolis, IL, 62467 U.S.A.; Telephone: +1.217.857.3131; 1.800.826.1065; Fax: +1.217.857.3092; Web: www.siemersi.com. Naturally replace modified food starch at a cost-effective price point. Heat-treated flour for food safety. Improve nutritional value without compromising shelf life with stabilized wheat germ/ bran. Create a natural cake that is bleach-free but retains the functionality of bleached cake.

See our ad on the front of the Exhibition tab.

- 821 SPEX SamplePrep**, 65 Liberty Street, Metuchen, NJ 08814 U.S.A.; Telephone: +1.732.623.0465; Web: www.spexsampleprep.com; E-mail: fhenry@spex.com; Facebook: <https://www.facebook.com/SPEXSP>; Twitter: <https://twitter.com/sampleprep>. SPEX SamplePrep, is celebrating 60 years of providing superior sample preparation equipment. Our Geno/Grinder® is a high-throughput tissue homogenizer and our Freezer/Mill® is a powerful cryogenic grinder. They are designed to extract nucleic acids and other compounds from plant and animal tissue. Visit booth 821 to view our products.

- 220† SunOpta**, 7301 Ohms Lane, Suite 600, Edina, MN 55439 U.S.A.; Telephone: +1.952.820.2518; Fax: +1.952.939.8106; Web: www.sunopta.com; E-mail: info@sunopta.com. SunOpta specializes in the sourcing, processing and packaging of identity preserved, non-GMO, organic and specialty foods. Our integration from seed through packaged products, supported by our global sourcing and supply chain development allows for the highest quality and value, which makes SunOpta unique in the natural foods industry.

- 414† Texture Technologies Corp.**, 6 Patton Drive, Hamilton, MA 01982 U.S.A.; Telephone: +1.978.468.9969 or +1.914.472.0531; Fax: +1.914.472.0532; Web: www.texturetechnologies.com; E-mail: marcj@texturetechnologies.com. Texture Technologies' commitment to the cereal industry is stronger than ever! We have deployed our instrument, software, fixtures, training, test methods and applications support to solve thousands of cereal-industry texture challenges. We would be pleased to use our knowledge and experience to your solve your texture measurement challenges.

207† Thymly Products, Inc., 1332 Colora Rd. PO Box 65, Colora, MD 21917 U.S.A.; Telephone: +1.410.658.4820 or 1.877.710.2340; Fax: +1.410.220.0038; Web: www.thymly-products.com; E-mail: marketing@thymlyproducts.com. Thymly Products, Inc. has been providing quality ingredients and onsite technical support we are here to help you bake your best. We are well known for our ability to formulate food and manufacture ingredients to meet the baker's needs.

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