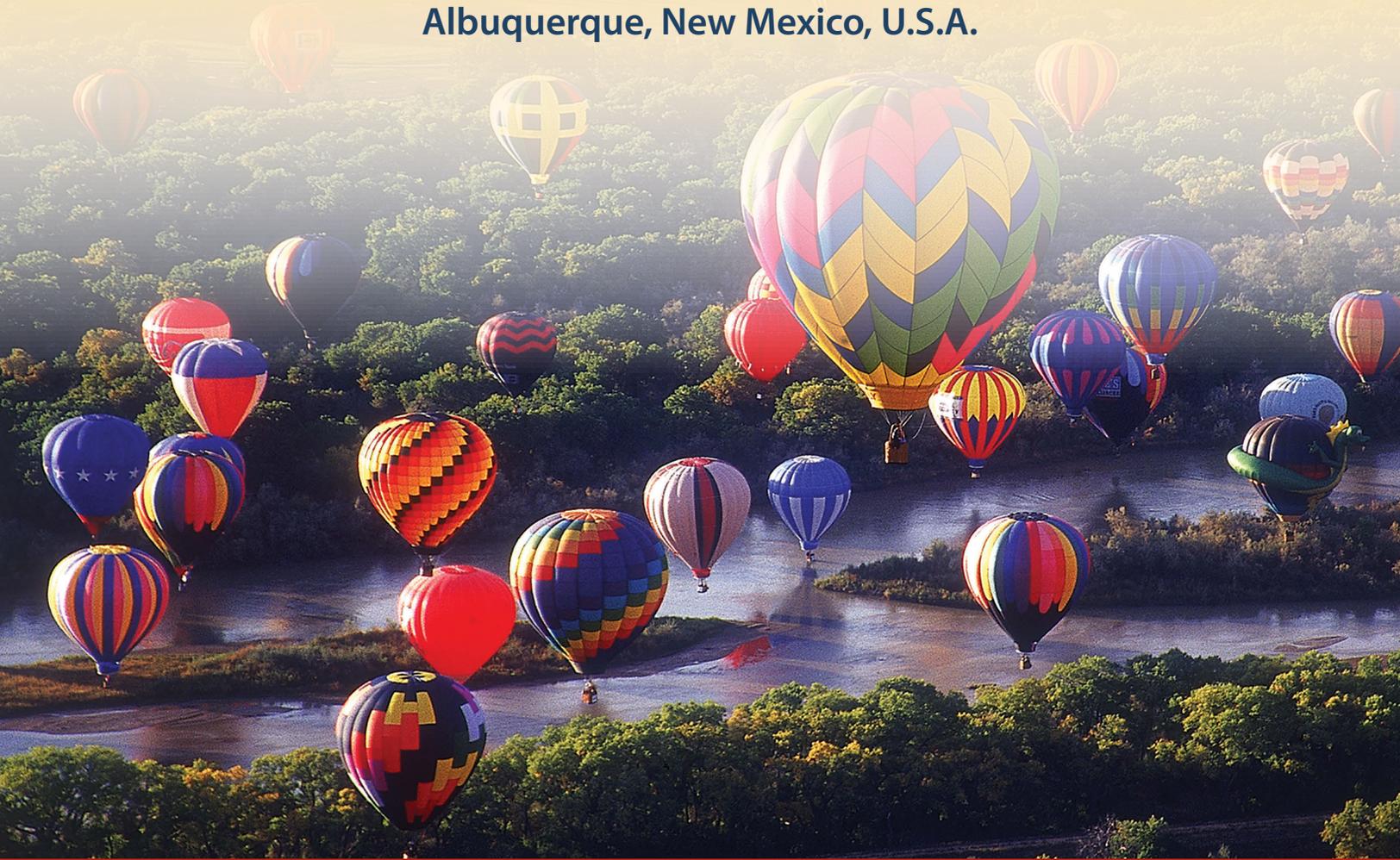


# PROGRAM BOOK



## AACC International Annual Meeting

September 29 – October 2, 2013  
Albuquerque Convention Center  
Albuquerque, New Mexico, U.S.A.



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## The **INNOVATIVE** GlutoPeak

A fast, simple and reliable way to measure gluten aggregation in minutes

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of Refrigerated Dough Quality

AND

Modified GlutoPeak Method for Additives



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# You don't know what you don't know.

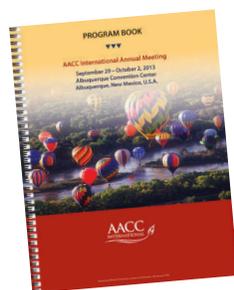


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INSTRUMENTS

## New Program Book Look, Again!



You asked, we listened, and this year we have a new program book look, taking the best features from the program guide and the program resource book from the last few years and combining them into one more streamlined, full color program book. We hope you find this format a convenient way to navigate the meeting. Also, check out the mobile app as a complete meeting resource guide. And let us know how you like the change.

## 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.

## Table of Contents

Safety Tips .....	5
<b>Sessions/Posters</b>	
Seven Scientific Initiatives .....	7
New Program Session Formats for 2013 .....	7
General Information .....	8
Floor Plans/Map	
Hyatt • Second Floor .....	10
Albuquerque Convention Center .....	11
Downtown Albuquerque .....	12
Meeting Highlights .....	14
2013 Schedule-at-a-Glance .....	18
Daily Meeting Schedule .....	20
Sunday Premeeting Workshop & Hot Topic .....	27
Monday Sessions (8:30 – 10:10 a.m.) & Presenters .....	28
Monday Supplier Innovation Session I (9:00 a.m. – 12:10 p.m.) .....	29
Student Product Development Competition .....	30
Monday Sessions (10:40 a.m. – 12:20 p.m.) & Presenters .....	30
Monday Supplier Innovation Session II (2:00 – 3:20 p.m.) .....	31
Monday Sessions (2:00 – 4:00 p.m.) & Presenters .....	31
Tuesday Sessions (8:30 – 10:10 a.m.) & Presenters .....	32
Tuesday Hot Topic .....	32
Tuesday Supplier Innovation Session III (9:00 – 11:00 a.m.) .....	34
Tuesday Sessions (10:40 a.m. – 12:20 p.m.) & Presenters .....	34
Tuesday Sessions (2:30 – 4:30 p.m.) & Presenters .....	35
Wednesday Sessions (8:30 – 10:10 a.m.) & Presenters .....	37
Wednesday Sessions (10:40 a.m. – 12:20 p.m.) & Presenters .....	38
Wednesday Sessions (2:00 – 4:00 p.m.) & Presenters .....	39
Poster Schedule and Poster Categories .....	41
Poster Titles and Authors .....	41
<b>Recognition</b>	
2013 AACCI Annual Meeting Program	
Planning Team .....	55
Thank You 2013 Annual Meeting Sponsors .....	55
2013 AACC International Partners .....	56
Thank You AACC International Corporate Members .....	57
2013 AACC International Awardees .....	58
2012–2013 AACC International Board of Directors .....	62
Committee Chair and Member List .....	63
Past Presidents .....	65
<b>Exhibition</b>	
Exhibit Hall Floor Plan .....	67
Exhibitor Numerical Listing .....	68
Exhibit Hours .....	69
Exhibitor Descriptions .....	69
<b>Index</b>	
Author Index .....	79
Headquarters and Staff Listing .....	84
Future Meeting Dates and Locations .....	84
Advertisers' Index .....	84
Notes .....	86

# Welcome to Albuquerque

## 2013 AACCI Annual Meeting Program Planning Team

### Program Team Chair

Koushik Seetharaman, *University of Minnesota,  
U.S.A.*

### Program Team Vice-Chair

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

## 2013 Scientific Initiative Chairs and Vice-Chairs

### Biotechnology & Sustainability

Chair: Michael Tilley, *USDA ARS CGAHR,  
U.S.A.*

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

### Chemistry & Interactions

Chair: Baljit S. Ghotra, *Ingredient Incorporated,  
U.S.A.*

Vice-Chair: Kristof Brijs, *KU Leuven, Belgium*

### Engineering & Processing

Chair: Sathya Kalambur, *Frito-Lay Inc., U.S.A.*

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

### Food Safety & Regulatory

Chair: Andreia Bianchini, *University of  
Nebraska, U.S.A.*

Vice-Chair: Deann Akins-Lewenthal, *ConAgra  
Foods Inc., U.S.A.*

### Health & Nutrition

Chair: Trust Beta, *University Manitoba, Canada*

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

### Ingredients & Innovations

Chair: Brian J. Anderson, *Bunge, U.S.A.*

Vice-Chair: Feng (Jessy) Wang, *MagiBake  
International, Inc. and Jiangnan University,  
People's Republic of China*

### Quality & Analytical Methods

Chair: Elaine J. Sopiwnyk, *Canadian  
International Grains Institute, Canada*

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



*"I am so glad you have decided to join us in Albuquerque for what promises to be an excellent meeting. This year's program focuses on shifting our current paradigm of knowledge, while also addressing industry challenges. Our offerings are diverse, with something of interest to everyone. I urge you not only to attend sessions that address your current work but also to expand your own paradigm of knowledge and attend a session or two that falls outside your current area of work or study."*

Koushik Seetharaman  
2013 Program Chair



*"Greetings, and welcome to Albuquerque, New Mexico. You are joining hundreds of your colleagues at this year's meeting, which offers so many opportunities to learn cereal grain science. Please take advantage of the knowledge contained in more than 30 Scientific Sessions. Be sure to visit the 200+ posters to review the latest trends and research findings, as well as make key connections with others in your field. Our annual meeting is the time to get re-energized about our science and our organization. I encourage you to share the information you gain and the enthusiasm you take away from this meeting with your colleagues—especially those who have yet to join AACC International! Thank you again for attending, and I look forward to a great few days here in Albuquerque with you all."*

David Hahn  
AACC International President

# 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](http://www.siemersi.com)

## 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.

## GET SOCIAL – Connect and Share with Your Colleagues

### Tweet and Post Your AACCI Annual Meeting Experiences!

Let others know what is happening during the AACCI Annual Meeting. Tweet, using the hashtag #aacci13, about the latest trends and research or post your insights at the AACCI LinkedIn group or Facebook group, where you can also create discussions, share photos, make comments, and post videos.



## App into the 2013 Meeting! Mobile App—It Gets Better Every Year!

### Get connected, stay connected as you:

- Browse the program schedule, exhibitor list, posters, and general information
- Get the latest meeting announcements
- Select sessions from the Program Book to be added to your customized schedule or go to My Meeting and add customized schedule items
- Access session information, including full abstracts
- Add exhibitors to your to-do list
- Browse and connect with other attendees: send messages and make appointments with them from the app
- Access poster presenters' audio previews of their posters (Internet access required)
- Using an iPad, connect with your iPad-specific version



Get the App...It's 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 AACCI2013; Blackberry users go to [mobileapp.aaccnet.org](http://mobileapp.aaccnet.org).

# Thank You 2013 AACCI Annual Meeting Sponsors

## Premier Sponsors



## Elite Sponsors



## Contributing Sponsors



## Supporting Sponsors



## Session Sponsors

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SESIONS/POSTERS

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Innovations for a better world.



## Your Science. Your Association.

### AACC International's Seven Scientific Initiatives

To increase the quality of research and satisfy the diverse needs of our members, the AACC International Annual Meeting focuses on seven scientific initiatives. These initiatives 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



## Your Science. Your Program.

### 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. The 2013 scientific program continues to focus on AACCI's Seven Scientific Initiatives.

### New Program Session Formats for 2013!

This is your meeting and your program, and we are working on new ways to share with you the excellent scientific content that is presented at this annual meeting.

#### In addition to the traditional...

- **Symposia** – aimed at optimal knowledge transfer through regular 20-minute talks with time for topical questions.
- **Science Cafés** – a combination of shorter or more elaborate position talks with debate and discussion.
- **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.

#### We've given a NEW twist to...

- **PosterTalks** – grouped by scientific content, poster authors give brief introductions and quick verbal snapshots of their poster/research findings followed by a moderated more in-depth group discussion with the audience.

#### And we've added NEW...

- **Conversations That Matter** – a new format for the exchange of science at the annual meeting. Conversations That Matter are 30-minute presentations/conversations with the goal of providing 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.
- **Special Sessions** – unique topics that vary from professional development to the workplace to the science.



# General Information

## Registration Hours

Upper Level, West Complex Foyer Area

Sunday, September 29	12:00 – 7:00 p.m.
Monday, September 30	7:30 a.m. – 6:30 p.m.
Tuesday, October 1	7:30 a.m. – 5:00 p.m.
Wednesday, October 2	7:30 a.m. – 2:30 p.m.

## Exhibition Hall—Exhibit and Poster Hours

SE Exhibit Hall

### Sunday, September 29

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

### Monday, September 30

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 <i>Student Poster Authors Present (4:00 – 5:00 p.m.)</i> <i>Poster Authors Present (odd-numbered posters 5:00 – 6:00 p.m.)</i>

### Tuesday, October 1

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

## AACCI Central/Bookstore and Cereal Chemistry Demonstration

SE Exhibit Hall and Tijeras Foyer

AACCI is innovating to bring you new products and services. Learn more and get great deals on AACCI PRESS books, including new releases, at AACCI Central. Get a free book with purchase. Set up a free Cereal Chemistry search alert and get a free AACCI Media Charging Station.

### Sunday, September 29

5:00 – 7:00 p.m. (SE Exhibit Hall)

### Monday, September 30

9:00 a.m. – 3:00 p.m. (Tijeras Foyer)  
4:00 – 7:00 p.m. (SE Exhibit Hall)

### Tuesday, October 1

9:00 – 11:00 a.m. (Tijeras Foyer)  
12:00 – 2:15 p.m. (SE Exhibit Hall)

### Wednesday, October 2

9:00 – 11:00 a.m. (Tijeras Foyer)

## Speaker Ready Room

Tijeras, Convention Center

Sunday, September 29	2:00 – 7:00 p.m.
Monday, September 30	7:00 a.m. – 5:30 p.m.
Tuesday, October 1	7:00 a.m. – 5:30 p.m.
Wednesday, October 2	7:00 a.m. – 12:00 p.m.

## New and Complimentary!

### Conference Recordings Available to All Meeting Attendees

Did you miss a session or presentation? New this year, recordings of presentations, with author approval, will be available to meeting attendees within three weeks of the meeting, FREE! Watch for e-mails after the meeting with more information on how to stay connected to the 2013 annual meeting and the outstanding science.

## Open Meeting Room

A meeting room will be available for groups of 16 people or fewer. Sign up at the Registration Desk located in the Upper Level, West Complex Foyer.

## Photo Release

Photographs will be taken at the 2013 AACCI International Annual Meeting. By attending this meeting, you agree to allow AACCI International's use of your photo in any AACCI publications or website.

## AACCnet Job Networking

It's all about the networking and making critical connections when it comes to a job/candidate search. Get your search started by posting copies of your job/candidate information on the Job Board located by registration, and check out the most recent postings on the AACCnet Job Center, designed specifically for the grain-based food industry and cereal science fields. Visit [www.aaccnet.org/jobs](http://www.aaccnet.org/jobs) to learn more. AACCI members receive an exclusive 20% discount on all postings.

## Meeting Facilities Addresses

### Albuquerque Convention Center

401 2nd Street NW  
Albuquerque, New Mexico 87102  
Phone: 505.768.4575

### Hyatt Regency

330 Tijeras Avenue NW  
Albuquerque, New Mexico 87102  
Phone: 505.842.1234

### DoubleTree by Hilton Hotel Downtown

201 Marquette Avenue NW  
Albuquerque, New Mexico 87102  
Phone: 505.247.3344

### Hotel Anadaluz

125 Second Street NW  
Albuquerque, New Mexico 87102  
Phone: 505.242.9090

## Offsite Venues

### Cincinnati Section Meeting and Dinner

Zinc Wine Bar and Bistro  
3009 Central Ave NE  
Albuquerque, NM 87106  
Phone: 505.254.9462

### Northwest and PNW Section Dinner

Chama River Brewing Co.  
4939 Pan American Freeway  
Albuquerque, NM 87109  
Phone: 505.342.1800

### Cereals&Europe Dinner

Church Street Cafe  
2111 Church St NW  
Albuquerque, NM 87104  
Phone: 505.247.8522  
*(shuttle bus transportation provided)*

### Student Division Social and Dinner

La Esquina Restaurante & Cantina  
40 First Plaza #60 in the Galleria  
Albuquerque, NM  
Phone: 505.242.3432  
*(walking distance from convention center)*

### Carbohydrate Division Dinner

Sandia Golf Course  
30 Rainbow Road  
Albuquerque, NM 87113  
Phone: 505.798.3990  
*(bus transportation provided)*

## Medical Emergencies

The nearest medical facilities are:

### Lovelace Downtown Hospital

601 Dr. Martin Luther King Jr. Avenue NE 87102  
Phone: 505.727.7800  
*(closest to the Albuquerque Convention Center – 2 blocks away)*

### Presbyterian Hospital

1100 Central SE 87106  
Phone: 505.841.1234  
*(0.5 miles from the Albuquerque Convention Center)*

### UNM Hospital

1127 University NE 87102  
Phone: 505.272.5200  
*(1.5 miles from the Albuquerque Convention Center)*

## 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 1**  
**4:30 – 5:30 p.m.**  
**Picuris, CC**

*Sponsored by the  
AACCI Professional  
Development Panel*

## Your Search Is About to Become a Whole Lot Easier

*Designed specifically for those in the  
grain-based food industry and cereal  
science fields, the AACCI Job Center is  
where job seekers and employers*

# UNITE.



**AACCI Job Center**  
[www.aaccnet.org/jobs](http://www.aaccnet.org/jobs)

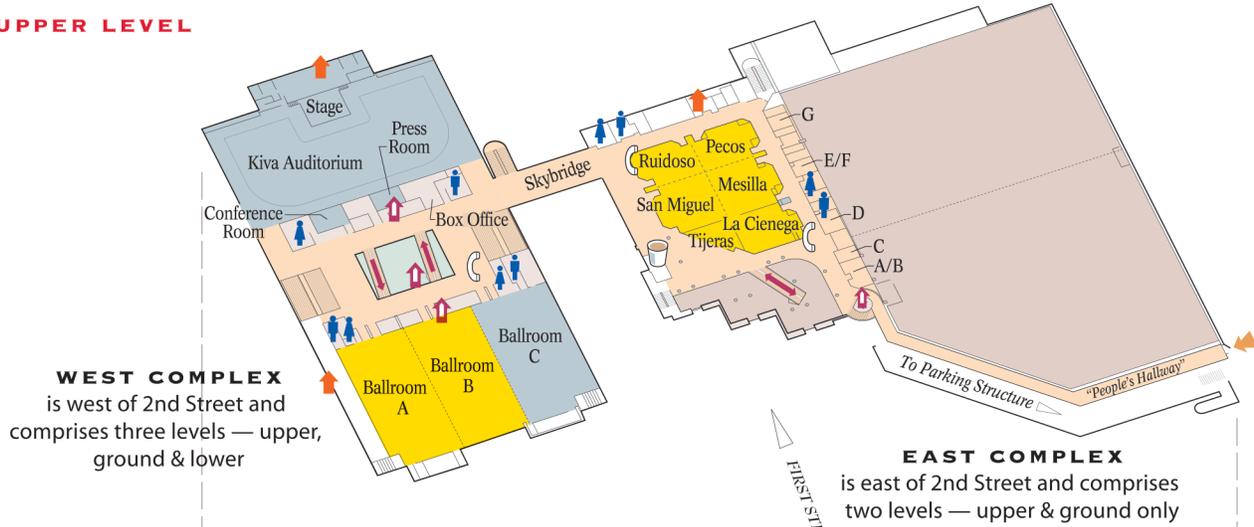
# Hyatt Hotel • Second Floor



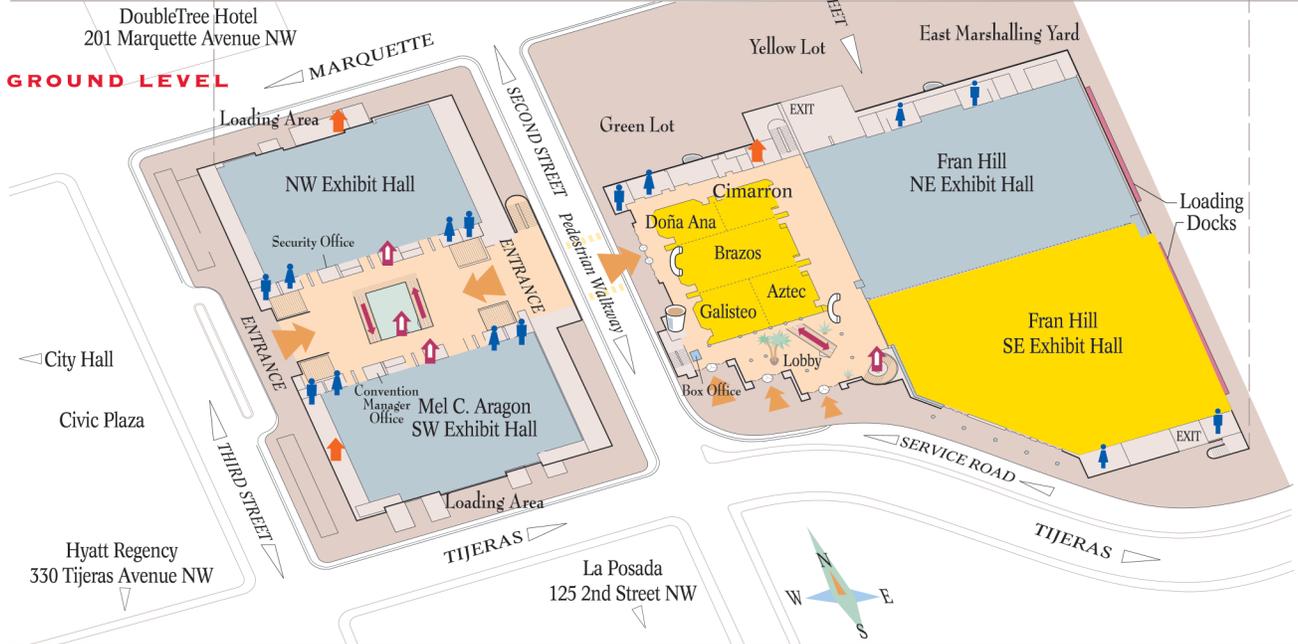
# Albuquerque Convention Center

 AACCI Meeting Rooms

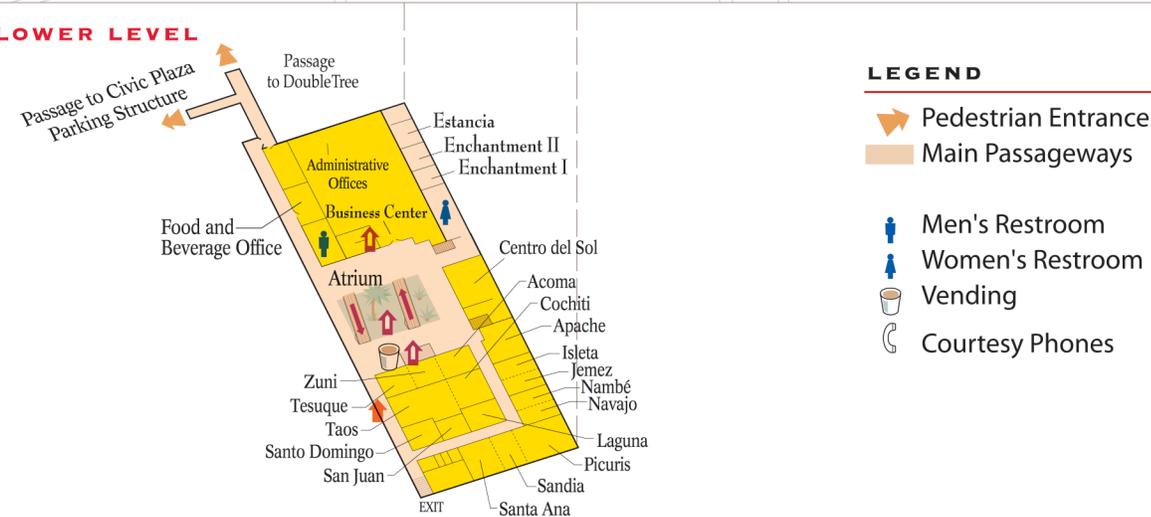
## UPPER LEVEL



## GROUND LEVEL



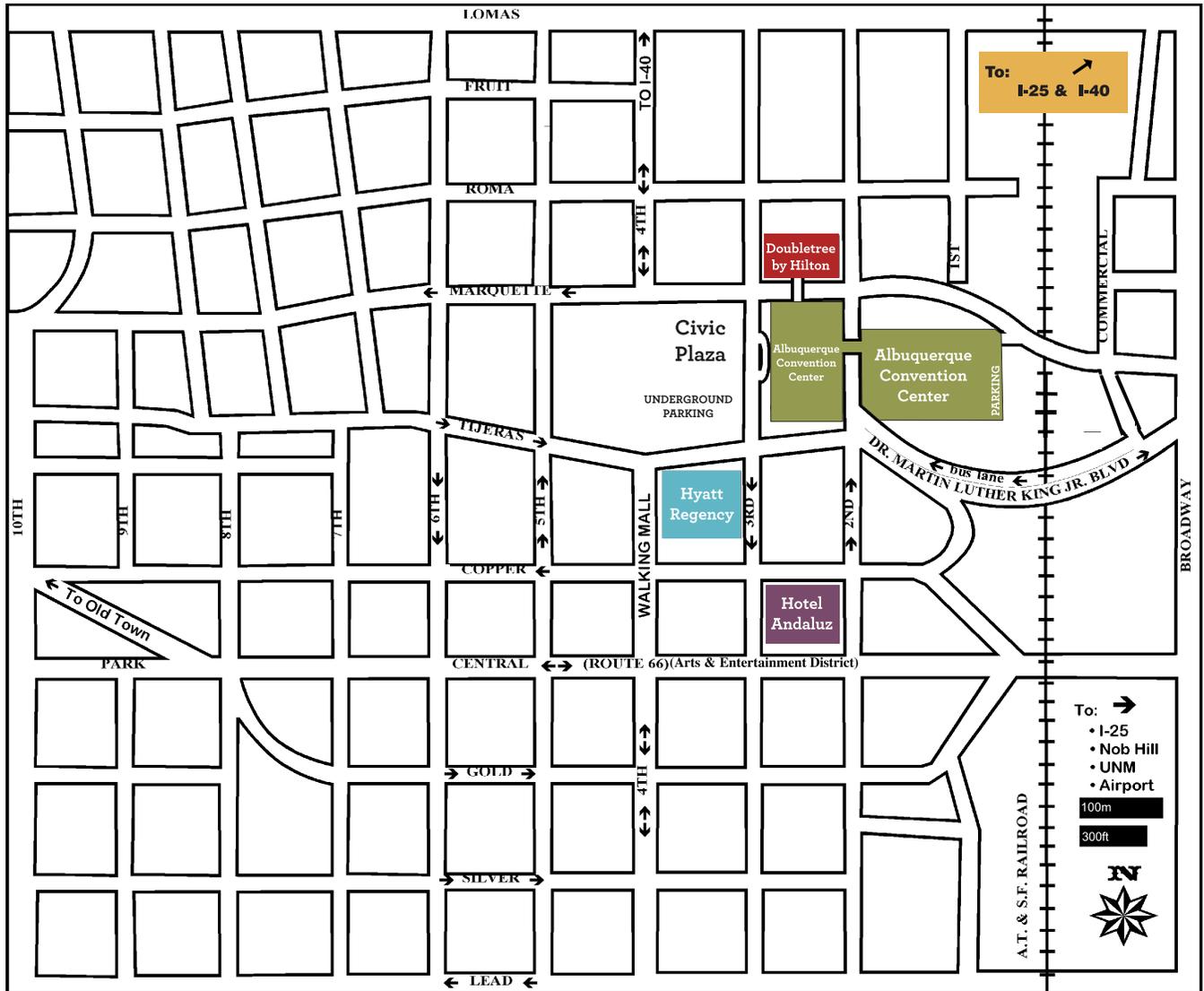
## LOWER LEVEL



### LEGEND

-  Pedestrian Entrance
-  Main Passageways
-  Men's Restroom
-  Women's Restroom
-  Vending
-  Courtesy Phones

# Downtown Albuquerque



# Clean Conveying



Cinnamon Toast Cereal



Cereal Combo



Fruit Loops



Cereal Loops



Cereal Flakes

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- ✓ Gentle Handling – *Less Breakage!*
- ✓ Energy-efficient
- ✓ Low Decibels – *Quiet!*
- ✓ Minimal Footprint
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# Meeting Highlights

## Premeeting Sessions

**Sunday, September 29**

12:30 – 3:30 p.m.

**Hot Topic:** Sustainability, Genetics, and Future Cultivars

**Workshop:** Near-Infrared Spectroscopy in Cereals Commerce, Processing, and Research

See page 27 for description and speakers.

## **New Time!** Opening General Session Reception

**Sunday, September 29**

3:30 – 4:00 p.m.

## Opening General Session and Awards Ceremony

4:00 – 5:00 p.m.

Start your annual meeting experience at the opening general session reception, and then get updates on what your association is doing to further the advancement of grain science, honor AACCI members who have made significant contributions to the field of grain science, and see who will win the William F. Geddes Memorial Award.

## **New Time!** Grand Opening Exhibition

**Sunday, September 29**

5:00 – 7:00 p.m.

Greet old friends and make new ones while you visit with more than 100 of the industry's leading suppliers during this casual event. Light appetizers and beverages will be served.

## Student Product Development Competition Presentations

**Monday, September 30**

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

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

This one-of-a-kind competition highlights grain-based food product development skills and innovations from our up-and-coming scientists. Stop by and watch the finalists as they present their innovative ideas, and join them later on by their posters in the exhibit hall. See page 30 for full details. All attendees are invited to watch the final presentations and encourage these new innovators!

## **New!** Scientific Sessions and Formats

### Special Sessions

**Monday, September 30**

2:00 – 4:00 p.m.

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

See page 31 for speakers.

**Tuesday, October 1**

2:30 – 5:30 p.m.

**Whole Grains, from Evolution to Revolution**

See page 36 for speakers.

### Conversations That Matter

**Monday, September 30**

2:00 – 4:00 p.m.

**Conversations That Matter...on the Perception of Whole Grain Foods**

See page 31 for speakers.

**Tuesday, October 1**

2:30 – 4:30 p.m.

**Conversations That Matter...on the Issue of Gluten-Free Products**

See page 35 for speakers.

**Wednesday, October 2**

2:00 – 4:00 p.m.

**Conversations That Matter...on the Formulation of Healthy Foods**

See page 39 for speakers.

**Conversations That Matter...on the Measurement of Dietary Fiber**

See page 39 for speakers.

### Hot Topic

**Tuesday, October 1**

8:30 – 10:10 a.m.

**Grain Brain for Grain Brains: A Look at Grains and Cognition, Dementia, and Mental Health**

See page 32 for description and speaker.

## Exhibits with Beer and Poster Viewing

Monday, September 30

4:00 – 7:00 p.m.

Grab a beer or soda and visit with industry suppliers at their exhibits, talk with poster authors, and visit AACCI Central.

## Best Student Research Paper Competition

Tuesday, October 1

8:30 – 11:00 a.m.

All attendees are encouraged to stop by and see the top-notch AACCI student research talent first-hand by attending this symposium where six students will advance to a final round of competition. This unique competition challenges students to demonstrate superior presentation skills and highlights the best research conducted by AACCI students. A detailed listing of presenters is included on page 33.

## Lunch with the Exhibitors and Poster Viewing

Tuesday, October 1

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 Event

Tuesday, October 1

4:30 – 5:30 p.m.

Bring your business cards and plan on starting connections that could last a lifetime. Through a series of quick exchanges with multiple contacts, you'll have the chance during this social to seek career and research guidance, hear about the experiences of others, and potentially find a long-term mentor/protégé match. Light appetizers and refreshments will be available. *Supported by the AACCI Professional Development Committee.*

## Closing Session – “When Generations Connect” featuring Keynote Speaker Hannah Ubl, from Bridgeworks and AACCI Historical Happy Hour with Eric Bertoft, David Lineback, and Don Sullins

Wednesday, October 3

4:15 – 6:00 p.m.

This jam packed closing session takes us on a generational trip through time, beginning with a look at the four generations that currently make up our work environment to a historical look at the generations that set the foundation for the AACC International association we are part of today. This session will also include the following award presentations – Texture Technologies Quality Research Best Presentation Award for 2013, Best Student Research Paper Competition, Student Product Development Competition, and the Cecil F. Pinney Travel Award.



“When Generations Connect” – **Hannah Ubl, Associate, BridgeWorks, LLC**, the company who wrote *When Generations Collide: Who They Are. Why They Clash. How to Solve the Generational Puzzle at Work and The M-Factor.*

Four generations are vying for a place at the conference table and every day roles are being rewritten and rules are all over the map. Millennials are flooding the workplace at an ever-increasing rate, Xers have paid their dues and are looking to climb the corporate ladder, but the average Boomer has no plan to retire any time soon. How do you reconcile this fact across generational lines, and simultaneously foster collaboration and understanding among these very different cohorts? Whether you're a seasoned veteran managing those younger than you are, or a skilled Gen Xer managing upward, Hannah will tie in what is happening in our industry and provide practical insights that will help you...

- Understand who the generations are and how they differ
- Identify Communication ClashPoints™ in your workplace
- Manage more effectively by connecting with each generation
- Learn how to convert generational obstacles into opportunities.

THEN...AACCI Historical Happy Hour with Eric Bertoft, David Lineback, and Don Sullins



Join us for golden margaritas as we prepare for AACCI's 100 years by honoring our first 50 years from 1915 – 1965 as three eminent colleagues provide their perspectives on the state and nature of science and industry during the early 20th century (1915 – 1964). Dr. Eric Bertoft, Emeritus Professor, Abo University will highlight key aspects of development in science during this period and its impact on cereal science; Dr. David Lineback, Emeritus Professor and Senior Fellow, University of Maryland will shed light on science, scientists and the nature of collaborations between different countries; and Dr. Don Sullins, retired Vice President, ADM will highlight the state of the industry in that time period.

### Approved Methods Technical Committee Meetings

*These meetings take place at the Albuquerque Convention Center (CC).*

#### Monday, September 30

7:00 – 8:30 a.m.

Bread Baking Methods	Navajo, CC
Food Safety and Microbiology	Isleta, CC
Pasta Products Analysis	Jemez, CC
Protein and Enzyme Methods	Nambe, CC
Rice Milling and Quality	Laguna, CC
Soft Wheat and Flour Products	Apache, CC
Statistical Advisory	Acoma, CC

#### Tuesday, October 1

7:00 – 8:30 a.m.

Dietary Fiber and Other Carbohydrates	Cochiti, CC
Experimental Milling	Apache, CC
Methods for Grain and Flour Testing	Isleta, CC
Molecular Biomarkers for Grain (formerly Biotechnology Methods)	Jemez, CC
Oat and Barley Products	Nambe, CC
Vitamins, Minerals, and Lipids	Navajo, CC
Yeast Evaluation	Acoma, CC

#### Wednesday, October 2

7:00 – 8:30 a.m.

Asian Products	Acoma, CC
Bioactive Compounds Methods	Jemez, CC
Chemical Leavening Agents	Nambe, CC
Physical Testing Methods	Apache, CC
Pulse and Legume	Navajo, CC
Spectroscopic Methods (formerly Near Infrared Analysis)	Isleta, CC

### 2013 AACCI Awardee Presentations

**Edith Christensen Award for Outstanding Contributions in Analytical Methodology**

**New Techniques to Analyze Microstructures Session**

Monday, September 30

8:30 a.m. • Dona Ana/Cimarron, CC

“The long journey of spectroscopic methods in cereals analysis, from moisture to the intangible,” presented by Stephen R. DELWICHE, USDA ARS, Beltsville, MD, U.S.A.

**Young Scientist Research Award**

**Characterization and Functionality of Small Molecules Session**

Monday, September 30

10:40 a.m. • San Miguel/Ruidoso, CC

“Metabolic profiling in cereals: Analysis of secondary metabolites in wheat using LC-QTOF/MS,” presented by Senay SIMSEK, North Dakota State University, Fargo, ND, U.S.A.

**Alsberg-French-Schoch Memorial Award**

**Polysaccharides Digestion and Fermentation Session**

Tuesday, October 1

8:30 a.m. • Brazos, CC

“The intricacies of starch digestion and a view towards quality and health benefit,” presented by Bruce R. HAMAKER, Purdue University, West Lafayette, IN, U.S.A.

**Thomas Burr Osborne Medal Award**

**Impact of Cell Wall Components on Health Session**

Wednesday, October 2

8:30 a.m. • Pecos/Mesilla, CC

“New technologies in cereal chemistry and related industries: From biochemistry to genome sequences,” presented by Geoffrey B. FINCHER, University of Adelaide, Glen Osmond, Australia

## The Open Road to Success Begins with the AACCI Foundation

Scholarships and fellowships provided by the AACCI Foundation help put our student members on the road to success.

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Available at the  
Registration Desk**

# 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 Hyatt (HY) or the Albuquerque Convention Center (CC), see page 9 for location addresses.

## Saturday, September 28

4:00 – 6:00 p.m. Milling & Baking Division Executive Committee and Advisory  
6:30 – 9:00 p.m. Cincinnati Section Meeting and Dinner†

## Location

Fiesta III, HY  
Offsite, Zinc Wine Bar and Bistro

## Sunday, September 29

5:00 – 6:00 p.m. Student Division Executive Committee and University  
Representative Meeting  
7:00 – 10:00 p.m. Northwest and PNW Section Dinner†

Board Room East, HY  
Offsite, Chama River Brewing Co.

## Monday, September 30

12:30 – 2:00 p.m. Engineering & Processing Division Meeting and Lunch\*  
12:30 – 2:00 p.m. Milling & Baking Division Meeting and Networking Lunch\*  
12:30 – 2:00 p.m. Nutrition Division Meeting and Lunch\*  
12:30 – 2:00 p.m. Rice Division Lunch\*  
2:30 – 4:00 p.m. Student Division Business Meeting  
5:30 – 6:00 p.m. Carbohydrate Division Executive Committee Meeting  
6:00 – 7:00 p.m. Carbohydrate Division Meeting  
7:00 – 9:30 p.m. Cereals&Europe Section Dinner\*†  
7:00 – 10:00 p.m. Student Division Social and Dinner\*†

Isleta, CC  
Galisteo, CC  
Apache, CC  
Acoma, CC  
Cochiti, CC  
Acoma, CC  
Galisteo, CC  
Offsite, Church Street Café  
Offsite, La Esquina Restaurante & Cantina

## Tuesday, October 1

4:30 – 5:30 p.m. Protein and Biotechnology Division Joint Business Meeting  
4:30 – 6:00 p.m. Iowa State University and Friends Reception\*  
5:30 – 6:30 p.m. Protein and Biotechnology Division Joint Social\*  
6:00 – 9:00 p.m. Carbohydrate Division Dinner\*†

Fiesta III–IV, HY  
HQue Lounge, 1st Floor, HY  
Fiesta I–II, HY  
Offsite, Sandia Golf Course  
Country Club

## Wednesday, October 2

7:00 – 8:15 a.m. Kansas State University Breakfast\*  
7:00 – 8:30 a.m. North Dakota State University Alumni and Friends Breakfast\*  
12:30 – 1:30 p.m. Rheology Division Meeting and Lunch\*

Galisteo, CC  
Sandia, CC  
Apache, CC

*\*ticket required • † see page 9 for location*

# 2013 Schedule-at-a-Glance

Meetings take place at the Hyatt (HY) and the Albuquerque Convention Center (CC).

Sunday		
12:30 – 3:30 p.m.	<b>Premeeting Hot Topic:</b> Sustainability, Genetics, and Future Cultivars • Grand Pavilion II, HY	
12:30 – 3:30 p.m.	<b>Premeeting Workshop:</b> Near-Infrared Spectroscopy in Cereals Commerce, Processing, and Research • Grand Pavilion I, HY	
3:30 – 5:00 p.m.	<b>Opening General Session and Awards Ceremony</b> (3:30 p.m. Reception, 4:00 p.m. General Session) • Ballroom AB, CC	
5:00 – 7:00 p.m.	<b>Grand Opening Exhibition</b> • SE Exhibit Hall, CC	
Monday		
7:00 – 8:30 a.m.	<b>Approved Methods Technical Committee Meetings</b> • See page 16 in the Program Book for listing.	
8:30 – 10:10 a.m.	<b>Symposium:</b> Bioactive Components of Grains: Health Benefits, Effects of Processing, and Bioavailability • <i>Health &amp; Nutrition</i> • Pecos/Mesilla, CC	<b>Technical:</b> Gluten Characterization and Interactions • <i>Biotechnology &amp; Sustainability, Chemistry &amp; Interactions, Quality &amp; Analytical Methods</i> • Brazos, CC
9:00 a.m. – 12:10 p.m.	<b>Supplier Innovation Session I</b> • SE Exhibit Hall Lobby, CC	
9:00 a.m. – 12:20 p.m.	<b>Student Product Development Competition</b> • La Cienega, CC	
10:40 a.m. – 12:20 p.m.	<b>Technical:</b> Characterization and Functionality of Small Molecules • <i>Chemistry &amp; Interactions, Health &amp; Nutrition, Ingredients &amp; Innovations</i> • San Miguel/Ruidoso, CC	<b>Symposium:</b> Designing Safe Grain-Based Food Products • <i>Food Safety &amp; Regulatory</i> • Pecos/Mesilla, CC
12:20 – 2:00 p.m.	<b>Poster Viewing</b> and Lunch on your own • Division Luncheons	
2:00 – 3:20 p.m.	<b>Supplier Innovation Session II</b> • SE Exhibit Hall Lobby, CC	
2:00 – 4:00 p.m.	<b>Conversations That Matter...</b> on the Perception of Whole Grain Foods • <i>Engineering &amp; Processing, Ingredients &amp; Interactions, Quality &amp; Analytical Methods</i> • Aztec, CC	<b>PosterTalk:</b> Update on Starch Research • Brazos, CC
2:00 – 4:00 p.m.	<b>Special Session:</b> The New General of Professionals: Opportunities and Challenges in Transitioning from School to Work • <i>Ingredients and Innovations</i> • San Miguel/Ruidoso, CC	
4:00 – 7:00 p.m.	<b>Beer and Poster Viewing</b> (student poster authors only present 4:00 – 5:00 p.m.; odd-numbered poster authors only present 5:00 – 6:00 p.m.) • SE Exhibit Hall, CC	
Open Evening	Division and Section Socials and Dinners	
Tuesday		
7:00 – 8:30 a.m.	<b>Approved Methods Technical Committee Meetings</b> • See page 16 in the Program Book for listing.	
8:30 – 10:10 a.m.	<b>Symposium:</b> Antioxidants in Grains and Health: Is There a Linkage? • <i>Health &amp; Nutrition</i> • Pecos/Mesilla, CC	<b>Best Student Research Paper Competition</b> (ends at 11:00 a.m.) • <i>All initiatives</i> • Dona Ana/Cimarron, CC
8:30 – 10:10 a.m.	<b>Hot Topic:</b> Grain Brain for Grain Brains: A Look at Grains and Cognition, Dementia, and Mental Health • Aztec, CC	
9:00 – 11:00 a.m.	<b>Supplier Innovation Session III</b> • SE Exhibit Hall Lobby, CC	
10:40 a.m. – 12:20 p.m.	<b>Technical:</b> Starch Structure and Digestion • <i>Biotechnology &amp; Sustainability, Chemistry &amp; Interactions, Health &amp; Nutrition</i> • Brazos, CC	<b>Technical:</b> Studies on Rice • <i>Chemistry &amp; Interactions, Engineering &amp; Processing, Health &amp; Nutrition, Quality &amp; Analytical Methods</i> • La Cienega, CC
12:00 – 2:15 p.m.	<b>Light Lunch with the Exhibitors</b> • SE Exhibit Hall, CC <b>Poster Viewing</b> (even-numbered poster authors present 1:00 – 2:00 p.m.)	
2:30 – 4:30 p.m.	<b>Science Café:</b> Conflict of Interest in Science: Myth or Reality? • <i>Health &amp; Nutrition</i> • Dona Ana/Cimarron, CC	<b>Conversations That Matter...</b> on the Issue of Gluten-Free Products • <i>Chemistry &amp; Interactions, Quality &amp; Analytical Methods</i> • Aztec, CC
2:30 – 5:30 p.m.	<b>Special Session:</b> Whole Grains, from Evolution to Revolution • <i>Health &amp; Nutrition, Ingredients &amp; Innovations, Quality &amp; Analytical Methods</i> • San Miguel/Ruidoso, CC	
Open Evening	Division Socials and Dinner • Speed Mentoring Social	
Wednesday		
7:00 – 8:30 a.m.	<b>Approved Methods Technical Committee Meetings</b> • See page 16 in the Program Book for listing.	
8:30 – 10:10 a.m.	<b>Technical:</b> Impact of Cell Wall Components on Health • <i>Biotechnology &amp; Sustainability, Health &amp; Nutrition</i> • Pecos/Mesilla, CC	<b>Technical:</b> Minor Cereals • <i>Chemistry &amp; Interactions, Engineering &amp; Processing, Health &amp; Nutrition, Ingredients &amp; Innovations</i> • Dona Ana/Cimarron, CC
10:40 a.m. – 12:20 p.m.	<b>Symposium:</b> Ancient and Alternative Grains: Nutritional and Functional Benefits for Product Development • <i>Health &amp; Nutrition, Ingredients &amp; Innovations</i> • Brazos, CC	<b>Technical:</b> Gluten and Flour Functionality • <i>Chemistry &amp; Interactions, Quality &amp; Analytical Methods</i> • Dona Ana/Cimarron, CC
12:30 – 2:00 p.m.	Lunch on your own • ICC Luncheon • Division Luncheons	
2:00 – 4:00 p.m.	<b>Science Café:</b> Cereal Food Processing: What Are the Benefits? • <i>Chemistry &amp; Interactions, Engineering &amp; Processing, Food Safety &amp; Regulatory, Health &amp; Nutrition</i> • San Miguel/Ruidoso, CC	<b>Conversations That Matter...</b> on the Formulation of Healthy Foods • <i>Chemistry &amp; Interactions, Health &amp; Nutrition, Ingredients &amp; Innovations</i> • Aztec, CC
4:15 – 6:00 p.m.	<b>Closing Session</b> • Ballroom AB, CC	



# Daily Meeting Schedule and Sessions

All meetings take place at the Hyatt (HY) and the Albuquerque Convention Center (CC).

## FRIDAY, SEPTEMBER 27

3:00 – 5:00 p.m. Finance Committee Meeting North Board Room, HY

## SATURDAY, SEPTEMBER 28

8:00 a.m. – 5:00 p.m. Board of Directors Meeting Fiesta I–II, HY  
 4:00 – 6:00 p.m. Milling & Baking Division Executive Committee and Advisory Board Meeting Fiesta III, HY  
 6:30 – 9:00 p.m. Cincinnati Section Meeting and Dinner† Offsite, Zinc Wine Bar and Bistro

## SUNDAY, SEPTEMBER 29

8:00 – 10:00 a.m. Check Sample Committee Meeting Enchantment Ballroom A, HY  
 8:00 a.m. – 2:00 p.m. Exhibitor Set-Up and Registration SE Exhibit Hall and Upper Level, West Foyer, CC  
 9:00 – 10:30 a.m. Books Committee Meeting Fiesta I–II, HY  
 10:00 a.m. – 12:00 p.m. 2014 Technical Program Planning – Team Leaders Meeting Board Room East, HY  
 11:00 a.m. – 12:30 p.m. *Cereal Chemistry* Editorial Board Luncheon Enchantment Ballroom CD, HY  
 12:00 – 7:00 p.m. Registration Open Upper Level, West Foyer, CC  
 12:30 – 2:00 p.m. Leadership Forum, *by invitation* Enchantment Ballroom EF, HY  
 12:30 – 3:30 p.m. **Premeeting Hot Topic:** Sustainability, Genetics, and Future Cultivars Grand Pavilion II, HY  
 12:30 – 3:30 p.m. **Premeeting Workshop:** Near-Infrared Spectroscopy in Cereals Commerce, Processing, and Research Grand Pavilion I, HY  
 1:00 – 6:00 p.m. Room Available for Small Meetings Laguna, CC  
*(sign up at registration desk required)*  
 2:00 – 3:30 p.m. Approved Methods Technical Committee Chairs Meeting Enchantment Ballroom CD, HY  
 2:00 – 7:00 p.m. Speaker Ready Room Tijeras, CC  
 3:30 – 4:00 p.m. **Opening General Session Reception** Ballroom AB, CC  
 4:00 – 5:00 p.m. **Opening General Session and Awards Ceremony** Ballroom AB, CC  
 5:00 – 6:00 p.m. Student Division Executive Committee and University Representative Meeting Board Room East, HY  
 5:00 – 7:00 p.m. AACCI Central Open SE Exhibit Hall, CC  
 5:00 – 7:00 p.m. **Grand Opening Exhibition** SE Exhibit Hall, CC  
 7:00 – 10:00 p.m. Northwest and PNW Section Dinner† Offsite, Chama River Brewing Co.

## MONDAY, SEPTEMBER 30

7:00 – 8:30 a.m. **Approved Methods Technical Committee Meetings**  
 • Bread Baking Methods Navajo, CC  
 • Food Safety and Microbiology Isleta, CC  
 • Pasta Products Analysis Jemez, CC  
 • Protein and Enzyme Methods Nambe, CC  
 • Rice Milling and Quality Laguna, CC  
 • Soft Wheat and Flour Products Apache, CC  
 • Statistical Advisory Acoma, CC  
 7:00 – 8:30 a.m. Whole Grains Working Group Enchantment Ballroom A, HY  
 7:00 – 10:00 a.m. Poster Set-Up by Authors SE Exhibit Hall, CC  
 7:00 a.m. – 5:00 p.m. Room Available for Small Meetings Laguna, CC  
*(sign up at registration desk required)*  
 7:00 a.m. – 5:30 p.m. Speaker Ready Room Tijeras, CC  
 7:30 a.m. – 6:30 p.m. Registration Open Upper Level, West Foyer, CC  
 8:30 – 10:10 a.m. **Scientific Sessions** (descriptions pages 28–30)  
 • Bioactive Components of Grains: Health Benefits, Effects of Processing, and Bioavailability – Symposium Pecos/Mesilla, CC  
*(Scientific Initiative: Health & Nutrition)*

	<ul style="list-style-type: none"> <li>• Gluten Characterization and Interactions – Technical (<i>Scientific Initiatives: Biotechnology &amp; Sustainability, Chemistry &amp; Interactions, Quality &amp; Analytical Methods</i>)</li> </ul>	Brazos, CC
	<ul style="list-style-type: none"> <li>• New Techniques to Analyze Microstructures – includes <i>Edith Christensen Award for Outstanding Contributions in Analytical Methodology Presentation</i> – Stephen R. Delwiche – Technical (<i>Scientific Initiative: Quality &amp; Analytical Methods</i>)</li> </ul>	Dona Ana/Cimarron, CC
	<ul style="list-style-type: none"> <li>• Recent Advances in Starch Research – Symposium (<i>Scientific Initiative: Chemistry &amp; Interactions</i>)</li> </ul>	San Miguel/Ruidoso, CC
9:00 a.m. – 12:10 p.m.	<b>Supplier Innovation Session I</b> (descriptions page 29)	SE Exhibit Hall Lobby, CC
	<ul style="list-style-type: none"> <li>• Perten Instruments, Inc. (9:00 – 9:40 a.m.)</li> <li>• CHOPIN Technologies (9:40 – 10:20 a.m.)</li> <li>• Bühler Aeroglide (10:20 – 11:00 a.m.)</li> <li>• Charm Sciences, Inc. (11:00 – 11:40 a.m.)</li> <li>• Bühler Inc. (11:40 a.m. – 12:10 p.m.)</li> </ul>	
9:00 a.m. – 12:20 p.m.	<b>Student Product Development Competition Presentations</b>	La Cienega, CC
9:00 a.m. – 3:00 p.m.	AACCI Central Open	Tijeras Foyer, CC
10:00 a.m. – 7:00 p.m.	Poster Viewing	SE Exhibit Hall, CC
10:40 a.m. – 12:20 p.m.	<b>Scientific Sessions</b> (descriptions pages 30–31)	
	<ul style="list-style-type: none"> <li>• Characterization and Functionality of Small Molecules – includes <i>Young Scientist Research Award Presentation</i> – Senay Simsek – Technical (<i>Scientific Initiatives: Chemistry &amp; Interactions, Health &amp; Nutrition, Ingredients &amp; Innovations</i>)</li> </ul>	San Miguel/Ruidoso, CC
	<ul style="list-style-type: none"> <li>• Designing Safe Grain-Based Food Products – Symposium (<i>Scientific Initiative: Food Safety &amp; Regulatory</i>)</li> </ul>	Pecos/Mesilla, CC
	<ul style="list-style-type: none"> <li>• Grain Processing: Impacts of Grain Flows, Sustainability, and Grain Production Goals on Ingredient Costs and Food Aid – Symposium (<i>Scientific Initiative: Biotechnology &amp; Sustainability</i>)</li> </ul>	Brazos, CC
	<ul style="list-style-type: none"> <li>• Technologies &amp; Issues for Rice Quality Determination – Symposium (<i>Scientific Initiative: Quality &amp; Analytical Methods</i>)</li> </ul>	Dona Ana/Cimarron, CC
12:20 – 2:00 p.m.	Lunch Break	
12:30 – 2:00 p.m.	Engineering & Processing Division Meeting and Lunch*	Isleta, CC
12:30 – 2:00 p.m.	Milling & Baking Division Meeting and Networking Lunch*	Galisteo, CC
12:30 – 2:00 p.m.	Nutrition Division Meeting and Lunch*	Apache, CC
12:30 – 2:00 p.m.	Rice Division Lunch*	Acoma, CC
1:00 – 2:00 p.m.	USDA-ARS Meeting	Nambe, CC
2:00 – 3:20 p.m.	<b>Supplier Innovation Session II</b> (descriptions page 31)	SE Exhibit Hall Lobby, CC
	<ul style="list-style-type: none"> <li>• Calibre Control International Ltd. (2:00 – 2:40 p.m.)</li> <li>• Almond Board of California (2:40 – 3:20 p.m.)</li> </ul>	
2:00 – 4:00 p.m.	<b>Scientific Sessions</b> (descriptions pages 31–32)	
	<ul style="list-style-type: none"> <li>• Conversations That Matter...on the Perception of Whole Grain Foods (<i>Scientific Initiatives: Engineering &amp; Processing, Ingredients &amp; Innovations, Quality &amp; Analytical Methods</i>)</li> </ul>	Aztec, CC
	<ul style="list-style-type: none"> <li>• Update on Starch Research – PosterTalk</li> </ul>	Brazos, CC
	<ul style="list-style-type: none"> <li>• The New Generation of Professionals: Opportunities and Challenges in Transitioning from School to Work – Special Session (<i>Scientific Initiative: Ingredients &amp; Innovations</i>)</li> </ul>	San Miguel/Ruidoso, CC
2:30 – 4:00 p.m.	Centennial Planning Meeting	Laguna, CC
2:30 – 4:00 p.m.	Student Division Business Meeting	Cochiti, CC
4:00 – 7:00 p.m.	AACCI Central Open	SE Exhibit Hall, CC
4:00 – 7:00 p.m.	<b>Beer and Poster Viewing</b>	SE Exhibit Hall, CC
	<i>Student Poster Authors Present (4:00 – 5:00 p.m.)</i>	
	<i>Poster Authors Present (odd numbered posters 5:00 – 6:00 p.m.)</i>	
4:00 – 7:00 p.m.	<b>Exhibition Open</b>	SE Exhibit Hall, CC
5:30 – 6:00 p.m.	Carbohydrate Division Executive Committee Meeting	Acoma, CC
6:00 – 7:00 p.m.	Carbohydrate Division Meeting	Galisteo, CC
7:00 – 9:30 p.m.	Cereals&Europe Section Dinner*†	Offsite, Church Street Café
7:00 – 10:00 p.m.	Student Division Social and Dinner*†	Offsite, La Esquina Restaurante & Cantina

\*ticket required • † see page 9 for location

## Daily Meeting Schedule and Sessions (*continued*)

All meetings take place at the Hyatt (HY) and the Albuquerque Convention Center (CC).

### TUESDAY, OCTOBER 1

7:00 – 8:00 a.m.	Grains for Health Foundation Breakfast Meeting*	Enchantment Ballroom AB, HY
7:00 – 8:00 a.m.	Past Presidents' Breakfast	Fiesta I, HY
7:00 – 8:30 a.m.	<b>Approved Methods Technical Committee Meetings</b>	
	• Dietary Fiber and Other Carbohydrates	Cochiti, CC
	• Experimental Milling	Apache, CC
	• Methods for Grain and Flour Testing	Isleta, CC
	• Molecular Biomarkers for Grain (formerly Biotechnology Methods)	Jemez, CC
	• Oat and Barley Products	Nambe, CC
	• Vitamins, Minerals, and Lipids	Navajo, CC
	• Yeast Evaluation	Acoma, CC
7:00 a.m. – 5:00 p.m.	Room Available for Small Meetings ( <i>sign up at registration desk required</i> )	Laguna, CC
7:00 a.m. – 5:30 p.m.	Speaker Ready Room	Tijeras, CC
7:30 a.m. – 5:00 p.m.	Registration Open	Upper Level, West Foyer, CC
8:00 a.m. – 2:30 p.m.	Poster Viewing	SE Exhibit Hall, CC
8:30 – 10:00 a.m.	Food Safety System Task Force Meeting	Sandia, CC
<b>8:30 – 10:10 a.m.</b>	<b>Hot Topic: Grain Brain for Grain Brains: A Look at Grains and Cognition, Dementia, and Mental Health</b>	Aztec, CC
<b>8:30 – 10:10 a.m.</b>	<b>Scientific Sessions</b> (descriptions pages 32–33)	
	• Antioxidants in Grains and Health: Is There a Linkage? – Symposium ( <i>Scientific Initiative: Health &amp; Nutrition</i> )	Pecos/Mesilla, CC
	• Food Safety in the Global Supply Chain: Facts vs. Myths – Symposium ( <i>Scientific Initiative: Food Safety &amp; Regulatory</i> )	San Miguel/Ruidoso, CC
	• Polysaccharides Digestion and Fermentation – <i>includes Alsborg-French-Schoch Memorial Award Presentation – Bruce R. Hamaker</i> – Technical ( <i>Scientific Initiatives: Chemistry &amp; Interactions, Health &amp; Nutrition</i> )	Brazos, CC
<b>8:30 – 11:00 a.m.</b>	<b>Best Student Research Paper Competition</b>	Dona Ana/Cimarron, CC
9:00 – 11:00 a.m.	AACCI Central Open	Tijeras Foyer, CC
<b>9:00 – 11:00 a.m.</b>	<b>Supplier Innovation Session III</b> (descriptions page 34)	SE Exhibit Hall Lobby, CC
	• Best Cooking Pulses, Inc. (9:00 – 9:40 a.m.)	
	• DSM Food Specialties (9:40 – 10:20 a.m.)	
	• ICL Food Specialties (10:20 – 11:00 a.m.)	
10:00 a.m. – 12:00 p.m.	Foundation Board Meeting	North Board Room, HY
<b>10:40 a.m. – 12:20 p.m.</b>	<b>Scientific Sessions</b> (descriptions pages 34–35)	
	• Starch Structure and Digestion – Technical ( <i>Scientific Initiatives: Biotechnology &amp; Sustainability, Chemistry &amp; Interactions, Health &amp; Nutrition</i> )	Brazos, CC
	• Studies on Rice – Technical ( <i>Scientific Initiatives: Chemistry &amp; Interactions, Engineering &amp; Processing, Health &amp; Nutrition, Quality &amp; Analytical Methods</i> )	La Cienega, CC
	• Value-Added Processing of Oats and Barley – Symposium ( <i>Scientific Initiatives: Engineering &amp; Processing, Health &amp; Nutrition, Ingredients &amp; Innovations</i> )	Pecos/Mesilla, CC
	• Wheat Improvement in the 21st Century – Symposium ( <i>Scientific Initiative: Biotechnology &amp; Sustainability</i> )	San Miguel/Ruidoso, CC
12:00 – 2:15 p.m.	AACCI Central Open	SE Exhibit Hall, CC
<b>12:00 – 2:15 p.m.</b>	<b>Lunch with the Exhibitors and Poster Viewing</b>	SE Exhibit Hall, CC
	<i>Poster Authors Present (even numbered posters 1:00 – 2:00 p.m.)</i>	
1:00 – 2:00 p.m.	Professional Development Panel Meeting	Acoma, CC
2:30 – 4:00 p.m.	Exhibit and Poster Take-Down	SE Exhibit Hall, CC
<b>2:30 – 4:30 p.m.</b>	<b>Scientific Sessions</b> (descriptions pages 35–36)	
	• Conversations That Matter...on the Issue of Gluten-Free Products ( <i>Scientific Initiatives: Chemistry &amp; Interactions, Quality &amp; Analytical Methods</i> )	Aztec, CC
	• Dough Functionality and Baking – PosterTalk	Brazos, CC
	• Conflict of Interest in Science: Myth or Reality – Science Café ( <i>Scientific Initiative: Health &amp; Nutrition</i> )	Dona Ana/Cimarron, CC
	• Leveraging Innovation and Cost Management for Profitability – Science Café ( <i>Scientific Initiative: Ingredients &amp; Innovations</i> )	Pecos/Mesilla, CC

2:30 – 5:30 p.m.	<b>Special Session – Whole Grains, from Evolution to Revolution</b> ( <i>Scientific Initiatives: Health &amp; Nutrition, Ingredients &amp; Innovations, Quality &amp; Analytical Methods</i> )	San Miguel/Ruidoso, CC
3:30 – 5:00 p.m.	China Strategies Task Force Meeting	Acoma, CC
4:30 – 5:30 p.m.	Protein and Biotechnology Division Joint Business Meeting	Fiesta III–IV, HY
4:30 – 5:30 p.m.	Speed Mentoring Social	Picuris, CC
4:30 – 5:30 p.m.	2014 Technical Program Planning Meeting	Apache, CC
4:30 – 6:00 p.m.	Iowa State University and Friends Reception*	HQue Lounge, 1st Floor, HY
5:30 – 6:30 p.m.	Protein and Biotechnology Division Joint Social*	Fiesta I–II, HY
6:00 – 9:00 p.m.	Carbohydrate Division Dinner*†	Offsite, Sandia Golf Course Country Club

## WEDNESDAY, OCTOBER 2

7:00 – 8:15 a.m.	Kansas State University Breakfast*	Galisteo, CC
7:00 – 8:30 a.m.	<b>Approved Methods Technical Committee Meetings</b>	
	<ul style="list-style-type: none"> <li>• Asian Products</li> <li>• Bioactive Compounds Methods</li> <li>• Chemical Leavening Agents</li> <li>• Physical Testing Methods</li> <li>• Pulse and Legume</li> <li>• Spectroscopic Methods (formerly Near Infrared Analysis)</li> </ul>	Acoma, CC Jemez, CC Nambe, CC Apache, CC Navajo, CC Isleta, CC
7:00 – 8:30 a.m.	North Dakota State University Alumni Breakfast*	Sandia, CC
7:00 – 8:30 a.m.	Scientific Advisory Panel	Fiesta I–II, HY
7:00 a.m. – 12:00 p.m.	Speaker Ready Room	Tijeras, CC
7:00 a.m. – 5:00 p.m.	Room Available for Small Meetings ( <i>sign up at registration desk required</i> )	Laguna, CC
7:30 a.m. – 2:30 p.m.	Registration Open	Upper Level, West Foyer, CC
8:30 – 10:10 a.m.	<b>Scientific Sessions</b> (descriptions pages 37–38)	
	<ul style="list-style-type: none"> <li>• Impact of Cell Wall Components on Health – <i>Includes the Thomas Burr Osborne Medal Award – Geoffrey B. Fincher</i> – Technical (<i>Scientific Initiatives: Biotechnology &amp; Sustainability, Health &amp; Nutrition</i>)</li> <li>• Minor Cereals – Technical (<i>Scientific Initiatives: Chemistry &amp; Interactions, Engineering &amp; Processing, Health &amp; Nutrition, Ingredients &amp; Innovations</i>)</li> <li>• Overview of Health Risks Associated with Acrylamide and Mitigation Strategies in Carbohydrate-Rich Foods – Symposium (<i>Scientific Initiative: Health &amp; Nutrition</i>)</li> <li>• Pulses as Complementary Ingredients in Cereal-Based Products – Symposium (<i>Scientific Initiatives: Engineering &amp; Processing, Health &amp; Nutrition, Ingredients &amp; Innovations</i>)</li> </ul>	Pecos/Mesilla, CC  Dona Ana/Cimarron, CC  Brazos, CC  San Miguel/Ruidoso, CC
9:00 – 11:00 a.m.	AACCI Central Open	Tijeras Foyer, CC
10:00 – 11:00 a.m.	Nominating Committee Meeting	Acoma, CC
10:40 a.m. – 12:20 p.m.	<b>Scientific Sessions</b> (descriptions pages 38–39)	
	<ul style="list-style-type: none"> <li>• Ancient and Alternative Grains: Nutritional and Functional Benefits for Product Development – Symposium (<i>Scientific Initiatives: Health &amp; Nutrition, Ingredients &amp; Innovations</i>)</li> <li>• Gluten and Flour Functionality – Technical (<i>Scientific Initiatives: Chemistry &amp; Interactions, Quality &amp; Analytical Methods</i>)</li> <li>• Role of Extrusion in Improving Nutritional Profiles of Cereal Foods – Symposium (<i>Scientific Initiatives: Engineering &amp; Processing, Health &amp; Nutrition</i>)</li> <li>• Starch Structure and Processing – Technical (<i>Scientific Initiatives: Biotechnology &amp; Sustainability, Chemistry &amp; Interactions, Engineering &amp; Processing, Quality &amp; Analytical Methods</i>)</li> </ul>	Brazos, CC  Dona Ana/Cimarron, CC  San Miguel/Ruidoso, CC  Pecos/Mesilla, CC
12:30 – 1:30 p.m.	Rheology Division Meeting and Lunch*	Apache, CC
12:30 – 2:00 p.m.	ICC Luncheon	Galisteo, CC
12:30 – 2:00 p.m.	Lunch Break	
12:30 – 3:30 p.m.	Approved Methods Technical Committee Chairs Meeting and Lunch	Grand Pavilion I, HY

\*ticket required • † see page 9 for location



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# Daily Meeting Schedule and Sessions (continued)

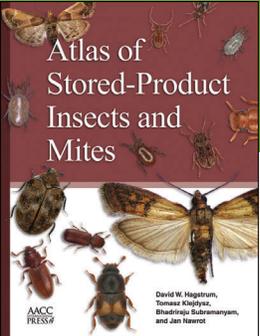
## WEDNESDAY, OCTOBER 2 (continued)

2:00 – 4:00 p.m.	<p><b>Scientific Sessions</b> (descriptions pages 39–40)</p> <ul style="list-style-type: none"> <li>• Conversations That Matter...on the Formulation of Healthy Foods (<i>Scientific Initiatives: Chemistry &amp; Interactions, Health &amp; Nutrition, Ingredients &amp; Innovations</i>) Aztec, CC</li> <li>• Conversations That Matter...on the Measurement of Dietary Fiber (<i>Scientific Initiatives: Health &amp; Nutrition, Quality &amp; Analytical Methods</i>) La Cienega, CC</li> <li>• Production and Analyses of Gluten-Free Foods – PosterTalk Dona Ana/Cimarron, CC</li> <li>• Cereal Food Processing: What Are the Benefits? – Science Café (<i>Scientific Initiatives: Chemistry &amp; Interactions, Engineering &amp; Processing, Food Safety &amp; Regulatory, Health &amp; Nutrition</i>) San Miguel/Ruidoso, CC</li> </ul>
4:15 – 6:00 p.m.	<p><b>Closing Session – “When Generations Connect”</b> featuring <b>Keynote Speaker Hannah Ubl</b>, from Bridgeworks and <b>AACCI Historical Happy Hour with Eric Bertoft, David Lineback, and Don Sullins</b> Ballroom AB, CC</p> <p>This jam packed closing session takes us on a generational trip through time, beginning with a look at the four generations that currently make up our work environment to a historical look at the generations that set the foundation for the AACC International association we are part of today. See page 15 for full details. This session will also include the following award presentations – Texture Technologies Quality Research Best Presentation Award for 2013, Best Student Research Paper Competition, Student Product Development Competition, and the Cecil F. Pinney Travel Award.</p>

## THURSDAY, OCTOBER 3

8:00 – 11:00 a.m.	Board of Directors Meeting	Sierra Vista, 19th Floor, HY
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### On \$ALE at AACCI PRESS!



**Atlas of Stored-Product Insects and Mites**  
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**AACCI Central, Exhibit Hall**

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

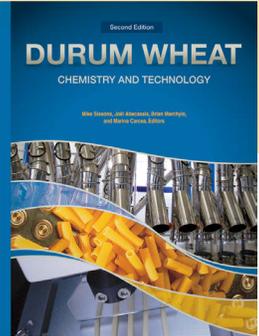
**AACCI Central Bookstore, Tijeras Foyer**  
(Convention Center)

Monday ..... 9:00 a.m. – 3:00 p.m.  
 Tuesday ..... 9:00 a.m. – 11:00 a.m.  
 Wednesday ..... 9:00 a.m. – 11:00 a.m.



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

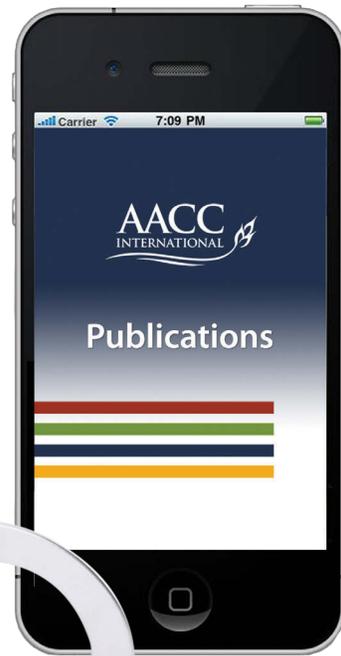
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AdH-2-2013

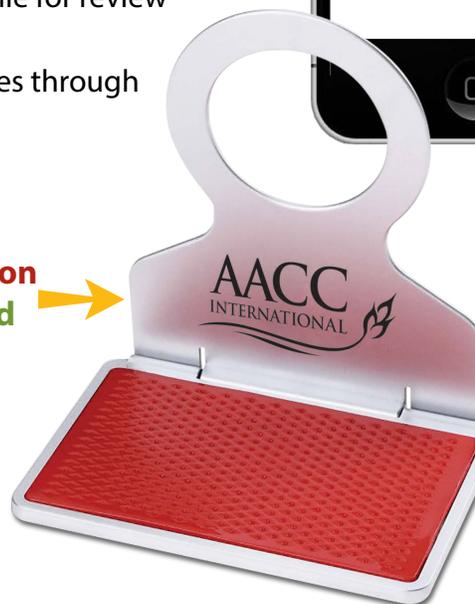
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Sunday .....	5:00 p.m. – 7:00 p.m.
Monday .....	4:00 p.m. – 7:00 p.m.
Tuesday .....	12:00 p.m. – 2:15 p.m.

## AACCI Central Bookstore, Tijeras Foyer (Convention Center)

Monday .....	9:00 a.m. – 3:00 p.m.
Tuesday .....	9:00 a.m. – 11:00 a.m.
Wednesday .....	9:00 a.m. – 11:00 a.m.



# Scientific Sessions

All meetings take place at the Hyatt (HY) and the Albuquerque Convention Center (CC).

## SUNDAY, SEPTEMBER 29

### Workshop: Near-Infrared Spectroscopy in Cereals Commerce, Processing, and Research

12:30 – 3:30 p.m. • Grand Pavilion I, HY

**Organizer:** Stephen Delwiche, USDA-ARS, Beltsville, MD, U.S.A.

**Sponsor:** Spectroscopic Methods AMC

**Scientific Initiative:** Quality & Analytical Methods

This workshop will cover some of the fundamentals of NIR spectroscopy and spectroscopic imaging. It will also deal with the implementation and maintenance of a network, the challenges to the instrument manufacturer, the use of this technology in process control, and its ability to be used as a diagnostic tool in plant breeding, food quality, and food safety research.

Fundamentals of near-infrared spectroscopy—Theory and hardware. D. HONIGS (1). (1) Perten Instruments, Inc., Springfield, IL, U.S.A.

Software and chemometrics, with application of melamine detection by imaging. N. GALLAGHER (1). (1) Eigenvector Research, Inc., Wenatchee, WA, U.S.A.

Establishing and managing NIR networks. R. LINDGREN (1). (1) Foss, Eden Prairie, MN, U.S.A.

Quality control in different cereals industries process. A. DUBAT (1). (1) Chopin Technologies, Villeneuve-la-Garenne, France

Imaging methods for cereal and cereal product characterization. M. WHITWORTH (1). (1) Campden BRI, Chipping Campden, Gloucestershire, United Kingdom

NIR spectroscopy for process monitoring and control in pharmaceutical and chemical industries. D. DRAPCHO (1). (1) Thermo Fisher, Madison, WI, U.S.A.

### Hot Topic: Sustainability, Genetics, and Future Cultivars

12:30 – 3:30 p.m. • Grand Pavilion II, HY

**Organizers:** Anne Bridges, AACCC International, St. Paul, MN, U.S.A.; Ray Shillito, Seed and Trait Safety, Bayer CropScience LP, Morrisville, NC, U.S.A.

**Financial Sponsor:** The ILSI International Food Biotechnology Committee

**Preregistration is required.**

This Hot Topic will provide an overview of current breeding technologies for grains and oil seeds, new crops, potential food benefits, and the corresponding updates in molecular detection methods to manage authentication in the food supply chain.

The range of modern plant breeding methods. R. STUPAR (1). (1) Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN, U.S.A.

New approaches to changing plant and food composition. J. PITKIN (1). (1) Wheat Technology Team, Monsanto Company, St. Louis, MO, U.S.A.

How can we increase crop yield under real conditions to better feed the world? M. TUINSTRAL (1). (1) Purdue University, West Lafayette, IN, U.S.A.

Identity preservation and purity in the supply chain. R. GIROUX (1). (1) Quality and Regulatory, Cargill Incorporated USA, Minneapolis, MN, U.S.A.

Composition analysis of food derived from modern breeding technology. J. SRINIVASAN (1). (1) FDA/CFSAN/OFAS/DBGNR, College Park, MD, U.S.A.

Panel Discussion.

## MONDAY, SEPTEMBER 30

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

(listed in alphabetical order by title)

Find complete details on the meeting website at [www.aaccnet.org/meetings/annual/program/Pages](http://www.aaccnet.org/meetings/annual/program/Pages)

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

**Cereal Foods World (CFW) number** refers to the abstract page location within the online searchable abstract document. Affiliations are listed as provided by the organizer/presenter.

#### Bioactive Components of Grains: Health Benefits, Effects of Processing, and Bioavailability • Symposium • Pecos/

Mesilla, CC

*Scientific Initiative: Health & Nutrition*

Organizers: K. Gyebi Duodu, University of Pretoria, South Africa; Trust Beta, University of Manitoba, Winnipeg, MB, Canada; Joseph M. Awika, Texas A&M University, College Station, TX, U.S.A.; Liyi Yang, Texas A&M University, College Station, TX, U.S.A.; Padmanaban Krishnan, South Dakota State University, Brookings, SD, U.S.A.

Moderators: Joseph M. Awika, Texas A&M University, College Station, TX, U.S.A.; Padmanaban Krishnan, South Dakota State University, Brookings, SD, U.S.A.

Sponsors: Bioactives Committee, Nutrition Division

- 8:30 a.m. **1-S CFW 58:A4.** Overview of the effect of processing on non-nutritive phytochemicals in grains and implications for the health food market. K. G. DUODU (1), J. M. Awika (2). (1) Department of Food Science, University of Pretoria, Hatfield, Pretoria, South Africa; (2) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.
- 8:50 a.m. **2-S CFW 58:A4.** Whole grains in colon cancer prevention: Estrogen-like activity of minor polyphenols. L. YANG (1), K. F. Allred (2), L. Dykes (1), C. D. Allred (2), J. M. Awika (3). (1) Department of Soil & Crop Sciences, Texas A&M University, College Station, TX, U.S.A.; (2) Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.; (3) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.
- 9:10 a.m. **3-S CFW 58:A5.** Chemical and cellular antioxidant properties of phenolic extracts from dietary fiber from selected whole grain cereals. T. BETA (1), W. Guo (1), W. Diehl-Jones (1). (1) University of Manitoba, Winnipeg, MB, Canada
- 9:30 a.m. **4-S CFW 58:A5.** Whole-grain food structure, phytochemical bioavailability and potential health effects: From a reductionist to a holistic approach. A. FARDET (1). (1) INRA, Clermont-Ferrand-Theix, France
- 9:50 a.m. **5-S CFW 58:A5.** Health-promoting dietary bioactives: A trans-disciplinary approach to efficacy and cellular mechanism. M. DEY (1). (1) South Dakota State University, Brookings, SD, U.S.A.

#### Gluten Characterization and Interactions • Technical •

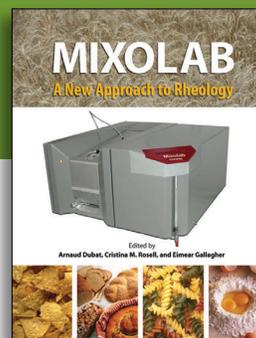
Brazos, CC

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

Moderators: Zhan-Hui Lu, University of Guelph, Guelph, ON, Canada; Peter Koehler, German Research Centre for Food Chemistry, Leibniz Institute, Freising, Germany

- 8:30 a.m. **1-O CFW 58:A24.** The expression of gluten proteins measured by SE-HPLC and different mass spectrometer analyses following abiotic stress treatments. M. T. LABUSCHAGNE (1), A. van Biljon (1). (1) University of the Free State, Bloemfontein, South Africa
- 8:50 a.m. **2-O CFW 58:A27.** Improved identification of wheat prolamins through alkylation of cysteine residues and peptide-based mass spectrometry. I. ROMBOUTS (1), B. Lagrain (1), M. Brunnbauer (2), J. A. Delcour (1), P. Koehler (2). (1) KU Leuven, Leuven, Belgium; (2) TU Munich, Freising, Germany
- 9:10 a.m. **3-O CFW 58:A25.** Manipulating cross-linkages in noodle dough by -cysteine and transglutaminase. Z. H. LU (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada
- 9:30 a.m. **4-O CFW 58:A22.** Comparison of solvent extraction methods for analysis of wheat flour lipids and how lipid classes are changed by aging. N. B. GHAHNAVIEHEI (1). (1) University of Nottingham, Leicestershire, United Kingdom
- 9:50 a.m. **5-O CFW 58:A27.** Isolation and characterization of HMW-gliadins from wheat. M. Schmid (1), H. Wieser (1), P. KOEHLER (1). (1) German Research Centre for Food Chemistry, Leibniz Institute, Freising, Germany

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

#### AACCI Central Bookstore, Tijeras Foyer

(Convention Center)

Monday ..... 9:00 a.m. – 3:00 p.m.  
Tuesday ..... 9:00 a.m. – 11:00 a.m.  
Wednesday ..... 9:00 a.m. – 11:00 a.m.

**AACC**  
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**PRESS**

## New Techniques to Analyze Microstructures • Technical •

Dona Ana/Cimarron, CC

*Scientific Initiative: Quality & Analytical Methods*

Moderators: Pavan Manepalli, Kansas State University, Manhattan, KS, U.S.A.; Girish Ganjyal, Washington State University, Pullman, WA, U.S.A.

- 8:30 a.m. **6-O CFW 58:A21. Edith Christensen Award for Outstanding Contributions in Analytical Methodology** – The long journey of spectroscopic methods in cereals analysis, from moisture to the intangible. S. R. DELWICHE (1). (1) USDA ARS, Beltsville, MD, U.S.A.
- 9:10 a.m. **7-O CFW 58:A30.** The structure and chemical composition of plant tissues revealed by high resolution attenuated total internal reflectance imaging. F. J. WARREN (1), C. H. Edwards (2), B. B. Perston (3), G. Mandalari (4), P. G. Royall (2), P. J. Butterworth (2), K. W. Waldron (4), P. R. Ellis (2). (1) University of Queensland, Brisbane, Australia; (2) King's College London, London, United Kingdom; (3) Perkin-Elmer, Beaconsfield, United Kingdom; (4) Institute of Food Research, Norwich, United Kingdom
- 9:30 a.m. **8-O CFW 58:A27.** Predicting rheological behavior of wheat dough based on machine learning and front-face fluorescence spectroscopy on wheat flour. L. Rhazi (1), J. P. Bonhoure (1), T. Aussenac (1), L. LAKHAL (1). (1) Institut Polytechnique LaSalle Beauvais, Beauvais, France
- 9:50 a.m. **9-O CFW 58:A26.** Combined sound and force measurements to assess crispness of food products. S. P. PENSON (1), H. Metcalfe (1), M. C. Poole (1). (1) Campden BRI, Chipping Campden, United Kingdom

## Recent Advances in Starch Research • Symposium • San

Miguel/Ruidoso, CC

*Scientific Initiative: Chemistry & Interactions*

Organizer: Koushik Seetharaman, University of Guelph, Guelph, ON, Canada

Moderators: Eric Bertoft, University of Minnesota, St. Paul, MN, U.S.A.; Danusha Kalinga, University of Guelph, Guelph, ON, Canada

Sponsor: Carbohydrate Division

- 8:30 a.m. **6-S CFW 58:A12.** Synchrotron spectro-imaging of starch structure and properties. A. BULEON (1). (1) INRA, National French Research Institute for Agriculture, Nantes, France
- 8:50 a.m. **7-S CFW 58:A13.** Use of octenylsuccinic starch in emulsion applications. Y. C. SHI (1), D. Qiu (2). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) Ningbo University of Technology, Ningbo, People's Republic of China
- 9:10 a.m. **8-S CFW 58:A13.** Evolution of starch structure during wheat endosperm development. E. BERTOFT (1), D. Kalinga (1), R. Waduge (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada
- 9:30 a.m. **9-S CFW 58:A13.** How is the assembly of crystalline lamella influenced by the molecular structure of amylopectin? V. VAMADEVAN (1), E. Bertoft (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada

- 9:50 a.m. **10-S CFW 58:A13.** On the gelatinisation and gelation of aqueous starch suspensions: Molecular, nanomorphological, and mechanistic aspects. B. GODERIS (1), S. Gomand (1), J. Putseys (1), C. J. GOMMES (1), P. Van Puyvelde (1), J. A. Delcour (2). (1) Katholieke Universiteit Leuven, Leuven, Belgium; (2) Katholieke Universiteit Leuven, Heverlee, Belgium

## Supplier Innovation Session I

9:00 a.m. – 12:10 p.m. • SE Exhibit Hall Lobby, CC

**9:00 – 9:40 a.m.**

Company: Perten Instruments, Inc.

Name of Product: Analyzers for Grain, Flour, Food, and Feed

Contact Person: Wes Shadow

Presenter's Name: Wes Shadow / Mark Bason

Presentation Category: Instruments/Equipment/Services

Overview of new instruments, applications, services, and software from Perten.

**9:40 – 10:20 a.m.**

Company: CHOPIN Technologies

Name of Product: Rheo F4

Contact Person: Flavie Renault

Presenter's Name: Marta Montana

Presentation Category: Instruments/Equipment/Services

Chopin Technologies has developed Rheo F4, a new instrument to measure easily and accurately dough proofing properties.

**10:20 – 11:00 a.m.**

Company: Bühler Aeroglide

Name of Product: AeroDry RTE

Contact Person: Nick Manley

Presenter's Name: Andy Sharpe

Presentation Category: Instruments/Equipment/Services

With food safety as a focus, Bühler Aeroglide has developed a dryer for RTE cereal applications with unmatched sanitary capabilities.

**11:00 – 11:40 a.m.**

Company Name: Charm Sciences, Inc.

Name of Product: Mycotoxin Test Kits

Contact Person: Monica St. Pierre

Presenter's Name: David Allen

Presentation Category: Instruments/Equipment/Services

In only 5 minutes, ROSA FAST5 DONQ test delivers simple, fast, quantitative detection in a lateral flow strip format.

**11:40 a.m. – 12:10 p.m.**

Company: Bühler Inc.

Name of Product: Ecothermatik Long Goods Pasta Dryer

Contact Person: April Courville

Presenter's Name: Michael Ehr

Presentation Category: Instruments/Equipment/Services

Ecothermatik long goods dryer, a new development that requires 40% less thermal energy and 20% less cooling energy without compromising pasta characteristics.

## Student Product Development Competition

9:00 a.m. – 12:20 p.m. • La Cienega, CC

Organizer/Moderator: AACCI Student Division, Tom Jondiko, Texas A&M University, Student Division PDC Chair

Financial Sponsors: ConAgra Foods, Inc., Frito-Lay Inc., General Mills, Kellogg Co., Starquest F.O.O.D. Consulting LLC, Texture Technologies Corp.

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.** Tom Jondiko, Texas A&M University, Student Division PDC Chair
- 9:10 a.m. Team:** Louisiana State University. Yu Jiang, Juan Li, Yixiao Shen  
Product: Anthocyanin-Enriched Microwavable Roll
- 9:25 a.m. Team:** Federal University of Minas Gerais. Caroline Paiva  
Product: Gluten-Free Cereal Bar with Sorghum Tropical Fruits
- 9:40 a.m. Team:** Texas A&M University. Amy E. Collison, Kristen L. Dunn, Dorothy A. Herrman, Eileen Quinn  
Product: Simply Sweet Sorghum Treats
- 9:55 a.m. Team:** Monterrey Tech. Beatriz A. Acosta Estrada, Rocio Alejandra Chavez-Santoscoy, Enrique Cortes-Ceballos, Marco A. Lazo-Velez, Ana Maria Leal-Diaz, Lidia Lopez-Barrios  
Product: VitaFun
- 10:10 a.m. Team:** Kansas State University. Gordon Harton, Emily L. Hof  
Product: Garden Crisps
- 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.

*Cereal Foods World* (CFW) number refers to the abstract page location within the online searchable abstract document. Affiliations are listed as provided by the organizer/presenter.

## Characterization and Functionality of Small Molecules •

Technical • San Miguel/Ruidoso, CC

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

Moderators: Senay Simsek, North Dakota State University, Fargo, ND, U.S.A.; Doris Delgado, California State University Los Angeles, Ridgecrest, CA, U.S.A.

- 10:40 a.m. **10-O CFW 58:A28. Young Scientist Research Award** – Metabolic profiling in cereals: Analysis of secondary metabolites in wheat using LC-QTOF/MS. S. SIMSEK (1). (1) North Dakota State University, Fargo, ND, U.S.A.

- 11:20 a.m. **11-O CFW 58:A26.** The impact of puroindolines on the quality of wheat-based products. A. PAULY (1), B. Pareyt (1), E. Fierens (1), J. A. Delcour (1). (1) KU Leuven, Heverlee, Belgium
- 11:40 a.m. **12-O CFW 58:A24.** Branch abundance and pattern of starch internal structure affect glucogenesis by mucosal Nt-maltase-glucoamylase. A. M. LIN (1), Z. Ao (2), B. Nichols (3), B. R. Hamaker (1). (1) Purdue University, West Lafayette, IN, U.S.A.; (2) Mead Johnson, Newburgh, IN, U.S.A.; (3) USDA/ARS/CNRC and Baylor College of Medicine, Houston, TX, U.S.A.
- 12:00 p.m. **13-O CFW 58:A30.** Characterization of bitter taste-active compounds in extruded refined and whole grain corn puffed products. L. ZHANG (1), D. G. Peterson (1). (1) University of Minnesota, St. Paul, MN, U.S.A.

## Designing Safe Grain-Based Food Products • Symposium •

Pecos/Mesilla, CC

*Scientific Initiative: Food Safety & Regulatory*

Organizer/Moderator: Andreia Bianchini, Food Processing Center, University of Nebraska, Lincoln, NE, U.S.A.

- 10:40 a.m. **11-S CFW 58:A7.** Food safety: An integral part of product development. D. MCINTYRE (1). (1) Cargill, Inc., Wayzata, MN, U.S.A.
- 11:00 a.m. **12-S CFW 58:A7.** Sourcing safe ingredients. D. Akins-Lewenthal (1). R. LEGGE (1). (1) ConAgra Foods, Omaha, NE, U.S.A.
- 11:20 a.m. **13-S CFW 58:A7.** How to address microbiological safety concerns of high risk ingredients. J. D. MEYER (1). (1) Covance Laboratories, Inc., Monona, WI, U.S.A.
- 11:40 a.m. **14-S CFW 58:A7.** Processing and its key role in assuring safety. A. BIANCHINI (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.
- 12:00 p.m. Discussion

## Grain Processing: Impacts of Grain Flows, Sustainability, and Grain Production Goals on Ingredient Costs and Food Aid • Symposium •

Brazos, CC

*Scientific Initiative: Biotechnology & Sustainability*

Organizers: Brian Anderson, Bunge, St. Louis, MO, U.S.A.; Nick Weigel, ADM, Overland Park, KS, U.S.A.

Moderator: Theresa Cogswell, BakerCogs Inc., Overland Park, KS, U.S.A.

- 10:40 a.m. **15-S CFW 58:A8.** Sustainability from grains to ingredients. F. LUCKEY (1). (1) Field to Market, Omaha, NE, U.S.A.
- 11:00 a.m. **16-S.** Global grain flows and cost implications. E. EBERT (1). (1) Bunge, Bradley, IL, U.S.A.
- 11:20 a.m. **17-S CFW 58:A8.** Perspectives on the future of corn feedstocks. S. PETERSEN (1). (1) Monsanto Company, Chelsea, IA, U.S.A.
- 11:40 a.m. **18-S CFW 58:A9.** The evolving quality of U.S. food aid—New formulations of fortified blended foods. Q. W. JOHNSON (1). (1) Quican Inc., Rockwood, ON, Canada
- 12:00 p.m. **19-S CFW 58:A9.** Tracing the food aid supply chain. P. B. GREEN (1). (1) North American Millers' Association, Washington, DC, U.S.A.

## Technologies & Issues for Rice Quality Determination •

Symposium • Dona Ana/Cimarron, CC

Scientific Initiative: *Quality & Analytical Methods*

Organizer/Moderator: Delilah Wood, USDA-ARS WRRC, Albany, CA, U.S.A.

Sponsor: Rice Division

- 10:40 a.m. 20-S CFW 58:A14. U.S. rice industry—Quality issues and potential solutions. S. LINScombe (1). (1) LSU AgCenter Rice Research Station, Rayne, LA, U.S.A.
- 11:00 a.m. 21-S CFW 58:A14. California rice—Capturing quality. K. S. MCKENZIE (1), V. C. Andaya (1), F. Jodari (1), S. O. Samonte (1). (1) Rice Experiment Station, California Cooperative Rice Research Foundation, Biggs, CA, U.S.A.
- 11:20 a.m. 22-S CFW 58:A15. Weighing arsenic and other risks with the nutritional benefits of rice. J. M. JONES (1). (1) Dept. of Family, Consumer & Nutritional Sci., St. Catherine University, Arden Hills, MN, U.S.A.
- 11:40 a.m. 23-S CFW 58:A15. Infrared heating for improved drying efficiency, food safety and quality of rice. Z. PAN (1). (1) USDA-ARS Western Regional Research Center, Albany, CA, U.S.A.
- 12:00 p.m. 24-S CFW 58:A15. Chalkiness in rice—Can we beat it? M. FITZGERALD (1). (1) UQ and IRRI, St. Lucia, Australia

## Supplier Innovation Session II

2:00 – 3:20 p.m. • SE Exhibit Hall Lobby, CC

2:00 – 2:40 p.m.

Company: Calibre Control International Ltd.

Name of Product: C-Cell

Contact Person: Stephen Pike

Presenter's Name: Stephen Pike

Presentation Category: Instruments/Equipment/Services

Introducing the NEW generation C-Cell with added color functionality, including crumb and crust measurements.

2:40 – 3:20 p.m.

Company: Almond Board of California

Name of Product: California Almonds

Contact Person: Lianne Di Ubaldi

Presenter's Name: Julie Jones

Presentation Category: Ingredients

This presentation will address the synergy around grains, nuts, and pulses with real-world application for processors and developers.

## 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.

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### Conversations That Matter...on the Perception of Whole Grain Foods • Aztec, CC

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

Moderator: Sathya Kalambur, Frito-Lay Inc., Plano, TX, U.S.A.

14-O CFW 58:A23. Understanding consumer whole grain bread acceptance segments using adaptive choice based conjoint with composite pictures. B. GUTHRIE (1), S. Jervis (2), M. Jervis (2), G. Guo (1), M. Drake (2), J. Longshore (1), R. Ostrander (1), E. Uriyo (1). (1) Cargill, Inc., Wayzata, MN, U.S.A.; (2) Department of Food, Bioprocessing and Nutrition Sciences, Southeast Dairy Foods Research Center, North Carolina State University, Raleigh, NC, U.S.A.

15-O CFW 58:A29. Impact of wheat color and flour particle size on the sensory properties and adult hedonic scores of whole wheat breads. E. A. URIYO (1), S. M. Jervis (2), M. G. Jervis (2), B. Guthrie (3), G. Guo (4), J. Longshore (5). (1) Cargill - Horizon Milling, Victoria, MN, U.S.A.; (2) North Carolina State University, Raleigh, NC, U.S.A.; (3) Cargill Global Food Research, Wayzata, MN, U.S.A.; (4) Horizon Milling, LLC - a Cargill JV, Minnetonka, MN, U.S.A.; (5) Cargill, Wayzata, MN, U.S.A.

16-O CFW 58:A24. Exploratory kids' perspectives of whole wheat bread. M. Jervis (1), S. Jervis (1), M. Drake (1), G. GUO (2), B. D. Guthrie (3), E. A. Uriyo (4), R. Ostrander (2), J. Longshore (5). (1) NCSU, Raleigh, NC, U.S.A.; (2) Horizon Milling, Minnetonka, MN, U.S.A.; (3) Cargill Global Food Research, Wayzata, MN, U.S.A.; (4) Horizon Milling, Wayzata, MN, U.S.A.; (5) Cargill Corporate Affairs, Wayzata, MN, U.S.A.

### The New Generation of Professionals: Opportunities and Challenges in Transitioning from School to Work • Special Session • San Miguel/Ruidoso, CC

Scientific Initiative: *Ingredients & Innovations*

Organizers: Rajen Mehta, Grain Millers Inc., Eugene, OR, U.S.A.;

Jayne Bock, Brabender GmbH & Co. KG, Duisburg, Germany

Moderators: Rajen Mehta, Grain Millers Inc., Eugene, OR, U.S.A.;

Theresa Cogswell, BakerCogs Inc., Overland Park, KS, U.S.A.;

Jayne Bock, Brabender GmbH & Co. KG, Duisburg, Germany

Sponsors: Education Division, Nutrition Division

25-S CFW 58:A9. How schools train students to be productive professionals in the cereal food industry. K. SEETHARAMAN (1). (1) University of Guelph, Guelph, ON, Canada

26-S CFW 58:A10. How NDSU prepares students to be productive professionals in the food industry. C. HALL (1). (1) North Dakota State University, Fargo, ND, U.S.A.

continued

- 27-S CFW 58:A10. Opportunities for professionals in the cereal science and bakery industry. D. M. HAYMAN (1). (1) Kellogg Company, Battle Creek, MI, U.S.A.
- 28-S CFW 58:A10. Opportunities for professionals in the food industry. E. A. ARNDT (1). (1) ConAgra Foods, Inc., Omaha, NE, U.S.A.
- 29-S CFW 58:A10. Interviewing dos and don'ts for young professionals & the ins and outs of negotiating your first salary! T. S. COGSWELL (1). (1) BakerCogs, Inc., Overland Park, KS, U.S.A.
- 30-S CFW 58:A10. A recent graduate's experience in transitioning from school to work. L. R. BREWER (1). (1) General Mills, Inc., Minneapolis, MN, U.S.A.
- 31-S CFW 58:A10. A post-doc's expectations in transitioning from academia to industry. J. E. BOCK (1). (1) Brabender GmbH & Co. KG, Duisburg, Germany
- 32-S CFW 58:A10. A student's expectations in transitioning from school to work. A. GOLDSTEIN (1). (1) University of Guelph, Guelph, ON, Canada

**Update on Starch Research • PosterTalk • Brazos, CC**  
Moderator: Eric Bertoft, University of Minnesota, St. Paul, MN, U.S.A.

- 199-P, CFW 58:A41. Starch granule amylolysis—Differentiating effects of particle size and crystalline polymorph. S. DHITAL (1), V. M. Butardo (2), M. J. Gidley (1). (1) Centre for Nutrition and Food Sciences, ARC Centre of Excellence in Plant Cell Walls, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, Brisbane, Australia; (2) Commonwealth Scientific and Industrial Research Organisation (CSIRO), Canberra, Australia
- 200-P, CFW 58:A72. Comparative analysis of starch biosynthesis in and V. Tanackovic (1), J. T. Svensson (1), A. Buléon (2), M. A. Glaring (1), S. L. Jensen (1), M. Carciofi (1), A. BLENNOW (1). (1) University of Copenhagen, Frederiksberg C, Denmark; (2) UR 1268 Biopolymères Interaction Assemblages (BIA), INRA, Nantes, France
- 201-P, CFW 58:A71. WITHDRAWN
- 202-P, CFW 58:A37. Gelatinisation properties of 12 varieties of grains. J. CHEN (1), Q. Shen (1). (1) China Agricultural University, Beijing, People's Republic of China
- 203-P, CFW 58:A68. Ozone gas affects the physical and chemical properties of wheat (L.) starch. H. SANDHU (1), F. A. Manthey (2), S. Simsek (2), J. B. Ohm (3). (1) North Dakota State University, Buffalo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.; (3) Cereal Crops Research (USDA), Fargo, ND, U.S.A.
- 204-P, CFW 58:A77. Why are starch granule ghosts not hydrolysed completely? Molecular and microscopic insights into amylase digestion. B. ZHANG (1), S. Dhital (1), M. J. Gidley (1). (1) Centre for Nutrition and Food Sciences, The University of Queensland, Brisbane, Australia
- 205-P, CFW 58:A31. Potato-based resistant starch of RS4 type. I. ABBAS (1), J. Stephens (1). (1) Penford Food Ingredients, Centennial, CO, U.S.A.
- 206-P, CFW 58:A52. WITHDRAWN
- 207-P, CFW 58:A36. WITHDRAWN
- 208-P, CFW 58:A33. Fine structure and physicochemical properties of waxy wheat starch in comparison with other commercial waxy starches. E. O. ARIJAJE (1), J. R. Jinn (1), J. Patindol (1), Y. J. Wang (1), C. Maningat (2), M. Lasater (2). (1) University of Arkansas, Fayetteville, AR, U.S.A.; (2) MGP Ingredients, Atchinson, KS, U.S.A.
- 209-P, CFW 58:A48. Characterization of swollen cornstarch granules complexed with lauric acid by using different methods. Q.

- Huang (1), F. CHANG (1), X. He (1). (1) South China University of Technology, Guangzhou, People's Republic of China
- 210-P, CFW 58:A65. The comparison of leaf and grain phytylglycogen structure and liver glycogen structure by SEC and TEM. P. O. POWELL (1), M. A. Sullivan (1), D. I. Stapleton (2), J. Hasjim (1), R. G. Gilbert (1). (1) University of Queensland, Brisbane, QLD, Australia; (2) University of Melbourne, Melbourne, Australia
- 211-P, CFW 58:A74. Variations in amylose fine structure of starches from different species. K. WANG (1), J. Hasjim (1), A. C. Wu (1), R. J. Henry (1), R. G. Gilbert (1). (1) University of Queensland, Brisbane, QLD, Australia

## TUESDAY, OCTOBER 1

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

(listed in alphabetical order by title)

Find complete details on the meeting website at [www.aaccnet.org/meetings/annual/program/Pages](http://www.aaccnet.org/meetings/annual/program/Pages)

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

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### Hot Topic: *Grain Brain* for Grain Brains: A Look at Grains and Cognition, Dementia and Mental Health •

Aztec, CC • 8:30 – 10:10 a.m.

Organizer/Presenter: Julie M. Jones, Dept. of Family, Consumer & Nutritional Sci., St. Catherine University, Arden Hills, MN, U.S.A.

This session will look at the statements in *Wheat Belly* by William Davis and *Grain Brain* by David Perlmutter and test the strength of their arguments against existing literature on grains and carbohydrates.

### Antioxidants in Grains and Health: Is There a Linkage? •

Symposium • Pecos/Mesilla, CC

Scientific Initiative: *Health & Nutrition*

Organizers: El-Sayed Abdel-Aal, Agriculture and Agri-Food Canada, Guelph Food Research Centre, Guelph, ON, Canada; Satya Jonnalagadda, Kerry Ingredients & Flavours, Beloit, WI, U.S.A.; Boris Nemzer, VDF FutureCeuticals, Inc., Momence, IL, U.S.A.; Boxin Ou, Dover Sciences Inc., Franklin, MA, U.S.A.; YiFang Chu, Quaker Oats, PepsiCo Nutrition, Barrington, IL, U.S.A.

Moderators: El-Sayed Abdel-Aal, Agriculture and Agri-Food Canada, Guelph Food Research Centre, Guelph, ON, Canada; Boxin Ou, Dover Sciences Inc., Franklin, MA, U.S.A.

Sponsors: Bioactives Technical Committee, Nutrition Division  
Financial Sponsors: Quaker Oats Center of Excellence, PepsiCo R&D Nutrition, VDF FutureCeuticals, Inc.

- 8:30 a.m. 33-S CFW 58:A2. An overview and chemistry of antioxidants in grains and impact of processing. F. W. COLLINS (1). (1) Agriculture and Agri-Food Canada, Ottawa, ON, Canada

- 8:50 a.m. **34-S CFW 58:A2.** In vitro antioxidant assays: Are they relevant? D. HUANG (1). (1) Food Science and Technology Program, National University of Singapore, Singapore
- 9:10 a.m. **35-S CFW 58:A2.** Bioavailability and metabolism of grain antioxidants. Y. -F. CHU (1), Y. Shi (1), M. O'Shea (1). (1) PepsiCo R&D Nutrition, Barrington, IL, U.S.A.
- 9:30 a.m. **36-S CFW 58:A2.** Diet antioxidant capacity: Relationship to oxidative stress and health. R. L. PRIOR (1). (1) University of Arkansas, Searcy, AR, U.S.A.
- 9:50 a.m. **37-S CFW 58:A3.** Food regulations regarding antioxidants and health. S. JONNALAGADDA (1). (1) Kerry Ingredients & Flavours, Beloit, WI, U.S.A.

### Best Student Research Paper Competition • Symposium •

Dona Ana/Cimarron, CC ( 8)

*Scientific Initiatives: Covers all initiatives*

Organizer: AACCI Professional Development Panel

Moderators: Pierre Faa and Ximena Quintero Fuentes, PepsiCo, Plano, TX, U.S.A.

Financial Sponsors: DSM Food Specialties USA, Inc., Frito-Lay, Inc., General Mills, Kellogg Company, McCormick & Co., Inc., Mondelez International, PepsiCo Global R&D, The Kroger Co.

- 8:30 a.m. Welcome
- 8:35 a.m. **38-S CFW 58:A3.** Studies on the degradation of gluten with peptidases from different sources. T. WALTER (1), H. Wieser (1), P. Köhler (1). (1) German Research Center for Food Chemistry, Freising, Germany
- 9:00 a.m. **39-S CFW 58:A3.** Selection of hard spring and winter wheat with no polyphenol oxidase activity. S. M. HYSTAD (1). (1) Montana State University, Bozeman, MT, U.S.A.
- 9:25 a.m. **40-S CFW 58:A3.** Relationships between strain hardening properties, extensibility parameters, and end product quality of wheat flour J. Y. DARLY-KINDELSPIRE (1), P. G. Krishnan (1). (1) South Dakota State University, Brookings, SD, U.S.A.
- 9:50 a.m. **41-S CFW 58:A3.** Modulating state transition and mechanical properties of viscoelastic resins from maize zein through interactions with plasticizers and co-proteins. D. P. ERICKSON (1), S. Renzetti (2), A. Jurgens (2), O. H. Campanella (1), B. R. Hamaker (1). (1) Purdue University, West Lafayette, IN, U.S.A.; (2) TNO Functional Ingredients Expertise Group, Zeist, Netherlands
- 10:15 a.m. **42-S CFW 58:A4.** Improving the nutritional quality of pasta: Rheological studies on pasta dough with nontraditional ingredients. E. DE LA PEÑA (1), B. K. Patel (2), O. H. Campanella (2), F. A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.; (2) Purdue University, West Lafayette, IN, U.S.A.
- 10:40 a.m. **43-S CFW 58:A4.** Study on the variation reasons of multi-element fingerprints of wheat kernel for geographical origin traceability. H. ZHAO (1), B. Guo (1), Y. Wei (1). (1) Institute of Agro-Products Processing Science and Technology, Chinese Academy of Agricultural Sciences, Beijing, People's Republic of China

### Food Safety in the Global Supply Chain: Facts vs. Myths •

Symposium • San Miguel/Ruidoso, CC

*Scientific Initiative: Food Safety & Regulatory*

Organizers/Moderators: Liz Knight, McCormick, St. Louis Park, MN, U.S.A.; Andreia Bianchini, Food Processing Center, University of Nebraska, Lincoln, NE, U.S.A.

Sponsor: Food Safety and Microbiology Committee

- 8:30 a.m. **44-S CFW 58:A8.** Regulatory limits and their role in the safety of a global supply chain. F. WU (1). (1) Michigan State University, East Lansing, MI, U.S.A.
- 8:50 a.m. **45-S CFW 58:A8.** Are pathogens a food safety concern in a grain-based supply chain? J. SHEBUSKI (1). (1) Cargill, Incorporated, Wayzata, MN, U.S.A.
- 9:10 a.m. **46-S CFW 58:A8.** GMOs: Are they a regulatory or food safety issue? R. E. GOODMAN (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.
- 9:30 a.m. **47-S CFW 58:A8.** Commingling of grains: Does the adventitious presence of soy or wheat in grains pose a risk to allergic consumers? J. BAUMERT (1). (1) University of Nebraska - Food Allergy Research & Resource Program, Lincoln, NE, U.S.A.
- 9:50 a.m. Discussion

### Polysaccharides Digestion and Fermentation • Technical •

Brazos, CC

*Scientific Initiatives: Chemistry & Interactions, Health & Nutrition*

Moderators: Madhuvanti S. Kale, Z-Trim Holdings, Inc./USDA-ARS Eastern Regional Research Center, Wyndmoor, PA, U.S.A.; Sheetal Karnik, World Wide Wheat L.L.C., Scottsdale, AZ, U.S.A.

- 8:30 a.m. **17-O CFW 58:A23. Alsberg-French-Schoch Memorial Award –** The intricacies of starch digestion and a view towards quality and health benefit. B. R. HAMAKER (1). (1) Purdue University, West Lafayette, IN, U.S.A.
- 9:10 a.m. **18-O CFW 58:A30.** Synergistic and antagonistic effects of alpha-amylase and amyloglucosidase on starch digestion. B. ZHANG (1), S. Dhital (1), M. J. Gidley (1). (1) Centre for Nutrition and Food Sciences, The University of Queensland, Brisbane, Australia
- 9:30 a.m. **19-O CFW 58:A20.** Acute human consumption of crystalline short-chain  $\alpha$ -glucan. L. R. BREWER (1), Y. C. Shi (1), C. Weber (1), M. Huab (1), L. Cai (2). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) Washington State University, Pullman, WA, U.S.A.
- 9:50 a.m. **20-O CFW 58:A28.** Structural features of XOS and AXOS determine their prebiotic and antioxidant properties as evaluated during fermentation. J. SNELDERS (1), E. Dornez (1), H. Olaerts (1), J. A. Delcour (1), T. van de Wiele (2), C. M. Courtin (1). (1) KU Leuven, Heverlee, Belgium; (2) Ghent University, Ghent, Belgium

continued

## Supplier Innovation Session III

9:00 – 11:00 a.m. • SE Exhibit Hall Lobby, CC

9:00 – 9:40 a.m.

Company: Best Cooking Pulses, Inc.  
Name of Product: “Best” Pulse Flours and Pulse Blends  
Contact Person: Margaret Hughes  
Presenter’s Name: Margaret Hughes  
Presentation Category: Ingredients

Learn how BEST pulse flours and “new” pulse blends enhance protein, fiber, and micronutrients in grain-based and gluten-free formulations.

9:40 – 10:20 a.m.

Company: DSM Food Specialties  
Name of Product: BakeZyme Alpha  
Contact Person: Joshua Zars  
Presenter’s Name: Jose Peres  
Presentation Category: Ingredients

A new enzyme from DSM for improved shelf life, BakeZyme Alpha. A crumb that’s softer for longer. We make it happen.

10:20 – 11:00 a.m.

Company: ICL Food Specialties  
Name of Product: Mianjia  
Contact Person: Barbara Bufe Heidolph  
Presenter’s Name: Barbara Bufe Heidolph  
Presentation Category: Ingredients

Mianjia: texture modification of noodles and pasta to improve quality and processing efficiencies. Mianjia—good noodles!

### Sessions – 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.

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**Starch Structure and Digestion • Technical • Brazos, CC**  
*Scientific Initiatives: Biotechnology & Sustainability, Chemistry & Interactions, Health & Nutrition*

Moderators: Jovin Hasjim, The University of Queensland, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia; Les Copeland, Faculty of Agriculture and Environment, University of Sydney, Sydney, Australia

- 10:40 a.m. **21-O CFW 58:A20.** Genotype and environment influences on the amylolytic breakdown of wheat starch. L. COPELAND (1), M. T. Nhan (2). (1) Faculty of Agriculture and Environment, University of Sydney, Sydney, Australia; (2) College of Agriculture & Applied Biology, Cantho University, Cantho, Vietnam
- 11:00 a.m. **22-O CFW 58:A28.** enzymatic testing method and digestion mechanism of cross-linked wheat starch. R. Shukri (1), P. A. Seib (1), C. Maningat (2), Y. C. SHI (1). (1) Kansas State University, Manhattan, KS,

U.S.A.; (2) MGP Ingredients, Inc., Atchison, KS, U.S.A.

- 11:20 a.m. **23-O CFW 58:A19.** The structure of the starch granule affects cereal grain germination. A. BLENNOW (1), S. S. Shaik (1), M. Carciofi (1), K. H. Hebelstrup (2), H. J. Martens (1). (1) University of Copenhagen, Frederiksberg C, Denmark; (2) Aarhus University, Flakkebjerg, Denmark
- 11:40 a.m. **24-O CFW 58:A19.** Effects of the amount and type of fatty acid on the in-vitro starch digestibility and expected glycemic index of millet starch. G. A. ANNOR (1), M. Marcone (1), M. Corredig (1), E. Bertoft (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada
- 12:00 p.m. **25-O CFW 58:A23.** Retrogradation of dextrans during digestion of native starch granules. J. HASJIM (1), A. Teng (1), K. Wang (1), T. Witt (1). (1) The University of Queensland, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia

### Studies on Rice • Technical • La Cienega, CC

*Scientific Initiatives: Chemistry & Interactions, Engineering & Processing, Health & Nutrition, Quality & Analytical Methods*

Moderators: Steve Schorn, The Wright Group, Crowley, LA, U.S.A.; Marie-Julie Richer-Roy, California State University Los Angeles, Burbank, CA, U.S.A.

- 10:40 a.m. **26-O CFW 58:A20.** Bioactive compounds in pigmented rice bran inhibit growth of human cancer cells. M. H. CHEN (1), S. H. Choi (2), N. Kozukue (2), H. J. Kim (3), M. Friedman (4), A. McClung (1). (1) USDA ARS Dale Bumpers National Rice Research Center, Stuttgart, AR, U.S.A.; (2) Department of Food Service Industry, Seowon University, Cheongju, South Korea; (3) Center for Traditional Microorganism Resources, Keimyung University, Daegu, South Korea; (4) Western Regional Research Center, Agricultural Research Service, USDA, Albany, CA, U.S.A.
- 11:00 a.m. **27-O CFW 58:A28.** Changes in rice kernel and starch during steeping in parboiling process. S. SITTIPOD (1), Y. C. Shi (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 11:20 a.m. **28-O CFW 58:A20.** Factors impacting the milling breakage susceptibility of raw and parboiled brown rice. J. BUGGENHOUT (1), K. Brijs (1), J. A. Delcour (1). (1) KU Leuven, Heverlee, Belgium
- 11:40 a.m. **29-O CFW 58:A20.** Effect of nitrogen application on the physicochemical properties of selected rice varieties. R. BRYANT (1), K. Yeater (2), A. McClung (1). (1) Dale Bumpers National Rice Research Center, Stuttgart, AR, U.S.A.; (2) USDA ARS, Southern Plains Area, College Station, TX, U.S.A.
- 12:00 p.m. **30-O CFW 58:A29.** Mutant rice line which shows slower hardening of cooked rice and rice bread. T. UMEMOTO (1), T. Ikegaya (1), N. Aoki (2), Y. Nakaura (3), T. Ishii (4), T. Noda (5), S. Matsuba (1), K. Ashida (1), N. Inouchi (3). (1) NARO Hokkaido Agricultural Research Center, Sapporo, Japan; (2) NARO Headquarters, Tsukuba, Japan; (3) Faculty of Life Science and Technology, Fukuyama University, Fukuyama, Japan; (4) NARO Institute of Crop Science, Tsukuba, Japan; (5) NARO Hokkaido Agricultural Research Center, Memuro, Japan

### Value-Added Processing of Oats and Barley • Symposium •

Pecos/Mesilla, CC

*Scientific Initiatives: Engineering & Processing, Health & Nutrition, Ingredients & Innovations*

Organizers/Moderators: Kelly Henderson, Richardson Milling, Portage La Prairie, MB, Canada; Marta Izydorczyk, Canadian Grain Commission, Winnipeg, MB, Canada

Sponsor: Oat and Barley Technical Committee

- 10:40 a.m. 48-S CFW 58:A15. Oats—It's not just for breakfast anymore: New products from oats. P. J. WHALEN (1). (1) Oat Tech Incorporated, Rapid City, SD, U.S.A.
- 11:00 a.m. 49-S CFW 58:A15. Fractionation of hull-less barley for the production of functional fiber ingredients. M. S. IZYDORCZYK (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada
- 11:20 a.m. 50-S CFW 58:A16. Strategies to minimize the challenges attributed to oat and barley cereal beta-glucan utilization. T. VASANTHAN (1). (1) University of Alberta, Edmonton, AB, Canada
- 11:40 a.m. 51-S CFW 58:A16. Barley protein microparticles as nutraceutical delivery systems. L. CHEN (1). (1) University of Alberta, Edmonton, AB, Canada
- 12:00 p.m. 52-S CFW 58:A16. Effect of processing on physico-chemical properties and efficacy of oat and barley beta-glucan. N. AMES (1), S. Tosh (2). (1) Agriculture & Agri-Food Canada, Winnipeg, MB, Canada; (2) Agriculture & Agri-Food Canada, Guelph, ON, Canada

### Wheat Improvement in the 21st Century • Symposium • San

Miguel/Ruidoso, CC

*Scientific Initiative: Biotechnology & Sustainability*

Organizer/Moderator: Michael Tilley, USDA-ARS CGAHR, Manhattan, KS, U.S.A.

Sponsor: Biotechnology Division

- 10:40 a.m. 53-S CFW 58:A16. Wheat breeding: Past, present, and future. B. F. CARVER (1). (1) Oklahoma State University, Stillwater, OK, U.S.A.
- 11:00 a.m. 54-S CFW 58:A16. Wheat genomics for grain quality improvement. R. J. HENRY (1). (1) University of Queensland, Brisbane, Australia
- 11:20 a.m. 55-S. A proteomic approach for understanding wheat flour quality and allergenic potential. S. B. ALTENBACH (1), C. K. Tanaka (1), F. M. Dupont (1), W. H. Vensel (1), P. V. Allen (1), W. J. Hurkman (1). (1) USDA-ARS Western Regional Research Center, Albany, CA, U.S.A.
- 11:40 a.m. 56-S CFW 58:A17. Increasing resistant starch in wheat using TILLING. B. HAZARD (1), X. Zhang (1), P. Colasuonno (2), C. Uauy (3), D. Beckles (1), J. Dubcovsky (1). (1) University of California Davis - Department of Plant Sciences, Davis, CA, U.S.A.; (2) Dep. of Genetics and Plant Breeding, University of Bari, Bari, Italy; (3) Dep. of Crop Genetics, John Innes Centre, Norwich, United Kingdom
- 12:00 p.m. 57-S CFW 58:A17. The changing wheat breeding industry. E. SOUZA (1). (1) Bayer CropScience, Lincoln, NE, U.S.A.

### Sessions – 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.

Cereal Foods World (CFW) number refers to the abstract page location within the online searchable abstract document. Affiliations are listed as provided by the organizer/presenter.

### Conversations That Matter...on the Issue of Gluten-Free Products • Aztec, CC

*Scientific Initiatives: Chemistry & Interactions, Quality & Analytical Methods*

Moderator: To be announced

- 31-O CFW 58:A26. Wheat avoidance, gluten diagnostics, and novel gluten-free foods. M. K. MORELL (1), G. Tanner (2), C. Howitt (2), M. Blundell (2), M. Colgrave (3), H. Goswami (3), D. Topping (4), S. Golley (4), N. Corsini (4), P. Mohr (4). (1) CSIRO, Canberra, Australia; (2) CSIRO Food Futures Flagship, Canberra, Australia; (3) CSIRO Food Futures Flagship, Brisbane, Australia; (4) CSIRO Food Futures Flagship, Adelaide, Australia
- 32-O CFW 58:A22. On the viscoelastic mechanisms in cereal proteins: How can we use structural models on gluten viscoelasticity to functionalize non-gluten proteins? M. Fevzioglu (1), O. H. Campanella (1), B. R. HAMAKER (1). (1) Purdue University, West Lafayette, IN, U.S.A.
- 33-O CFW 58:A21. A study to investigate the attitude of non-coeliac consumers towards gluten free products. D. Eden (1), V. STOJCESKA (2). (1) Manchester Metropolitan University, Manchester, United Kingdom; (2) Manchester Metropolitan University, Manchester and Brunel University, Middlesex, United Kingdom

### Conflict of Interest in Science: Myth or Reality? • Science

Café • Dona Ana/Cimarron, CC

*Scientific Initiative: Health & Nutrition*

Organizer/Moderator: Satya Jonnalagadda, Kerry Ingredients & Flavours, Beloit, WI, U.S.A.

- 58-S CFW 58:A6. Conflict of interest – Myth or reality: Academic perspective. B. HAMAKER (1). (1) Purdue University, West Lafayette, IN, U.S.A.
- 59-S CFW 58:A6. Building partnerships to address critical societal issues related to nutrition and health. J. A. MILNER (1). (1) USDA, Beltsville, MD, U.S.A.
- 60-S CFW 58:A6. Contract research organization perspective. C. COOK (1). (1) Biofortis Clinical Research, Addison, IL, U.S.A.
- 61-S CFW 58:A7. Industry perspective. S. JONNALAGADDA (1). (1) Kerry Ingredients & Flavours, Beloit, WI, U.S.A.
- 62-S CFW 58:A7. Advancing science through public-private partnerships: Key to success. J. SLAVIN (1). (1) University of Minnesota, St. Paul, MN, U.S.A.

**Dough Functionality and Baking • PosterTalk • Brazos, CC**  
 Moderator: Tilman Schober, Nestle R&D Center, Solon, OH, U.S.A.

- 74-P, CFW 58:A42. Effects of sorghum bran fortification on dough rheology, starch digestibility, and phenolic profile of wheat flour tortillas. K. L. DUNN (1), T. O. Jondiko (1), F. Barros (2), J. M. Awika (1). (1) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.; (2) Department of Soil & Crop Sciences, Texas A&M University, College Station, TX, U.S.A.
- 183-P, CFW 58:A47. WITHDRAWN
- 221-P, CFW 58:A72. WITHDRAWN
- 100-P, CFW 58:A37. WITHDRAWN
- 101-P, CFW 58:A73. Impact of jet milling on physical properties of wheat flour doughs. D. VOURIS (1), A. Lazaridou (1), C. G. Biliaderis (1). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 102-P, CFW 58:A58. Durum wheat semolina characterization by means of a rapid shear-based method. A. MARTI (1), M. G. D'Egidio (2), J. Dreisoerner (3), M. A. Pagani (4). (1) Univ. Degli Studi Di Milano, Milano, Italy; (2) Consiglio per la ricerca e la sperimentazione in agricoltura, Rome, Italy; (3) Brabender GmbH & Co. KG, Duisburg, Germany; (4) DeFENS, Milan, Italy
- 103-P, CFW 58:A35. Sulphur management strategies for improved field performance and flour functionality in Ontario soft wheats. J. E. BOCK (1), P. Johnson (2), K. Janovicek (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada; (2) OMAF & MRA, Stratford, ON, Canada
- 104-P, CFW 58:A37. Effects of enzyme treatment and processing on the status of phenolics in bread and cereal containing wheat aleurone. J. CASPER (1), D. Gaspard (2), C. Rieschl (3). (1) Cargill Horizon Milling, Plymouth, MN, U.S.A.; (2) Cargill Global Food Research, Navarre, MN, U.S.A.; (3) Cargill, Plymouth, MN, U.S.A.
- 105-P, CFW 58:A45. Effect of barley  $\beta$ -glucan on rheological properties of yeasted frozen dough. A. M. HAMED (1), S. Ragaei (1), E. S. Abdel-Aal (2), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada; (2) Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, ON, Canada
- 106-P, CFW 58:A49. WITHDRAWN
- 96-P, CFW 58:A58. Influence of temperature and precipitation on protein composition of hard red spring wheat and their impact on sponge and dough baking performance. T. MARUME (1), N. M. Edwards (2). (1) Nisshin Flour Milling Inc., Tokyo, Japan; (2) Canadian Grain Commission, Winnipeg, MB, Canada
- 99-P, CFW 58:A51. Thermo-mechanical properties of gluten fractions in composite dough models. M. KHAMIS (1), K. Honey (1), H. Dogan (1), S. Bean (2). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) USDA-ARS-CGAHR, Manhattan, KS, U.S.A.

**Leveraging Innovation and Cost Management for Profitability • Science Café • Pecos/Mesilla, CC**

*Scientific Initiative: Ingredients & Innovations*

Organizers/Moderators: Rajen Mehta, Grain Millers Inc., Eugene, OR, U.S.A.; Brian Anderson, Bunge, St. Louis, MO, U.S.A.; Theresa Cogswell, BakerCogs Inc., Overland Park, KS, U.S.A.

Sponsors: Nutrition Division, Education Division

- 63-S CFW 58:A9. Leveraging continuous improvement for cost management, profitability and innovation. L. MURRAY (1). (1) Bunge North America, St. Louis, MO, U.S.A.
- 64-S CFW 58:A9. Using Lean Six Sigma to improve profitability in the food industry. K. M. Gardner (1), M. LINDSAY (1). (1) Ingredient, Saline, MI, U.S.A.
- 65-S CFW 58:A9. Challenges and opportunities in improving profitability by managing costs and innovation. T. S. COGSWELL (1). (1) BakerCogs, Inc., Overland Park, KS, U.S.A.
- 66-S CFW 58:A9. Challenges and opportunities in leveraging innovation to improve profitability. J. BARTA (1). (1) General Mills, Inc., Minneapolis, MN, U.S.A.

**Whole Grains, from Evolution to Revolution • Special Session •**

San Miguel/Ruidoso, CC

*(Extended Time 2:30 – 5:30 p.m.)*

*Scientific Initiatives: Health & Nutrition, Ingredients & Innovations, Quality & Analytical Methods*

Organizers: Barbara Heidolph, ICL Performance Products LP, St. Louis, MO, U.S.A.; Sean Finnie, Cargill, Inc., Plymouth, MN, U.S.A.; Spencer Wise, Starbucks, Seattle, WA, U.S.A.; Nicole Rees, AB Mauri Food, Inc., Wilsonville, OR, U.S.A.

Moderators: Nicole Rees, AB Mauri Food, Inc., Wilsonville, OR, U.S.A.; Spencer Wise, Starbucks, Seattle, WA, U.S.A.

Sponsor: Milling & Baking Division

- 67-S CFW 58:A17. Trends in whole grains and market development. C. W. HARRIMAN (1). (1) Oldways / The Whole Grains Council, Boston, MA, U.S.A.
- 68-S CFW 58:A17. Regulatory update: Whole grains. L. SANDERS (1). (1) American Bakers Association, Washington, DC, U.S.A.
- 69-S. Supply and demand—Can we sustain the whole grain market? Grains, breeding, growing, processing: Wheat and ancient grains. W. DAY, Jr., (1). (1) ConAgra Mills, Hastings, MN, U.S.A.
- 70-S CFW 58:A17. Supply and demand—Can we sustain the whole grain market? Milling operation redesign to deliver whole grains. C. L. MILLER (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 71-S CFW 58:A17. Challenges for developing whole grain baked goods—Impact of flour shelf life on baking quality, performance, and sensory. E. A. ARNDT (1). (1) ConAgra Foods, Inc., Omaha, NE, U.S.A.
- 72-S CFW 58:A18. Standard methods for whole wheat flour evaluation. A. D. BETTGE (1), S. M. Finnie (2). (1) ADB Wheat Consulting, Moscow, ID, U.S.A.; (2) Cargill, Inc., Plymouth, MN, U.S.A.

## WEDNESDAY, OCTOBER 2

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

(listed in alphabetical order by title)

Find complete details on the meeting website at [www.aaccnet.org/meetings/annual/program/Pages](http://www.aaccnet.org/meetings/annual/program/Pages)

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### Impact of Cell Wall Components on Health • Technical •

Pecos/Mesilla, CC (8:30 – 9:50 a.m.)

Scientific Initiatives: *Biotechnology & Sustainability, Health & Nutrition*

Moderators: Mike Gidley, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, St. Lucia, Brisbane, Australia; Sichaya Sittipod, Kansas State University, Manhattan, KS, U.S.A.

- 8:30 a.m. 34-O CFW 58:A22. **Thomas Burr Osborne Medal Award** – New technologies in cereal chemistry and related industries: From biochemistry to genome sequences. G. B. FINCHER (1). (1) University of Adelaide, Glen Osmond, Australia
- 9:10 a.m. 35-O CFW 58:A23. Health benefits from soluble cereal non-starch polysaccharides—Gastro-intestinal passage rate as a major determinant? M. J. GIDLEY (1), J. Hanan (1), W. Gerrits (2), S. Dhital (1), N. Gunness (1), B. A. Williams (1). (1) Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, St. Lucia, Brisbane, Australia; (2) Animal Nutrition Group, University of Wageningen, Wageningen, The Netherlands
- 9:30 a.m. 36-O CFW 58:A25. Developing a cholesterol-lowering bread based on oat beta-glucan fibre. M. LYLly (1). (1) VAASAN Group, Espoo, Finland
- 9:50 a.m. 37-O. WITHDRAWN

### Minor Cereals • Technical • Dona Ana/Cimarron, CC

Scientific Initiatives: *Chemistry & Interactions, Engineering & Processing, Health & Nutrition, Ingredients & Innovations*

Moderators: George A. Annor, and Gurpreet Kaur, University of Guelph, Guelph, ON, Canada

- 8:30 a.m. 38-O CFW 58:A29. Multidimensional benefits of consuming polyphenol-enriched sorghum grains. N. D. TURNER (1), D. V. Seidel (1), L. E. Ritchie (1), I. Martinez (2), J. Walter (2), T. P. Carr (2), M. D. Haub (3), L. W. Rooney (1). (1) Texas A&M University, College Station, TX, U.S.A.; (2) University of Nebraska, Lincoln, NB, U.S.A.; (3) Kansas State University, Manhattan, KS, U.S.A.
- 8:50 a.m. 39-O CFW 58:A61. Effect of hydrothermal treatment (parboiling) on de-hulling and cooking qualities of kodo millet and barnyard millet. V. NACHIMUTHU (1), G. Sundaraj (1). (1) Tamil Nadu Agricultural University, Coimbatore, India

- 9:10 a.m. 40-O CFW 58:A22. Evaluation of structure weakening effects by quinoa bran in gluten-free bread. M. FÖSTE (1), D. Elgeti (1), M. Jekle (1), T. Becker (1). (1) Technische Universität München, Freising, Germany
- 9:30 a.m. 41-O CFW 58:A25. Structural approaches of starch Pickering emulsions for encapsulation of hydrophobic and hydrophilic substances. A. MAREFATI (1), M. Rayner (1), P. Dejmeek (1), M. Sjöö (1). (1) Lund University, Lund, Sweden
- 9:50 a.m. 42-O CFW 58:A19. Anthocyanins in flours and tortillas elaborated from Mexican blue maize through extrusion lime-cooking process. J. AGUAYO (1), N. Gaxiola Cuevas (1), S. Mora Rochin (1), J. H. Perez Uriarte (1), J. A. Gutierrez Uribe (2), S. Serna Saldivar (2), P. Sanchez Peña (1), E. Cuevas Rodriguez (1), C. Reyes Moreno (1), J. Milan Carrillo (1). (1) Universidad Autonoma de Sinaloa, Facultad de Ciencias Quimico Biologicas, Culiacan Sinaloa Mexico, Mexico; (2) Instituto Tecnológico de Monterrey, Monterrey Nuevo León, Mexico

### Overview of Health Risks Associated with Acrylamide and Mitigation Strategies in Carbohydrate-Rich Foods •

Symposium • Brazos, CC

Scientific Initiative: *Health & Nutrition*

Organizer/Moderator: Dilek Austin, Novozymes North America, Franklinton, NC, U.S.A.

Sponsors: Carbohydrate Division, Nutrition Division

- 8:30 a.m. 73-S CFW 58:A11. Acrylamide: Health issues and resulting international attention. D. R. LINEBACK (1). (1) JIFSAN/University of Maryland, College Park, MD, U.S.A.
- 8:50 a.m. 74-S CFW 58:A11. Mechanisms of acrylamide and acrylamide adduct formation. M. Granvogl (1), P. KOEHLER (2), P. Schieberle (2). (1) Chair for Food Chemistry, Technische Universität München, Freising, Germany; (2) German Research Center for Food Chemistry, Leibniz Institute, Freising, Germany
- 9:10 a.m. 75-S CFW 58:A11. Process and recipe modifications to reduce acrylamide formation in bakery products. V. GOKMEN (1), B. A. Mogol (1), T. Kocadag (1). (1) Hacettepe University, Ankara, Turkey
- 9:30 a.m. 76-S CFW 58:A11. Improved breeding and variety evaluation methods to reduce acrylamide formation in potato products. C. YENCHO (1), O. Adedipe (1), P. Bethke (2), A. Bussan (3). (1) NC State University, Raleigh, NC, U.S.A.; (2) USDA ARS, Madison, WI, U.S.A.; (3) University of Wisconsin, Madison, WI, U.S.A.
- 9:50 a.m. 77-S CFW 58:A11. Applying enzymatic modifications to decrease acrylamide formation in foods. H. V. HENDRIKSEN (1), G. B. Lynglev (1), M. J. Baumann (1). (1) Novozymes, Bagsvaerd, Denmark

**Pulses as Complementary Ingredients in Cereal-Based Products • Symposium • San Miguel/Ruidoso, CC**

*Scientific Initiatives: Engineering & Processing, Health & Nutrition, Ingredients & Innovations*

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

Moderators: Ning Wang, Canadian Grain Commission, Winnipeg, MB, Canada; Tanya Der, Pulse Canada, Winnipeg, MB, Canada

Sponsor: Pulse and Legume Technical Committee

Financial Sponsor: Best Cooking Pulses Inc.

- 8:30 a.m. **78-S CFW 58:A12.** Opportunities to capitalize on pulse protein quality. J. D. HOUSE (1). (1) Dept. of Human Nutritional Sciences, University of Manitoba, Winnipeg, MB, Canada
- 8:50 a.m. **79-S CFW 58:A12.** Partial germination of pulses to produce novel, healthy ingredients. S. KAPPELER (1), E. Zamprogna Rosenfeld (1), S. Bellaio (1). (1) Buhler, Uzwil, Switzerland
- 9:10 a.m. **80-S CFW 58:A12.** Understanding the impact of pulse flour properties on product quality. L. Bourré (1), H. D. MASKUS (1), L. Malcolmson (1), Y. Supeene (1), E. Assefaw (1). (1) Canadian International Grains Institute, Winnipeg, MB, Canada
- 9:30 a.m. **81-S CFW 58:A12.** Optimization of extruded snack products using pulse ingredients. S. HOOD-NIEFER (1). (1) Saskatchewan Food Industry Development Centre, Saskatoon, SK, Canada
- 9:50 a.m. **82-S CFW 58:A12.** Applications of pulses as gluten-free ingredients. L. MALCOLMSON (1), C. Peterson (2). (1) LM Food Solutions, Winnipeg, MB, Canada; (2) SunOpta Ingredients Group, Edina, MN, 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.

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**Ancient and Alternative Grains: Nutritional and Functional Benefits for Product Development • Symposium • Brazos, CC**

*Scientific Initiatives: Health & Nutrition, Ingredients & Innovations*

Organizer: Dilek Austin, Novozymes North America, Franklinton, NC, U.S.A.

Moderators: Dilek Austin, Novozymes North America, Franklinton, NC, U.S.A.; Tom Jondiko, Texas A&M University, College Station, TX, U.S.A.

Sponsors: Carbohydrate Division, Nutrition Division, Flavor & Food Ingredients Division

- 10:40 a.m. **83-S CFW 58:A1.** Structure and location of macronutrients in ancient and alternative crops. D. F. WOOD (1), S. S. Miller (2), T. G. Williams (1), G. M. Glenn (1), W. J. Orts (1). (1) USDA ARS WRRRC, Albany, CA, U.S.A.; (2) AAFC - ECORC, Ottawa, ON, Canada

- 11:00 a.m. **84-S CFW 58:A1.** Fiber and nutrient profiles of ancient grains and their effect on health. J. M. JONES (1). (1) Dept. of Family, Consumer & Nutritional Sci., St. Catherine University, Arden Hills, MN, U.S.A.
- 11:20 a.m. **85-S CFW 58:A1.** Janus and Argus: Multiple and opposite aspects of non-gluten proteins in ancient grains. F. BONOMI (1), A. Barbiroli (1), S. Iametti (1), M. Marengo (1), A. Marti (1), M. Miriani (1), A. Pagani (1). (1) DeFENS, University of Milan, Milan, Italy
- 11:40 a.m. **86-S CFW 58:A1.** Einkorn: A potential candidate for developing high-lutein wheat. E. S. ABDEL-AAL (1). (1) Agriculture and Agri-Food Canada, Guelph, ON, Canada
- 12:00 p.m. **87-S CFW 58:A2.** An obliging ancient grain: Sorghum. D. AUSTIN (1). (1) Novozymes NA, Franklinton, NC, U.S.A.

**Gluten and Flour Functionality • Technical • Dona Ana/Cimarron, CC**

*Scientific Initiatives: Chemistry & Interactions, Quality & Analytical Methods*

Moderators: Debra Patterson, General Mills, Minneapolis, MN, U.S.A.; Jayne E. Bock, Brabender GmbH & Co. KG, Duisburg, Germany

- 10:40 a.m. **43-O CFW 58:A22.** Relaxation and creep recovery tests on wheat kernels vs. doughs: Influence of glutenins on rheological and quality properties. J. d. FIGUEROA CÁRDENAS (1), Z. J. Hernández-Estrada (1), P. Rayas-Duarte (2), J. R. Peña (3). (1) CINVESTAV Unidad Querétaro, Querétaro, Qro., Mexico; (2) Robert M. Kerr Food & Agricultural Products Center, Oklahoma State University, Stillwater, OK, U.S.A.; (3) Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT, Int.), Texcoco, México C.P. 56130, Mexico
- 11:00 a.m. **44-O CFW 58:A25.** Effect of flour aging on oxidative gelation and absorption characteristics of soft-wheat flour. J. E. MATTSON (1), O. Miranda-Garcia (1), A. S. Ross (1), T. Kongraksawech (1), A. D. Bettge (2). (1) Oregon State University, Corvallis, OR, U.S.A.; (2) ADB Wheat Consulting, Moscow, ID, U.S.A.
- 11:20 a.m. **45-O CFW 58:A29.** Impact of mixing time and sodium stearoyl lactylate on gluten polymerization during baking of wheat flour dough. B. VAN STEERTEGEM (1), B. Pareyt (1), K. Brijs (1), J. A. Delcour (1). (1) KU Leuven, Heverlee, Belgium
- 11:40 a.m. **46-O CFW 58:A24.** Visualization of gluten, starch, and butter in pie pastry by fluorescence fingerprint imaging. M. KOKAWA (1), J. Sugiyama (2), M. Tsuta (2), K. Fujita (2), M. Yoshimura (2), M. Shibata (2), T. Araki (1), H. Nabetani (2). (1) The University of Tokyo, Tokyo, Japan; (2) National Food Research Institute, National Agriculture and Food Research Organization, Tsukuba, Japan
- 12:00 p.m. **47-O CFW 58:A21.** Structural characterization of arabinoxylan addition—Impact on protein microstructure formation of rye and wheat dough. C. DÖRING (1), F. Stukenborg (1), M. Jekle (1), T. Becker (1). (1) Technische Universität München, Freising, Germany

## Role of Extrusion in Improving Nutritional Profiles of Cereal Foods • Symposium • San Miguel/Ruidoso, CC

*Scientific Initiatives: Engineering & Processing, Health & Nutrition*

Organizers: Sathya Kalambur and Supriya Varma, Frito Lay, Plano, TX, U.S.A.

Moderator: Sathya Kalambur, Frito Lay, Plano, TX, U.S.A.

- 10:40 a.m. 88-S CFW 58:A13. Effect of processing on selected nutraceuticals in quinoa, amaranth, and buckwheat. H. DOGAN (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 11:00 a.m. 89-S CFW 58:A14. Rye and oat fibers as extrusion ingredients. K. POUTANEN (1), A. S. Alam (1), S. Juhani (1), N. Sozer (1). (1) VTT, Espoo, Finland
- 11:20 a.m. 90-S. Retention of antioxidants during extrusion cooking of cereal foods. S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 11:40 a.m. 91-S CFW 58:A14. Precooked analog products using low-shear extrusion—A novel nutrition delivery mechanism. B. S. PLATTNER (1). (1) Wenger Manufacturing, Inc., Sabetha, KS, U.S.A.
- 12:00 p.m. 92-S. Effect of fiber enrichment level and fiber particle size on the extrusion properties of split yellow pea flour. P. FROHLICH (1), G. Boux (1), L. Malcolmson (1). (1) Canadian International Grains Institute (Cigi), Winnipeg, MB, Canada

## Starch Structure and Processing • Technical •

Pecos/Mesilla, CC

*Scientific Initiatives: Biotechnology & Sustainability, Chemistry & Interactions, Engineering & Processing, Quality & Analytical Methods*

Moderators: Victoria Ndolo, University of Manitoba, Winnipeg, MB, Canada; Robert G. Gilbert, University of Queensland, Brisbane, QLD, Australia

- 10:40 a.m. 48-O CFW 58:A23. The Cinderella of starch structure: Amylose fine structure and functional properties of starch-containing foods. R. G. GILBERT (1), A. C. Wu (1), K. Wang (1), F. J. Warren (1), F. Vilaplana (2). (1) University of Queensland, Brisbane, QLD, Australia; (2) KTH Biotechnology, Stockholm, Sweden
- 11:00 a.m. 49-O CFW 58:A24. WITHDRAWN
- 11:20 a.m. 50-O CFW 58:A28. Structural basis for activity regulation of the starch debranching barley limit dextrinase by the limit dextrinase inhibitor with relevance in brewing. B. SVENSSON (1), M. S. Møller (1), M. B. Vester-Christensen (1), J. M. Jensen (1), M. Abou Hachem (1), A. Henriksen (2). (1) Department of Systems Biology, DTU, Kgs. Lyngby, Denmark; (2) Carlsberg Laboratory, Copenhagen, Denmark
- 11:40 a.m. 51-O CFW 58:A21. Deficiency of wheat starch synthase II (SSII) affects starch structure and enzymatic hydrolysis. K. FENG (1), S. Jaiswal (1), M. Baga (1), P. Hucl (1), R. N. Chibbar (1). (1) University of Saskatchewan, Saskatoon, SK, Canada
- 12:00 p.m. 52-O CFW 58:A27. Online monitoring of starch gelatinization with limited water content using CLSM. M. SCHIRMER (1), M. Jekle (1), T. Becker (1). (1) Technische Universität München, Freising, Germany

## 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.

Cereal Foods World (CFW) number refers to the abstract page location within the online searchable abstract document. Affiliations are listed as provided by the organizer/presenter.

### Conversations That Matter...on the Formulation of Healthy Foods • Aztec, CC

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

Moderator: Kris E. Spence, Kellogg Company, Battle Creek, MI, U.S.A.

- 53-O CFW 58:A27. Diverse challenges in multi-textured foods and key approaches for shelf stability. T. SENGUPTA (1). (1) PepsiCo Advanced Research Food Processing, Plano, TX, U.S.A.
- 54-O CFW 58:A26. Performance of a novel whole grain-hydrocolloid satiety composite system in a bar. L. NIBA (1), T. Finocchiaro (1). (1) Ingredient Inc., Bridgewater, NJ, U.S.A.
- 55-O. Rice hull fiber: A novel concentrated fiber product for gluten-free applications. J. Podolske (1), K. MATKOVIC (1), C. Peterson (1), R. Gonzalez (1), H. Zamora (1). (1) SunOpta Ingredients, Edina, MN, U.S.A.

### Conversations That Matter...on the Measurement of Dietary Fiber • La Cienega, CC

*Scientific Initiatives: Health & Nutrition, Quality & Analytical Methods*

Moderator: Bruce R. Hamaker, Purdue University, West Lafayette, IN, U.S.A.

- 56-O CFW 58:A21. Validating approved methods for the dietary fiber definition—Meeting the challenges of knowledge and definition changes. J. DEVRIES (1). (1) Medallion Laboratories/General Mills, Minneapolis, MN, U.S.A.
- 57-O CFW 58:A25. An integrated procedure for the measurement of total dietary fiber—Challenges and updates. B. MCCLEARY (1). (1) Megazyme International Ireland Ltd., Bray, Ireland
- 58-O CFW 58:A26. Impact of adding a second amyloglucosidase digestion to AACCI 32-45.01 (Total Dietary Fiber, Codex Alimentarius Definition) on fiber claims for rice products. W. PARK (1). (1) Texas A&M University, College Station, TX, U.S.A.

**Cereal Food Processing: What Are the Benefits?** • Science

Café • San Miguel/Ruidoso, CC

*Scientific Initiatives: Chemistry & Interactions, Engineering & Processing, Food Safety & Regulatory, Health & Nutrition*

Organizers: Satya Jonnalagadda, Kerry Ingredients &amp; Flavours, Beloit, WI, U.S.A.; Len Marquart, Grains for Health Foundation, University of Minnesota, Minneapolis, MN, U.S.A.; Laura Hansen, General Mills, Inc., Minneapolis, MN, U.S.A.

Moderators: Laura Hansen, General Mills, Inc., Minneapolis, MN, U.S.A.; Satya Jonnalagadda, Kerry Ingredients &amp; Flavours, Beloit, WI, U.S.A.

93-S CFW 58:A5. Benefits and challenges of food processing. R. A. FLORES (1). (1) University of Nebraska Lincoln, Lincoln, NE, U.S.A.

94-S CFW 58:A5. Structure of cereal foods: Impact on health outcomes. K. S. POUTANEN (1). (1) VTT, Espoo, Finland

95-S CFW 58:A5. Processing to enhance ingredient functionality of whole grains. J. L. CASPER (1), S. M. Finnie (2), J. Turner (3). (1) Cargill Horizon Milling, Plymouth, MN, U.S.A.; (2) Cargill, Inc., Plymouth, MN, U.S.A.; (3) Cargill Horizon Milling, Minnetonka, MN, U.S.A.

96-S CFW 58:A6. Relationships between dry processing conditions and composition and functional properties of oat products. M. S. IZYDORCZYK (1). (1) Canadian Grain Commission, Winnipeg, MB, Canada

97-S CFW 58:A6. Formulating whole grain foods: Overview of ingredient, processing and sourcing challenges. L. M. HANSEN (1). (1) General Mills, Inc., Minneapolis, MN, U.S.A.

**Production and Analyses of Gluten-Free Foods** • PosterTalk •

Dona Ana/Cimarron, CC

Moderator: Verena Knorr, German Research Centre, Freising, Germany

147-P, CFW 58:A70. Elaboration of gluten-free nixtamalized cookies with high protein quality and low sugar. D. SUÁREZ-TRUJILLO (1), C. Domínguez-García (1), S. O. Serna-Saldivar (1), E. Pérez-Carrillo (1), S. Guajardo-Flores (1). (1) Tec de Monterrey, Monterrey, Mexico

148-P, CFW 58:A59. Characterization of a proposed hydrolyzed prolamin digest standard for barley-based and gluten-free beers. S. C. MCGRATH (1), G. M. Sharma (2), P. V. Rallabhandi (2), K. M. Williams (2), J. H. Callahan (1), M. M. Ross (1). (1) FDA, College Park, MD, U.S.A.; (2) FDA, Laurel, MD, U.S.A.

149-P, CFW 58:A68. Simultaneous screening of multiple plant-based allergens and gluten using liquid chromatography-mass spectrometry. J. SEALEY-VOYKSNER (1), R. Voyksner (1), J. Zweigenbaum (2). (1) LCMS Limited, Durham, NC, U.S.A.; (2) Agilent Technologies, Wilmington, DE, U.S.A.

150-P, CFW 58:A57. WITHDRAWN

151-P, CFW 58:A61. A submerged chickpea fermentation extract used as leavening agent for improving quality of gluten-free breads. A. MYGDALIA (1), A. Lazaridou (1), C. G. Biliaderis (1). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, Greece

152-P, CFW 58:A49. Application of response surface methodology (RSM) in the development of gluten-free bread with yellow pea flour addition. T. JERADECHACHAI (1), C. Hall (2). (1) Northern Crops Institute, Fargo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.

153-P, CFW 58:A72. Use of native functional and modified starches/flours in gluten free bakery product development. C. Thomas (1), S. Bender (1), D. UZUNALIOGLU (1), E. Shinsato (1), P. O'Brien (1). (1) Ingredient Inc., Bridgewater, NJ, U.S.A.

154-P, CFW 58:A78. Effects of manufacturing factors and rice flour properties on the physicochemical characteristics of pure rice pasta. M. -Y. Su (1), M. -F. Chen (1), S. LU (1). (1) China Grain Products R&amp;D Institute, Taipei, Taiwan

155-P, CFW 58:A66. Standardization and evaluation of instant food mixes from small millets. M. RAVINDRAN (1), S. Lakshmanan (1). (1) Tamil Nadu Agricultural University, Coimbatore, India

156-P, CFW 58:A42. Characterization of grain-specific peptide markers for the detection of gluten in food by mass spectrometry. K. L. FIEDLER (1), M. M. Ross (1), J. H. Callahan (1), S. C. McGrath (1). (1) Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration, College Park, MD, U.S.A.

157-P, CFW 58:A45. Analysis of oat varieties for gluten content using G12 monoclonal antibody based test kits. E. Halbmayr-Jech (1), A. Rogers (2), L. Frank (1), E. WELKER (3), M. Prinster (3). (1) Romer Labs Division Holding GmbH, Tulln, Austria; (2) Romer Labs UK Ltd., Runcorn, United Kingdom; (3) Romer Labs Inc., Union, MO, U.S.A.

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# Posters

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## Poster Schedule

### Monday, September 30

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 1

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 in alphabetical order of subject matter)*

Analytical Techniques (Posters 1–26)  
Antioxidants (Posters 27–36)  
Biofuels (Posters 37–40)  
Biotechnology (Posters 41–50)  
Cereals and Health (Posters 51–53)  
Dietary Fiber (Posters 54–73)  
Dough Functionality and Baking (Poster 74)  
Dough/Baking (Posters 75–95)  
Flour Gluten and Baking (Posters 96–111)  
Food Safety (Posters 112–120)  
General (Posters 121–123)  
Gluten Free (Posters 124–159)  
Health (Posters 160–162)  
Non-Wheat Cereals and Applications (Posters 163–172)  
Noodles and Pasta (Posters 173–182)  
Production and Analyses of Gluten Free Foods (Poster 183)  
Starch and Functionality (Posters 184–220)  
Whole Grains (Posters 222–233)

## Poster Titles and Authors

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

*Cereal Foods World (CFW) number* refers to the abstract page location within the online searchable abstract document.

**PosterTalk** – indicates a poster that is part of a PosterTalk session. See program schedule for PosterTalk days and times.

## Analytical Techniques

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

- 1-P. CFW 58:A57**  
Aroma profiles of raw and cooked samples of selected rice varieties. J. MANFUL (1). (1) Africa Rice Center, Accra, Benin
- 2-P. CFW 58:A75**  
Determining cereal starch amylose content using a dual wavelength iodine binding 96 well plate assay J. D. WILSON (1), R. Kaufman (1), S. R. Bean (1), T. J. Herald (1). (1) USDA-ARS, Manhattan, KS, U.S.A.
- 3-P. CFW 58:A62**  
Influence of disulfide bond formation via PDI-Ero1 processing of proteins on baking quality. T. NOGUCHI (1), K. Shiono (1), F. Nishibori (1), D. Oka (1), H. Noguchi (1), M. Uchino (1), K. Takano (1). (1) Tokyo University of Agriculture, Tokyo, Japan
- 4-P. CFW 58:A33**  
Simulation of wheat milling system. K. Ambrose (1), S. Perumal (1), D. MAIER (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 5-P. CFW 58:A43**  
Screening for improved pasta colour: A micro high-throughput method based on durum whole meal. B. FU (1), L. Schlichting (1), C. Pozniak (2). (1) Canadian Grain Commission, Winnipeg, MB, Canada; (2) University of Saskatchewan, Saskatoon, SK, Canada
- 6-P. CFW 58:A76**  
Chemical kinetics on change in breadmaking performance of bread flour during short-term storage using ESR spectra. M. YAMADA (1), K. Ishigo (1), K. Sugiyama (1), Y. Kitamura (2), A. Horigane (2). (1) Kogakuin University, Hachioji-shi, Japan; (2) National Food Research Institute, Tsukuba-shi, Japan
- 7-P. CFW 58:A67**  
It's a soft wheat problem: Low Falling number results in the absence of elevated alpha-amylase. A. S. ROSS (1), T. Kongraksawech (1), M. D. Flowers (1), R. S. Zemetra (1). (1) Oregon State University, Corvallis, OR, U.S.A.

*continued*

- 8-P. CFW 58:A51**  
Modified GlutoPeak method for wheat flour additives. G. KAUR CHANDI (1), S. Carriere (2), J. Maher (2), C. Baghdadi (2). (1) CW Brabender Instruments Inc., South Hackensack, NJ, U.S.A.; (2) Les Moulins de Soulanges, Montreal, QC, Canada
- 9-P. CFW 58:A40**  
Measurement of mixture levels of conventional wheat in waxy wheat by near-infrared spectroscopy of bulk and ground meal. S. R. DELWICHE (1), R. A. Graybosch (2). (1) USDA-ARS, Beltsville, MD, U.S.A.; (2) USDA-ARS, Lincoln, NE, U.S.A.
- 10-P. CFW 58:A73**  
Rapid detection and identification of bacteria and yeasts by rRNA sandwich hybridization—A new technology. S. VERMA (1), J. Siegrist (2). (1) Sigma-Aldrich Co., Bellefonte, PA, U.S.A.; (2) Sigma-Aldrich Co., Buchs, Switzerland
- 11-P. CFW 58:A53**  
Evaluation of a vacuum dough expansion system for wheat breeding programs. P. G. KRISHNAN (1). (1) South Dakota State University, Brookings, SD, U.S.A.
- 12-P. CFW 58:A47**  
High-throughput micro plate vanillin assay for determination of tannin in sorghum grain. T. HERALD (1), J. Wilson (2), S. Bean (2), P. Gadgil (2). (1) USDA ARS CGAHR GQSRU, Manhattan, KS, U.S.A.; (2) USDA-ARS-CGAHR, Manhattan, KS, U.S.A.
- 13-P. CFW 58:A49**  
Development of an analytical whole wheat bread baking method. J. JEONG (1), R. Miller (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 14-P. CFW 58:A69**  
Growing location of Lariat pinto beans and effect on lipoxygenase activity and grassy flavors. C. Simons (1), C. HALL (1), J. Osorno (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 15-P. CFW 58:A41**  
Simple transfer of food and feed methods across different near infrared instrument platforms. D. DRAPCHO (1), H. He (2). (1) Thermo Fisher Scientific, Madison, WI, U.S.A.; (2) Thermo Fisher Scientific, Lanham, MD, U.S.A.
- 16-P. CFW 58:A50**  
Determination of condensed tannins utilizing microwave technology. C. JOHNSON (1). (1) EPL Bio Analytical Services, Niantic, IL, U.S.A.
- 17-P. CFW 58:A34**  
Quantitative analysis of isoflavones from soybeans and soy milk using superficially porous particle HPLC method and UV detection. E. BARREY (1), O. Shimelis (1), M. Ye (1). (1) Sigma-Aldrich/Supelco, Bellefonte, PA, U.S.A.
- 18-P. CFW 58:A38**  
Quantitative determination of thiamine in grains and seeds by high performance liquid chromatography-tandem mass spectrometry. F. A. CLAUSSEN (1). (1) EPL Bio Analytical Services, Niantic, IL, U.S.A.
- 19-P. CFW 58:A45**  
Advanced ELISA test kits for detection of food allergens using a very fast and convenient extraction method. E. Halbmayr-Jech (1), L. Frank (1), A. Rogers (2), M. Roder (3), T. Hein (3), E. WELKER (4), M. Prinster (4). (1) Romer Labs Division Holding GmbH, Tulln, Austria; (2) Romer Labs UK Ltd., Runcorn, United Kingdom; (3) IFP, Berlin, Germany; (4) Romer Labs, Inc., Union, MO, U.S.A.
- 20-P. CFW 58:A59**  
Comparison of nutrient contents between whole black, red (*Oryza sativa* L.) and wild (*Zizania* spp. L.) rice. I. L. MASSARETTO (1), U. M. Lanfer Marquez (1), F. C. Bertoldi (2), J. A. Noldin (2). (1) University of São Paulo, Faculty of Pharmaceutical Sciences, São Paulo, Brazil; (2) Itajaí Experiment Station/Epagri, Itajaí, Brazil
- 21-P. CFW 58:A57**  
Mathematical modeling of flow behavior and cell structure formation during extrusion. P. H. MANEPALLI (1), A. Garg (1), H. Dogan (1), J. Mathew (2), S. Alavi (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) Frito-Lay R&D, Plano, TX, U.S.A.
- 22-P. CFW 58:A40**  
Evaluation of gluten addition effect on rheological properties of alkaline noodles using high frequency ultrasound and stress relaxation techniques. D. DAUGELAITE (1), A. Strybulevich (2), M. G. Scanlon (3), J. H. Page (4), D. Hatcher (1). (1) Grain Research Laboratory, Canadian Grain Commission, Winnipeg, MB, Canada; (2) University of Manitoba, Winnipeg, MB, Canada; (3) University of Manitoba, Agriculture and Food Science Faculty, Winnipeg, MB, Canada; (4) University of Manitoba, Astronomy and Physics Faculty, Winnipeg, MB, Canada
- 23-P. CFW 58:A54**  
Application of Raman spectroscopy for qualitative and quantitative detection of fumonisins in ground maize samples. K. M. LEE (1), T. J. Herrman (1), C. Nansen (2), U. Yun (3). (1) Texas A&M University, College Station, TX, U.S.A.; (2) The University of Western Australia, Crawley, Australia; (3) Chungbuk National University, Cheong-Ju, Korea
- 24-P. CFW 58:A76**  
Use of paramagnetic relaxation reagent in quantitative <sup>13</sup>C NMR of maltodextrin. M. XUE (1), Y. C. Shi (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 25-P. CFW 58:A50**  
Prediction of tortilla quality using multivariate model of kernel, flour and dough properties. T. JONDIKO (1), L. Yang (2), M. Tilley (3), J. M. Awika (1). (1) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.; (2) Department of Soil & Crop Sciences, Texas A&M University, College Station, TX, U.S.A.; (3) USDA/ARS/CGAHR, Manhattan, KS, U.S.A.
- 26-P. CFW 58:A76**  
A parameterized model of amylopectin synthesis provides key insights into the synthesis of starch. A. C. WU (1), M. K. Morell (2), R. G. Gilbert (1). (1) University of Queensland – QAAFI, Brisbane, Australia; (2) CSIRO Plant Industry, Canberra, Australia

## Antioxidants

*Scientific Initiatives: Biotechnology & Sustainability, Chemistry & Interactions, Engineering & Processing, Health & Nutrition, Ingredients & Innovations, Quality & Analytical Methods*

**27-P. CFW 58:A45 WITHDRAWN**

**28-P. CFW 58:A71**  
Effects of amylose and hard wheat flour on measured phenolic content and antioxidant activity in bread substituted with Concord grape extract powder. Z. Tacer-Caba (1), D. Nilufer-Erdil (1), M. H. Boyacioglu (2), P. K. NG (3). (1) Istanbul Technical University Food Engineering

Department, Istanbul, Turkey; (2) Food Engineering Department, Faculty of Engineering and Architecture, Okan University, Istanbul, Turkey; (3) Department of Food Science & Human Nutrition, Michigan State University, East Lansing, MI, U.S.A.

- 29-P. CFW 58:A62**  
Effect of deep-oil frying on antioxidant properties of whole grain wheat donuts. P. Nsabimana (1), J. Powers (1), S. Mattinson (1), B. K. BAIK (2). (1) Washington State University, Pullman, WA, U.S.A.; (2) USDA-ARS-CSWQRU, Wooster, OH, U.S.A.
- 30-P. CFW 58:A70**  
Anti-inflammatory properties of cowpea polyphenols in raw 264.7 macrophages. K. P. SISKA (1), C. Wu (1), J. Awika (1). (1) Texas A&M University, College Station, TX, U.S.A.
- 31-P. CFW 58:A44**  
Bioaccessibility and antioxidant activity of wheat bran phenolics following *in vitro* gastrointestinal digestion. S. Golom (1), H. SAPIRSTEIN (1), N. Ames (2). (1) University of Manitoba, Winnipeg, MB, Canada; (2) Agriculture & Agri-Food Canada, Winnipeg, MB, Canada
- 32-P. CFW 58:A69**  
Effects of genotype, environment, and their interaction on the phytochemicals and antioxidant capacities of red rice (*Oryza sativa* L.). Y. Shao (1), X. Sun (1), T. Beta (2), J. BAO (1). (1) Zhejiang University, Hangzhou, People's Republic of China; (2) University of Manitoba, Winnipeg, MB, Canada
- 33-P. CFW 58:A62**  
Comparative studies on composition and distribution of phenolic acids in yellow corn and non-corn cereal botanical fractions. V. U. NDOLO (1), T. Beta (1). (1) University of Manitoba, Winnipeg, MB, Canada
- 34-P. CFW 58:A32**  
Potential synergistic effect of combining sorghum and cowpea polyphenols. S. AGAH (1), L. Yang (1), J. Awika (2). (1) Department of Soil & Crop Sciences, Texas A&M University, College Station, TX, U.S.A.; (2) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.
- 35-P. CFW 58:A31**  
Effects of cumin and ginger as antioxidants on dough mixing properties and "better for you" cookie quality. M. S. ABDEL-SAMIE (1), W. Huang (2), F. J. Wang (3). (1) Jiangnan University, and Suez Canal University, Egypt, El-Arish, North Sinai, Egypt; (2) Jiangnan University, Wuxi, Jiangsu, People's Republic of China; (3) MagiBake International Inc., Wuxi, Jiangsu, People's Republic of China
- 36-P. CFW 58:A54**  
Impact of cooking on the levels of phenolic compounds and antioxidant activity in whole black, red and wild rice. U. M. LANFER MARQUEZ (1), I. L. Massaretto (1), R. M. Cerdeira Barros (1), J. A. Noldin (2). (1) University of São Paulo, Faculty of Pharmaceutical Sciences, São Paulo, Brazil; (2) Itajai Experiment Station, Itajai, Brazil

## Biofuels

*Scientific Initiatives: Biotechnology & Sustainability, Engineering & Processing*

- 37-P. CFW 58:A55**  
Effects of sorghum inbred variability on ethanol production. S. LI (1), M. G. C. Danao (1), P. Brown (1), V. Singh (1). (1) University of Illinois at Urbana and Champaign, Urbana, IL, U.S.A.
- 38-P. CFW 58:A38**  
Evaluation of bioethanol production from pollinated and un-pollinated tropical maize. M. H. CHEN (1), M. L. Vincent (1), F. E. Below (1), V. Singh (1). (1) University of Illinois at Urbana-Champaign, Urbana-Champaign, IL, U.S.A.
- 39-P. CFW 58:A66**  
Ethanol production using varying enzyme combinations to mitigate effects of corn quality during dry grind ethanol processing. D. RAMCHANDRAN (1), K. D. Rausch (1), M. E. Tumbleson (1), V. Singh (1). (1) University of Illinois, Urbana-Champaign, IL, U.S.A.
- 40-P. CFW 58:A52**  
Effects of genetic variation in prairie cordgrass on ethanol yield. S. M. KIM (1), J. Guo (2), S. Kwak (3), Y. S. Jin (3), D. Lee (2), V. Singh (1). (1) Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.; (2) Crop Science, University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.; (3) Food Science and Human Nutrition, University of Illinois at Urbana-Champaign, Urbana, IL, U.S.A.

## Biotechnology

*Scientific Initiatives: Biotechnology & Sustainability, Quality & Analytical Methods*

- 41-P. CFW 58:A38**  
Correlations between grain quality traits in quality protein maize cultivars grown under high and low soil nitrogen. C. CHIREMBA (1), K. Mashingaidze (2). (1) Agricultural Research Council Grain Crops Institute, Potchefstroom, South Africa; (2) Agricultural Research Council, Potchefstroom, South Africa
- 42-P. CFW 58:A48**  
Effects of foliar spray of bamboo leaf extract on rice grain filling, yield and quality. J. HUANG (1), L. Gong (1), Y. Ai (2), J.-l. Jane (2), Y. Zhang (1). (1) Zhejiang University, Hangzhou, People's Republic of China; (2) Iowa State University, Ames, IA, U.S.A.
- 43-P. CFW 58:A45**  
A "stay-green"-like trait maintains starch quality of barley grain under water-stressed conditions. P. W. Gous (1), J. HASJIM (1), J. Franckowiak (2), G. P. Fox (1), R. G. Gilbert (1). (1) The University of Queensland, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia; (2) Queensland Department of Agricultural, Fisheries and Forestry, Hermitage Research Facility, Warwick, Australia
- 44-P. CFW 58:A57 WITHDRAWN**
- 45-P. CFW 58:A74 WITHDRAWN**

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- 46-P. CFW 58:A65**  
The beta-glucan content, viscosity and solubility of Canadian grown oats as influenced by oat variety and growing location. M. PEREZ HERRERA (1), J. Gao (1), T. Vasanthan (1), K. Henderson (2). (1) University of Alberta, Edmonton, AB, Canada; (2) Viterra Food Processing, Portrage la Prairie, MB, Canada
- 47-P. CFW 58:A39**  
Influence of genetic background on the anthocyanin and co-pigment content and profile of colored corn. A. COLLISON (1), L. Yang (1), L. Dykes (1), S. Murray (1), J. Awika (2). (1) Department of Soil & Crop Sciences, Texas A&M University, College Station, TX, U.S.A.; (2) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.
- 48-P. CFW 58:A49**  
Genetic mapping of quantitative trait loci associated with arabinoxylan content in the soft wheat (*Triticum aestivum* L.) cross 'Louise' x 'Alpowa.' K. L. JERNIGAN (1), C. F. Morris (2), A. H. Carter (1), K. A. Garland-Campbell (2). (1) Washington State University, Pullman, WA, U.S.A.; (2) USDA-ARS, Pullman, WA, U.S.A.
- 49-P. CFW 58:A66**  
Antioxidant induction in wheat grain through insect feeding stress on the plants. O. RAMOS (1), R. L. Madl (1), C. M. Smith (1), A. K. Fritz (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 50-P. CFW 58:A75 WITHDRAWN**
- 56-P. CFW 58:A50**  
Evaluation of fenugreek (*Trigonella foenum-graecum* L.) germplasm for galactomannan. S. KALE (1), D. Rose (1), D. Santra (2). (1) University of Nebraska, Lincoln, NE, U.S.A.; (2) University of Nebraska, Scottsbluff, NE, U.S.A.
- 57-P. CFW 58:A53**  
Hydrothermal and enzymatic solubilization of insoluble dietary fiber from cereal and pseudocereal sources. L. M. LAMOTHE (1), S. Srichuwong (2), B. R. Hamaker (1). (1) Purdue University, West Lafayette, IN, U.S.A.; (2) Nestlé Research Center, Lausanne 26, Switzerland
- 58-P. CFW 58:A56 WITHDRAWN**
- 59-P. CFW 58:A59**  
Quality characteristics of fiber rich pasta. M. MENDIS (1), H. Khalid (1), A. Oladzadabbasabadi (1), F. A. Manthey (1), S. Simsek (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 60-P. CFW 58:A34**  
Addition of acid-treated unripe plantain modified the starch digestibility, indigestible carbohydrate and antioxidant capacity of semolina spaghetti. L. A. BELLO-PEREZ (1), S. Almanza-Benitez (1), G. Mendez-Montealvo (2), P. Osorio-Diaz (1). (1) CEPROBI-IPN, Yautepec, Morelos, Mexico; (2) CICATA-IPN, Querétaro, Mexico
- 61-P. CFW 58:A55**  
Applying chicory root fiber (inulin) to improve nutritional and functional values for whole grain extruded cereal. C. LIN (1). (1) Sensus America, Inc., Lawrenceville, NJ, U.S.A.
- 62-P. CFW 58:A36**  
Phosphorylated cross-linked resistant wheat starch (RS4) application in white pan bread. E. N. BUCKLEY (1), R. Miller (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 63-P. CFW 58:A54**  
Functional and sensory evaluation of sugar-free biscuits enriched in barley beta-glucan according to the new EFSA's health claims. A. LAZARIDOU (1), C. G. Biliaderis (1), A. Syllaidopoulos (1), P. Christidis (1). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 64-P. CFW 58:A50**  
Dietary fiber content and properties of cookies supplemented with different sources of resistant starches. K. KAHRAMAN (1), S. Ozturk (2), P. K. Ng (3), H. Koksels (4). (1) Abdullah Gul University, Kayseri, Turkey; (2) Sakarya University, Sakarya, Turkey; (3) Michigan State University, East Lansing, MI, U.S.A.; (4) Hacettepe University, Ankara, Turkey
- 65-P. CFW 58:A63**  
Effect of the addition of resistant starch on the physical properties of breakfast cereals processed using a twin-screw extruder. L. C. OLIVEIRA (1), E. Paula (1), M. Schmiele (1), C. J. Steel (1). (1) Universidade Estadual de Campinas, Campinas, Brazil
- 66-P. CFW 58:A78**  
Improvement of AACCI 32-50.01 for the determination of dietary fiber in products containing sorbitol and/or certain soluble dietary fiber ingredients. G. ZIELINSKI (1). (1) Covance, Madison, WI, U.S.A.
- 67-P. CFW 58:A64**  
Effect of the addition of resistant starch on the physical properties of breakfast cereals processed using a single-screw extruder. L. C. OLIVEIRA (1), M. Schmiele

## Cereals and Health

*Scientific Initiative:* Health & Nutrition

- 51-P. CFW 58:A54**  
Enzymatic synthesis of 2-deoxy-glucose-containing maltooligosaccharides to test the location of starch digestion in the small intestine. B. H. LEE (1), D. W. Ko (2), S. H. Yoo (2), B. R. Hamaker (1). (1) Purdue University, West Lafayette, IN, U.S.A.; (2) Sejong University, Seoul, Korea
- 52-P. CFW 58:A57 WITHDRAWN**
- 53-P. CFW 58:A58**  
Prediction of nutritional quality of corn for broiler chickens. H. V. MASEY O'NEILL (1), A. Campasino (2), T. Wickersham (3), J. Lee (2). (1) A B Vista, Marlborough, United Kingdom; (2) Poultry Science Department Texas A&M AgriLife Research, College Station, TX, U.S.A.; (3) Animal Science Department Texas A&M AgriLife Research, College Station, TX, U.S.A.

## Dietary Fiber

*Scientific Initiatives:* Biotechnology & Sustainability, Chemistry & Interactions, Engineering & Processing, Health & Nutrition, Ingredients & Innovations, Quality & Analytical Methods

- 54-P. CFW 58:A34**  
Effect of molecular weight of sorghum tannins on resistant starch formation. F. Barros (1), J. AWIKA (1), L. W. Rooney (1). (1) Texas A&M University, College Station, TX, U.S.A.
- 55-P. CFW 58:A34**  
Role of condensed and hydrolysable tannins on resistant starch formation. F. Barros (1), J. AWIKA (1), L. W. Rooney (1). (1) Texas A&M University, College Station, TX, U.S.A.

- (1), E. Paula (1), C. J. Steel (1). (1) Universidade Estadual de Campinas, Campinas, Brazil
- 68-P. CFW 58:A38**  
Purification and characterization of xylooligosaccharides (XOS) from *Miscanthus x giganteus*. M. H. CHEN (1), K. Rajan (2), D. J. Carrier (2), B. S. Dien (3), K. D. Rausch (1), M. E. Tumbleson (1), V. Singh (1). (1) University of Illinois at Urbana-Champaign, Urbana-Champaign, IL, U.S.A.; (2) University of Arkansas, Fayetteville, AR, U.S.A.; (3) ARS/USDA, Peoria, IL, U.S.A.
- 69-P. CFW 58:A44**  
Effects of *in vitro* gastrointestinal digestion on the bio-accessibility of wheat bran nutrients and the solubility of fiber. S. Golom (1), H. SAPIRSTEIN (1), N. Ames (2). (1) University of Manitoba, Winnipeg, MB, Canada; (2) Agriculture & Agri-Food Canada, Winnipeg, MB, Canada
- 70-P. CFW 58:A65**  
A dietary fiber assay modification which improves fiber yield while reducing the cost and complexity of the analytical method. D. PLANK (1), L. Hirsch (2). (1) Medallion / General Mills, Inc., Minneapolis, MN, U.S.A.; (2) General Mills, Inc., Minneapolis, MN, U.S.A.
- 71-P. CFW 58:A76**  
Production of feruloylated arabinoxylan hydrolysates that promote sustained short chain fatty acid production during *in vitro* fecal fermentation. J. YANG (1), D. Rose (1). (1) University of Nebraska, Lincoln, NE, U.S.A.
- 72-P. CFW 58:A52**  
Arabinoxylan content and availability throughout the bread baking process. A. M. KISZONAS (1), P. Fuerst (2), C. F. Morris (1). (1) USDA-ARS, Pullman, WA, U.S.A.; (2) Washington State University, Pullman, WA, U.S.A.
- 73-P. CFW 58:A59**  
Development of novel oligosaccharide substrates for the measurement of polysaccharide degrading enzymes. B. MCCLEARY (1), D. Mangan (1), R. Daly (1), R. Ivory (1), E. Rooney (1). (1) Megazyme International Ireland Ltd., Bray, Ireland
- Dough Functionality and Baking**
- Scientific Initiative:* Chemistry & Interactions
- 74 P. CFW 58:A42 - PosterTalk**  
Effects of sorghum bran fortification on dough rheology, starch digestibility, and phenolic profile of wheat flour tortillas. K. L. DUNN (1), T. O. Jondiko (1), F. Barros (2), J. M. Awika (1). (1) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.; (2) Department of Soil & Crop Sciences, Texas A&M University, College Station, TX, U.S.A.
- Dough/Baking**
- Scientific Initiatives:* Biotechnology & Sustainability, Chemistry & Interactions, Engineering & Processing, Ingredients & Innovations, Quality & Analytical Methods
- 75-P. CFW 58:A39**  
Evaluation of native wheat lipid fractions on structure and physical properties of bread. S. CROPPER (1), H. Dogan (1), J. Faubion (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 76-P. CFW 58:A63**  
Functional properties of corn tortillas made from *Lupinus albus*. M. Olguin Pacheco (1), R. Cruz Villegas (1), P. Osorio Diaz (2), J. P. Hernandez Uribe (1), S. Soto Simental (1), N. GUEMES-VERA (3). (1) Universidad Autonoma del Estado de Hidalgo, Pachuca, Hidalgo, Mexico; (2) Centro de Productos Bioticos, Instituto Politecnico Nacional, Yautepec Morelos, Mexico; (3) Universidad Autonoma del Estado de Hidalgo, Tulancingo, Mexico
- 77-P. CFW 58:A73**  
Impact of flour heat treatment on solvent retention capacity profiles. B. VAN STEERTEGEM (1), B. Pareyt (1), K. Brijs (1), J. A. Delcour (1). (1) KU Leuven, Heverlee, Belgium
- 78-P. CFW 58:A51**  
Kinetics of gluten aggregation—An indicator of refrigerated dough quality. G. KAUR CHANDI (1), C. Baghdadi (2), S. Carriere (2), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada; (2) Les Moulins de Soulanges, Montreal, QC, Canada
- 79-P. CFW 58:A49**  
Changes in functionality in hard and soft wheat flour blends. C. Issarny (1), K. Seetharaman (2), J. E. BOCK (2). (1) AgroSup Dijon University, Dijon, France; (2) University of Guelph, Guelph, ON, Canada
- 80-P. CFW 58:A34**  
Predicting tenacity, extensibility and bread volume with the Mixolab. M. Berra (1), N. Boinot (1), A. Dubat (1), G. VERICEL (1). (1) CHOPIN Technologies, Villeneuve la Garenne, France
- 81-P. CFW 58:A61**  
Comparing the minimum level of transglutaminase on gluten, dough and baking properties. E. S. MURTINI (1), L. Subramanian (1), M. Payton (1), P. Rayas-Duarte (1). (1) Oklahoma State University, Stillwater, OK, U.S.A.
- 82-P. CFW 58:A61**  
Wheat-soy tempe flour: Preparation and potential as bread ingredient. E. S. MURTINI (1), M. Payton (1), P. Rayas-Duarte (1). (1) Oklahoma State University, Stillwater, OK, U.S.A.
- 83-P. CFW 58:A48 WITHDRAWN**
- 84-P. CFW 58:A39 WITHDRAWN**
- 85-P. CFW 58:A61**  
Effect of the addition of soy products on technological quality of cracker biscuits. E. H. Nabeshima (1), C. R. GOMES-RUFFI (1), I. D. Alvim (1), F. P. Collares-Queiroz (2). (1) Institute of Food Technology – ITAL, Campinas, Brazil; (2) University of Campinas – UNICAMP, Campinas, Brazil
- 86-P. CFW 58:A46**  
Effects of purified monoglycerides of varying fatty acid chain length on sponge and dough breadmaking quality. K. HATTORI (1), N. M. Edwards (2). (1) Yamazaki Baking, Tokyo, Japan; (2) Canadian Grain Commission, Winnipeg, MB, Canada
- 87-P. CFW 58:A33**  
Development and characterization of flour, masa and tortillas made with nixtamalized-acetylated corn. G. Arámbula-Villa (1), M. G. Figueroa-Rivera (1), J. D. FIGUEROA-CÁRDENAS (1), R. Castanedo-Pérez (1), J. J. Véles-Medina (1), M. Mendoza-Elos (2), F. Rodríguez González (3). (1) Centro de Investigación y de Estudios Avanzados del I.P.N. Unidad Querétaro, Querétaro, Mexico; (2) Instituto Tecnológico Roque, Guanajuato, Mexico; (3) Centro de Desarrollo de Productos Bioticos-Instituto Politécnico Nacional, Morelos, Mexico

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- 88-P. CFW 58:A60**  
Sucrose reduction in white layer cake. T. MOHAMMAD (1), R. Miller (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 89-P. CFW 58:A43**  
Physicochemical properties of Southern-style Chinese steamed bread enriched with calamondin pomace fiber. J. T. Fu (1), S. Y. SHIAU (1), R. C. Chang (1), Y. H. Chang (2). (1) Tajen University, Pingtung, Taiwan Republic of China; (2) Providence University, Taichung, Taiwan Republic of China
- 90-P. CFW 58:A39**  
Effect of high molecular weight glutenin subunits on flour rheological parameters and baking properties from different wheat genotypes. M. S. Costa (1), M. B. S. Shcolz (2), C. M. L. FRANCO (1). (1) Sao Paulo State University, Sao José do Rio Preto, Brazil; (2) Agronomic Institute of Paraná, Londrina, Brazil
- 91-P. CFW 58:A77**  
Quality performance of an excellent Chinese soft wheat cultivar and its derivative lines. P. Zhang (1), T. Liu (1), J. Yao (1), L. YANG (2), H. Ma (1), J. M. Awika (2). (1) Provincial Key Lab for Agrobiological Sciences, Jiangsu Academy of Agricultural Sciences, Nanjing, People's Republic of China; (2) Department of Soil and Crop Sciences, Texas A&M University, College Station, TX, U.S.A.
- 92-P. CFW 58:A47**  
Creep-recovery test on development dough and their relationship to rheological and breadmaking properties. Z. J. HERNÁNDEZ-ESTRADA (1), J. d. Figueroa Cárdenas (1), P. Rayas-Duarte (2), E. Morales Sánchez (3). (1) CINVESTAV Unidad Querétaro, Querétaro, Qro., Mexico; (2) Robert M. Kerr Food & Agricultural Products Center, Oklahoma State University, Stillwater, OK, U.S.A.; (3) CICATA Querétaro, Querétaro, Mexico
- 93-P. CFW 58:A33**  
Effect of kernel size and mill type on milling yield and end-use quality of hard red spring wheat. T. BAASANDORJ (1), F. A. Manthey (2), S. Simsek (2). (1) North Dakota State University Department of Plant Science, Fargo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.
- 94-P. CFW 58:A41**  
Dough rheological behavior: Fiber's impact. A. DUBAT (1), M. Berra (1), B. Chezeau (1), N. Boinot (1). (1) CHOPIN Technologies, Villeneuve la Garenne, France
- 95-P. CFW 58:A39**  
Selecting wheat varieties for tortilla production. O. E. DANN (1), R. Miller (1), M. Tilley (2), J. D. Wilson (2). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) USDA/ARS/CGAHR, Manhattan, KS, U.S.A.
- 97-P. CFW 58:A32**  
Physicochemical characteristics of fermented doughs with isolated *Lactobacillus* of pulque for bread elaboration. M. G. Alvarado Resendiz (1), L. Victoriano Gonzalez (2), A. Quintero Lira (2), J. Piloni Martini (2), S. Soto Simental (2), N. GUEMES VERA (1). (1) Universidad Autonoma del Estado de Hidalgo, Tulancingo, Hidalgo, Mexico; (2) Universidad Autonoma del Estado de Hidalgo, Pachuca, Hidalgo, Mexico
- 98-P. CFW 58:A73**  
Accessible protein body-free sorghum kafirin show better functionality than kafirin in normal sorghum. Y. E. TUNCIL (1), M. Fevzioglu (1), O. H. Campanella (1), B. R. Hamaker (1). (1) Purdue University, West Lafayette, IN, U.S.A.
- 99-P. CFW 58:A51 - PosterTalk**  
Thermo-mechanical properties of gluten fractions in composite dough models. M. KHAMIS (1), K. Honey (1), H. Dogan (1), S. Bean (2). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) USDA-ARS-CGAHR, Manhattan, KS, U.S.A.
- 100-P. CFW 58:A37 - PosterTalk, WITHDRAWN**
- 101-P. CFW 58:A73 - PosterTalk**  
Impact of jet milling on physical properties of wheat flour doughs. D. VOURIS (1), A. Lazaridou (1), C. G. Biliaderis (1). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 102-P. CFW 58:A58 - PosterTalk**  
Durum wheat semolina characterization by means of a rapid shear-based method. A. MARTI (1), M. G. D'Egidio (2), J. Dreisoerner (3), M. A. Pagani (4). (1) Univ. Degli Studi Di Milano, Milano, Italy; (2) Consiglio per la ricerca e la sperimentazione in agricoltura, Rome, Italy; (3) Brabender GmbH&CoKG, Duisburg, Germany; (4) DeFENS, Milan, Italy
- 103-P. CFW 58:A35 - PosterTalk**  
Sulphur management strategies for improved field performance and flour functionality in Ontario soft wheats. J. E. BOCK (1), P. Johnson (2), K. Janovicek (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada; (2) OMAF & MRA, Stratford, ON, Canada
- 104-P. CFW 58:A37 - PosterTalk**  
Effects of enzyme treatment and processing on the status of phenolics in bread and cereal containing wheat aleurone. J. CASPER (1), D. Gaspard (2), C. Rieschl (3). (1) Cargill Horizon Milling, Plymouth, MN, U.S.A.; (2) Cargill Global Food Research, Navarre, MN, U.S.A.; (3) Cargill, Plymouth, MN, U.S.A.
- 105-P. CFW 58:A45 - PosterTalk**  
Effect of barley  $\beta$ -glucan on rheological properties of yeasted frozen dough. A. M. HAMED (1), S. Ragaee (1), E. S. Abdel-Aal (2), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada; (2) Guelph Food Research Centre, Agriculture and Agri-Food Canada, Guelph, ON, Canada
- 106-P. CFW 58:A49 - PosterTalk, WITHDRAWN**
- 107-P. CFW 58:A42 WITHDRAWN**
- 108-P. CFW 58:A78**  
Improvement on physicochemical properties of sprouted wheat with microwave radiation. R. ZHAO (1). (1) Henan University of Technology, Zhengzhou, People's Republic of China

## Flour Gluten and Baking

*Scientific Initiatives: Biotechnology & Sustainability, Chemistry & Interactions, Engineering & Processing, Ingredients & Innovations*

- 96 P. CFW 58:A58 - PosterTalk**  
Influence of temperature and precipitation on protein composition of hard red spring wheat and their impact on sponge and dough baking performance. T. Marume (1), N. M. Edwards (2), K. NAKAMURA (1). (1) Nisshin Flour Milling Inc., Tokyo, Japan; (2) Canadian Grain Commission, Winnipeg, MB, Canada

- 109-P. CFW 58:A35**  
Biopolymer interactions, water dynamics and bread crumb firming. G. M. BOSMANS (1), B. Lagrain (1), E. Fierens (1), J. A. Delcour (1). (1) KU Leuven, Heverlee, Belgium
- 110-P. CFW 58:A51**  
Evaluation of indirect heat treatment method of whole wheat grain and whole wheat flour to improve functionality, shelf life and safety. M. KHAMIS (1), H. Dogan (1). (1) Kansas State University, Manhattan, KS, U.S.A.
- 111-P. CFW 58:A52**  
The characteristics of commercial wheat flour made of Korean wheat compared to those made of imported wheat in Korea. S. S. KIM (1), O.-w. Kim (1), D. C. Kim (1), S. E. Lee (1), H. Kim (1), D. J. Park (1). (1) Korea Food Research Institute, Seongnam-si, South Korea

## Food Safety

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

- 112-P. CFW 58:A53**  
Mechanical, microstructural, and antimicrobial properties of nanoenhancer-reinforced corn zein protein film. B. LAMSAL (1), D. Kadam (1), C. Yu (1). (1) Iowa State University, Ames, IA, U.S.A.
- 113-P. CFW 58:A55**  
Effect of molecular size of polysaccharide gums on water vapor permeation and moisture uptake of films. J. H. LIN (1), W. T. Kao (2), C. Y. Lin (2), Y. H. Chang (2). (1) MingDao University, ChangHua, Taiwan; (2) Providence University, Taichung, Taiwan
- 114-P. CFW 58:A35**  
Microbial load reduction of wheat milled products through pre-milling interventions and milling. A. BIANCHINI (1), L. Sabillon Galeas (1), J. Stratton (1), D. Rose (1), R. Flores (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.
- 115-P. CFW 58:A31**  
Antioxidant properties of cumin, black cumin and buckwheat extracts and their acrylamide inhibition abilities in an asparagine-glucose model system. M. ABDEL-SAMIE (1), W. Huang (1). (1) Jiangnan University, Wuxi, Jiangsu, People's Republic of China
- 116-P. CFW 58:A50**  
Quality characteristics of aseptic-packaged cooked rice products made using rice cultivars bred for processing cooked rice. K. JUNG (1), H. S. Kwak (1), H. Y. Jeong (1), Y. Kang (1), T. Kim (1). (1) CJ Cheiljedang Foods R&D Center, Seoul, South Korea
- 117-P. CFW 58:A64 WITHDRAWN**
- 118-P. CFW 58:A65**  
A novel cleanup method and stable <sup>13</sup>C-labeled internal standards to improve accuracy and sensitivity of mycotoxin LC-MS/MS methods. M. PRINSTER (1), A. Schiessl (2), C. Brewe (1), D. Houchins (1). (1) Romer Labs, Inc., Union, MO, U.S.A.; (2) Romer Labs Division Holding GmbH, Tulln, Austria
- 119-P. CFW 58:A47 WITHDRAWN**
- 120-P. CFW 58:A37 WITHDRAWN**

## General

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

- 121-P. CFW 58:A56**  
Inhibition of lipid oxidation by formation of caseinate-oil-oat gum complexes. S. LIU (1), M. Singh (2), H. S. Hwang (2). (1) USDA ARS NCAUR, Peoria, IL, U.S.A.; (2) USDA ARS, Peoria, IL, U.S.A.
- 122-P. CFW 58:A72**  
Acceptability of whole-grain pizza crust among children in a restaurant setting. A. TRITT (1), L. Marquart (1), M. Reicks (1). (1) University of Minnesota, Minneapolis, MN, U.S.A.
- 123-P. CFW 58:A56**  
Market surveys for dried Chinese noodle in Beijing: Market condition and trend. R. Liu (1), Y.-m. Wei (1), Y.-q. ZHANG (1), B. Zhang (1), Y.-n. Xing (1). (1) Institute of Agro-Food Processing Science and Technology, CAAS, Beijing, People's Republic of China

## Gluten Free

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

- 124-P. CFW 58:A46**  
Effects of germination on milling and physicochemical properties of long-grain and medium-grain rice. A. HAN (1), Y. J. Wang (1). (1) University of Arkansas Food Science Department, Fayetteville, AR, U.S.A.
- 125-P. CFW 58:A60**  
Investigation of retrogradation in long grain brown rice using multi cell differential scanning calorimeter (MCDSC). I. Mukherjee (1), B. Lin (1), G. Noll (1), V. VEMULAPALLI (1). (1) Mondelez International, East Hanover, NJ, U.S.A.
- 126-P. CFW 58:A48**  
Effects of storage temperature on physicochemical properties of dry- and wet-milled high amylose rice flours. Y. C. HUANG (1), H. M. Lai (1). (1) National Taiwan University, Taipei, Taiwan
- 127-P. CFW 58:A64**  
Parboiling properties of pureline and hybrid rice cultivars. J. PATINDOL (1), J. Li (1), S. Cherry (1), Y. J. Wang (1), T. Siebenmorgen (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.
- 128-P. CFW 58:A36**  
Properties of extruded chia-corn meal puffs. J. A. BYARS (1), M. Singh (1), G. E. Inglett (1), S. X. Liu (1). (1) USDA ARS, Peoria, IL, U.S.A.
- 129-P. CFW 58:A46 WITHDRAWN**
- 130-P. CFW 58:A46 WITHDRAWN**
- 131-P. CFW 58:A37**  
Tempering affects seed coat removal and particle size reduction of black beans. C. E. CARTER (1), F. A. Manthey. (1) (1) North Dakota State University, Fargo, ND, U.S.A.
- 132-P. CFW 58:A36**  
Can high hydrostatic pressures modify the technological properties of gluten-free raw materials? C. CAPPÀ (1), M. Lucisano (1), G. V. Barbosa-Cánovas (2), M. Mariotti (1). (1) Department of Food, Environmental and Nutritional Sciences (DeFENS) – Università degli Studi di Milano, Milan, Italy; (2) Center for Nonthermal

*continued*

- Processing of Food – Washington State University, Pullman, WA, U.S.A.
- 133-P. CFW 58:A35**  
Lipid content and fatty acid profile of whole and delectated millets. P. BORA (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada
- 134-P. CFW 58:A58**  
The way from a wheat- to a gluten free-sourdough up to gluten free breads. M. Mariotti (1), C. CAPPÀ (1), C. Picozzi (1), B. Tedesco (1), L. Fongaro (1), A. Moles (1), A. Moretti (1), I. Vigentini (1), R. Foschino (1), M. Lucisano (1). (1) Department of Food, Environmental and Nutritional Sciences (DeFENS) – Università degli Studi di Milano, Milan, Italy
- 135-P. CFW 58:A69**  
Development of gluten-free bread baked with banana flour. M. SEGUCHI (1). (1) Kobe Women's University, Kobe, Japan
- 136-P. CFW 58:A59 WITHDRAWN**
- 137-P. CFW 58:A70**  
Effect of amaranth and provitamin A-biofortified maize on the physical quality and antioxidant activity of a maize extruded snack. M. Siwela (1), D. BESWA (2), E. O. Amonsou (3), N. R. Dlamini (4), J. Derera (1). (1) University of KwaZulu-Natal, Pietermaritzburg, Republic of South Africa; (2) University of Venda, Thohoyandou, Republic of South Africa; (3) Durban University of Technology, Durban, Republic of South Africa; (4) CSIR, Pretoria, Republic of South Africa
- 138-P. CFW 58:A51**  
Development of gluten-free bakery premixes. N. KAZENNOVA (1), D. Schneider (1), A. Moiseeva (1), O. Kulakov (1), E. Kostaleva (1). (1) Moscow State University, Department of Technology & Management, Moscow, Russia
- 139-P. CFW 58:A58**  
The effect of pH and protease on particle size breakdown of corn. H. V. MASEY O'NEILL (1), M. C. Poole (2), S. P. Penson (2), H. Metcalfe (2), M. Bedford (1). (1) AB Vista Feed Ingredients, Marlborough, United Kingdom; (2) Campden BRI, Chipping Campden, United Kingdom
- 140-P. CFW 58:A74**  
Exploring unconventional applications of entire quinoa plants (seeds, leaves and stalks) for food products. S. Wang (1), F. Zhu (1), E. BERTOFT (1), M. Marcone (1), I. Szucs (2), J. Draves (2). (1) Food Science University of Guelph, Guelph, ON, Canada; (2) Katan Kitchens, Georgetown, ON, Canada
- 141-P. CFW 58:A46**  
Effect of milling methods on the quality of crackers made with red lentil (*Lens culinaris* L.) flour. J. HAN (1), H. Maskus (2), L. Bourré (2), L. Malcolmson (2). (1) Food Processing Development Centre, Government of Alberta, Leduc, AB, Canada; (2) Canadian International Grains Institute, Winnipeg, MB, Canada
- 142-P. CFW 58:A74**  
Properties of pea and lentil starch noodles prepared by high temperature extrusion. N. WANG (1), T. Warkentin (2), A. Vandenberg (2), D. J. Bing (3). (1) Canadian Grain Commission, Grain Research Laboratory, Winnipeg, MB, Canada; (2) Crop Development Centre, University of Saskatchewan, Saskatoon, SK, Canada; (3) Agriculture & Agri-Food Canada, Lacombe, AB, Canada
- 143-P. CFW 58:A36**  
Influence of milling method on the properties of pita bread made from whole and split yellow pea flours. L. BOURRE (1), H. D. Maskus (1), Y. Borsuk (1), L. Malcolmson (1). (1) Canadian International Grains Institute, Winnipeg, MB, Canada
- 144-P. CFW 58:A67**  
Effect of water management treatments on rice characteristics and cooking behavior. M. Romani (1), S. Feccia (1), A. Marti (2), L. Azzini (2), M. A. Pagani (2), M. Mariotti (2), M. LUCISANO (2). (1) Ente Nazionale Risi, Pavia, Italy; (2) DeFENS, Milan, Italy
- 145-P. CFW 58:A73**  
Water absorption kinetics and properties of Mexican blue corn genotypes as affected by physical and compositional characteristics. P. M. URIARTE-ACEVES (1), P. Sánchez-Peña (1), C. Reyes-Moreno (1), J. Milán-Carrillo (1). (1) Universidad Autónoma de Sinaloa, Culiacán, Mexico
- 146-P. CFW 58:A41**  
Rheological properties of gluten-free flour. A. DUBAT (1), L. Simar (1), N. Boinot (1), G. Vericel (1). (1) CHOPIN Technologies, Villeneuve la Garenne, France
- 147-P. CFW 58:A70 - PosterTalk**  
Elaboration of gluten-free nixtamalized cookies with high protein quality and low sugar. D. SUÁREZ-TRUJILLO (1), C. Domínguez-García (1), S. O. Serna-Saldivar (1), E. Pérez-Carrillo (1), S. Guajardo-Flores (1). (1) Tec de Monterrey, Monterrey, Mexico
- 148-P. CFW 58:A59 - PosterTalk**  
Characterization of a proposed hydrolyzed prolamin digest standard for barley-based and gluten-free beers. S. C. MCGRATH (1), G. M. Sharma (2), P. V. Rallabhandi (2), K. M. Williams (2), J. H. Callahan (1), M. M. Ross (1). (1) FDA, College Park, MD, U.S.A.; (2) FDA, Laurel, MD, U.S.A.
- 149-P. CFW 58:A68 - PosterTalk**  
Simultaneous screening of multiple plant-based allergens and gluten using liquid chromatography-mass spectrometry. J. SEALEY-VOYKSNER (1), R. Voyksner (1), J. Zweigenbaum (2). (1) LCMS Limited, Durham, NC, U.S.A.; (2) Agilent Technologies, Wilmington, DE, U.S.A.
- 150-P. CFW 58:A57 - PosterTalk, WITHDRAWN**
- 151-P. CFW 58:A61 - PosterTalk**  
A submerged chickpea fermentation extract used as leavening agent for improving quality of gluten-free breads. A. MYGDALIA (1), A. Lazaridou (1), C. G. Biliaderis (1). (1) Department of Food Science and Technology, School of Agriculture, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 152-P. CFW 58:A49 - PosterTalk**  
Application of response surface methodology (RSM) in the development of gluten-free bread with yellow pea flour addition. T. JERADECHACHAI (1), C. Hall (2). (1) Northern Crops Institute, Fargo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.
- 153-P. CFW 58:A72 - PosterTalk**  
Use of native functional and modified starches/flours in gluten free bakery product development. C. Thomas (1), S. Bender (1), D. UZUNALIOGLU (1), E. Shinsato (1), P. O'Brien (1). (1) Ingredient Inc., Bridgewater, NJ, U.S.A.
- 154-P. CFW 58:A78 - PosterTalk**  
Effects of manufacturing factors and rice flour properties

- on the physicochemical characteristics of pure rice pasta. M. Y. SU (1), M. F. Chen (1), S. Lu (1). (1) China Grain Products R&D Institute, Taipei, Taiwan
- 155-P. CFW 58:A66 - PosterTalk**  
Standardization and evaluation of instant food mixes from small millets. M. RAVINDRAN (1), S. Lakshmanan (1). (1) Tamil Nadu Agricultural University, Coimbatore, India
- 156-P. CFW 58:A42 - PosterTalk**  
Characterization of grain-specific peptide markers for the detection of gluten in food by mass spectrometry. K. L. FIEDLER (1), M. M. Ross (1), J. H. Callahan (1), S. C. McGrath (1). (1) Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration, College Park, MD, U.S.A.
- 157-P. CFW 58:A45 - PosterTalk**  
Analysis of oat varieties for gluten content using G12 monoclonal antibody based test kits. E. Halbmayr-Jech (1), A. Rogers (2), L. Frank (1), E. WELKER (3), M. Prinster (3). (1) Romer Labs Division Holding GmbH, Tulln, Austria; (2) Romer Labs UK Ltd., Runcorn, United Kingdom; (3) Romer Labs Inc., Union, MO, U.S.A.
- 158-P. CFW 58:A62**  
Optimization of machine parameters of centrifugal de-huller for de-hulling of small millets. V. NACHIMUTHU (1), G. Sundaraj (1). (1) Tamil Nadu Agricultural University, Coimbatore, India
- 159-P. CFW 58:A72**  
Effect of sodium sulfite on pasting and textural properties of aged rice. T. Thanompokkrung (1), S. TONGTA (1), J. Yongsawatdigul (1). (1) Suranaree University of Technology, Nakhon Ratchasima, Thailand

## Health

*Scientific Initiative:* Health & Nutrition

- 160-P. CFW 58:A71**  
Absorption of sorghum polyphenolics using an *in-vitro* Caco-2 cell model. V. M. TALEON (1), J. M. Awika (1), S. U. Mertens-Talcott (1), L. W. Rooney (1). (1) Texas A&M University, College Station, TX, U.S.A.
- 161-P. CFW 58:A60**  
*In vitro* fermentation of wholegrain sorghum flours using human fecal microbiota. N. L. Mkandawire (1), S. A. Frese (1), C. Muller (1), J. Walter (1), C. L. Weller (1), D. Jackson (1), D. ROSE (1). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.
- 162-P. CFW 58:A54**  
Phytochemical composition and anticancer activity of germinated wheat. C. W. Lee (1), K. Cho (2), J. B. OHM (3). (1) Department of Plant Science, North Dakota University, Fargo, ND, U.S.A.; (2) Department of Animal Science, NDSU, Fargo, ND, U.S.A.; (3) USDA ARS RRVARC NCSL, Fargo, ND, U.S.A.
- 164-P. CFW 58:A68**  
Alpha-amylase content of germinated proso millet and its effect on starch and free sugars. A. SARKER (1), L. Duizer (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada
- 165-P. CFW 58:A60**  
Physical, chemical, and sensory evaluation of extruded wholegrain sorghum breakfast cereals. N. Mkandawire (1), S. Weier (1), C. Weller (1), D. Jackson (1), D. ROSE (1). (1) University of Nebraska, Lincoln, NE, U.S.A.
- 166-P. CFW 58:A63 WITHDRAWN**
- 167-P. CFW 58:A43 WITHDRAWN**
- 168-P. CFW 58:A31**  
Improving the quality attributes of micronutrient fortified extruded rice. A. A. Adedeji (1), M. Frey (2), S. ALAVI (1). (1) Kansas State University, Manhattan, KS, U.S.A.; (2) Partnership for Appropriate Technology in Health (PATH), Seattle, WA, U.S.A.
- 169-P. CFW 58:A66**  
Standardization and evaluation of physico-chemical characteristics of small millets incorporated breads. M. RAVINDRAN (1), K. Seetharaman (2), K. Packiyam (1). (1) Tamil Nadu Agricultural University, Coimbatore, India; (2) University of Guelph, Guelph, ON, Canada
- 170-P. CFW 58:A44**  
Change in health ingredients of whole Tibetan hull-less barley after steam explosion and simulated digestion *in vitro*. L. GONG (1), J. Huang (1), H. Yangcheng (2), J. Jane (2), Y. Zhang (1). (1) Department of Food Science and Nutrition, Zhejiang University, Hangzhou, People's Republic of China; (2) Department of Food Science and Human Nutrition, Iowa State University, Ames, IA, U.S.A.
- 171-P. CFW 58:A69**  
Sorghum: An overview of the factors affecting the possible introduction into the human food supply in Australia. T. G. SIMNADIS (1), L. C. Tapsell (1), E. J. Beck (1). (1) Smart Foods Centre, School of Health Sciences, University of Wollongong, Wollongong, Australia
- 172-P. CFW 58:A56**  
Fractionation of barley into value-added ingredients enriched with protein, beta-glucan or starch. K. LIU (1). (1) USDA ARS, Aberdeen, ID, U.S.A.

## Noodles and Pasta

*Scientific Initiatives:* Biotechnology & Sustainability, Engineering & Processing, Ingredients & Innovations, Quality & Analytical Methods

## Non-Wheat Cereals and Applications

*Scientific Initiatives:* Biotechnology & Sustainability, Chemistry & Interactions, Engineering & Processing, Health & Nutrition, Ingredients & Innovations

- 163-P. CFW 58:A52**  
Generation of malt with high peptidase activity for the production of gluten-free beer. V. KNORR (1), H. Wieser (1), P. Koehler (1). (1) German Research Centre for Food Chemistry, Freising, Germany
- 173-P. CFW 58:A40**  
Effect of durum cultivar and mill configuration on the textural and cooking quality of whole-wheat pasta. L. DENG (1), F. A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 174-P. CFW 58:A74**  
Improving nutritional value of instant noodles using Great Northern bean. H. WANG (1), W. S. Ratnayake (1), E. Chiang (2). (1) University of Nebraska-Lincoln, Lincoln, NE, U.S.A.; (2) Brookfield Engineering Laboratories, Inc., Middleboro, MA, U.S.A.
- 175-P. CFW 58:A48 WITHDRAWN**

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- 176-P. CFW 58:A63**  
Determination of the ratio of two wheat flours in noodle flour by analyzing protein composition with high performance liquid chromatography (HPLC). H. OKUSU (1). (1) Nippon Flour Mills Co. Ltd., Kanagawa, Japan
- 177-P. CFW 58:A56**  
Factors that affect CIELAB and Hunter *Lab* color scales. Y. LIU (1), C. E. Carter (1), F. A. Manthey (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 178-P. CFW 58:A66**  
Effect of packaging and storage on quality attributes of quick-frozen dumpling skin. X. REN (1), Q. Shen (1). (1) China Agricultural University, Beijing, People's Republic of China
- 179-P. CFW 58:A42**  
Effects of pre-milling treatments of yellow peas on spaghetti quality. P. FROHLICH (1), G. Boux (1), L. Malcolmson (1), J. Boye (2). (1) Canadian International Grains Inst., Winnipeg, MB, Canada; (2) Agriculture and Agri-Food Canada, St. Hyacinthe, QC, Canada
- 180-P. CFW 58:A67**  
Investigation of the effect of barley  $\beta$ -glucan on the mechanical properties of Asian noodles using an ultrasonic technique. A. SALIMI KHORSHIDI (1), A. L. Strybulevych (1), D. Daugelaite (2), M. G. Scanlon (1), J. H. Page (1), D. W. Hatcher (2). (1) University of Manitoba, Winnipeg, MB, Canada; (2) Canadian Grain Commission, Winnipeg, MB, Canada
- 181-P. CFW 58:A77**  
The effect of modified buckwheat flour on viscosity properties of wheat flour and sensory qualities of noodle. Y.-q. ZHANG (1), Y.-m. Wei (1), B. Zhang (1), Y.-c. Wei (2). (1) Institute of Agro-Products Processing Science and Technology, CAAS, Beijing, People's Republic of China; (2) Hebei Jinshahe Flour Manufacturing Co., Ltd., Xingtai, People's Republic of China
- 182-P. CFW 58:A62**  
Effects of particle size distribution and substitution ratio of whole-wheat flour on the quality of Chinese raw noodles. M. NIU (1), G. Hou (1), Z. Chen (2). (1) Wheat Marketing Center, Portland, OR, U.S.A.; (2) Jiangnan University, Wuxi, People's Republic of China
- 186-P. CFW 58:A32**  
Characterization of starch isolated from bamboo-rice kernels and bamboo seeds. Y. AI (1), M. Reed (1), L. Gong (2), J. Huang (2), Y. Zhang (2), J.-l. Jane (1). (1) Iowa State University, Ames, IA, U.S.A.; (2) Zhejiang University, Hangzhou, People's Republic of China
- 187-P. CFW 58:A71**  
Effects of octenylsuccination on  $\beta$ -amylolysis of granular and pre-gelatinized starches. M. S. Sweedman (1), J. HASJIM (1), M. J. Tizzotti (1), C. Schäfer (2), R. G. Gilbert (1). (1) The University of Queensland, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia; (2) DSM Nutritional Products Ltd., R&D Center Formulation & Application, Basel, Switzerland
- 188-P. CFW 58:A67**  
Size reduction of starch granules for use in Pickering emulsions. H. Saari (1), K. Heravifar (1), M. Rayner (1), M. SJOO (1). (1) Lund University, Lund, Sweden
- 189-P. CFW 58:A68 WITHDRAWN**
- 190-P. CFW 58:A33**  
Formation of soluble amylose-stearic acid complex using chemical and enzymatic modifications. E. O. ARIJAJE (1), Y. J. Wang (1). (1) University of Arkansas, Fayetteville, AR, U.S.A.
- 191-P. CFW 58:A65**  
Characterization of starches with various levels of amylose by Mixolab. R. R. Ravi (1), P. K. Ng (1), G. VERICEL (2). (1) Department of Food Science and Human Nutrition, Michigan State University, East Lansing, MI, U.S.A.; (2) CHOPIN Technologies, Villeneuve-la-Garenne, France
- 192-P. CFW 58:A77**  
Stability of acetylated potato and tapioca starches during storage. J. H. YU (1), H. M. Lai (1). (1) National Taiwan University, Taipei, Taiwan
- 193-P. CFW 58:A43**  
Characterization of the inclusion complexes using maize starches with different amylose contents and glycerol monooleate. M. C. Garcia (1), C. M. L. FRANCO (1). (1) Sao Paulo State University, Sao José do Rio Preto, Brazil
- 194-P. CFW 58:A62**  
Characterization of fermented wheat starch used for the Japanese traditional food "Kuzu-mochi". H. NOGUCHI (1), M. Uchino (1), K. Takano (1). (1) Tokyo University of Agriculture, Tokyo, Japan
- 195-P. CFW 58:A55**  
Effect of acid-ethanol pretreatment on the application of octenyl succinic anhydride modified corn starches in mayonnaise. J. H. Lin (1), W. T. Kao (2), S. Y. Chen (2), Y. H. CHANG (3). (1) Department of Hospitality Management, MingDao University, Changhua, Taiwan; (2) Department of Food and Nutrition, Providence University, Taichung, Taiwan; (3) Providence University, Taichung, Taiwan
- 196-P. CFW 58:A69**  
Starch characteristics of bean extrudates. M. SINGH (1), N. Sutivisedsak (2), A. Biswas (1), S. X. Liu (1). (1) USDA-ARS-NCAUR, Peoria, IL, U.S.A.; (2) Peoria, IL, U.S.A.
- 197-P. CFW 58:A75**  
Analysis of hard spring wheat flours using the micro-viscoamylograph. K. WHITNEY (1), S. Simsek (1). (1) North Dakota State University, Fargo, ND, U.S.A.

## Production and Analyses of Gluten Free Foods

*Scientific Initiative:* Ingredients & Innovations

- 183-P. CFW 58:A47 - PosterTalk, WITHDRAWN**

## Starch and Functionality

*Scientific Initiatives:* Biotechnology & Sustainability, Chemistry & Interactions, Engineering & Processing, Health & Nutrition, Ingredients & Innovations, Quality & Analytical Methods

- 184-P. CFW 58:A73**  
Impact of molecular structure of amylopectin on annealing. V. VAMADEVAN (1), E. Bertoft (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada.
- 185-P. CFW 58:A44**  
Molecular and thermal characteristics of starches from African rice (*Oryza glaberrima*) varieties. J. K. GAYIN (1), J. Manful (2), E. Bertoft (1), K. Seetharaman (1). (1) University of Guelph, Guelph, ON, Canada; (2) Africa Rice Center, Cotonou, Benin

- 198-P. CFW 58:A75**  
Analysis of octenyl succinate starches from various botanical sources using the micro-viscoamylograph. K. WHITNEY (1), M. Ovando-Martinez (1), S. Simsek (1). (1) North Dakota State University, Fargo, ND, U.S.A.
- 199-P. CFW 58:A41 - PosterTalk**  
Starch granule amylolysis—Differentiating effects of particle size and crystalline polymorph. S. DHITAL (1), V. M. Butardo (2), M. J. Gidley (1). (1) Centre for Nutrition and Food Sciences, ARC Centre of Excellence in Plant Cell Walls, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, Brisbane, Australia; (2) Commonwealth Scientific and Industrial Research Organisation (CSIRO), Canberra, Australia
- 200-P. CFW 58:A72 - PosterTalk**  
Comparative analysis of starch biosynthesis in *Brachypodium distachyon* and *Hordeum vulgare*. V. Tanackovic (1), J. T. Svensson (1), A. Buléon (2), M. A. Glaring (1), S. L. Jensen (1), M. Carciofi (1), A. BLENNOW (1). (1) University of Copenhagen, Frederiksberg C, Denmark; (2) UR 1268 Biopolymères Interaction Assemblages (BIA), INRA, Nantes, France
- 201-P. CFW 58:A71 - PosterTalk, WITHDRAWN**
- 202-P. CFW 58:A37 - PosterTalk**  
Gelatinisation properties of 12 varieties of grains. J. CHEN (1), Q. Shen (1). (1) China Agricultural University, Beijing, People's Republic of China
- 203-P. CFW 58:A68 - PosterTalk**  
Ozone gas affects the physical and chemical properties of wheat (*Triticum aestivum* L.) starch. H. SANDHU (1), F. A. Manthey (2), S. Simsek (2), J. B. Ohm (3). (1) North Dakota State University, Buffalo, ND, U.S.A.; (2) North Dakota State University, Fargo, ND, U.S.A.; (3) Cereal Crops Research (USDA), Fargo, ND, U.S.A.
- 204-P. CFW 58:A77 - PosterTalk**  
Why are starch granule ghosts not hydrolysed completely? Molecular and microscopic insights into amylase digestion. B. ZHANG (1), S. Dhital (1), M. J. Gidley (1). (1) Centre for Nutrition and Food Sciences, The University of Queensland, Brisbane, Australia
- 205-P. CFW 58:A31 - PosterTalk**  
Potato-based resistant starch of RS4 type. I. ABBAS (1), J. Stephens (1). (1) Penford Food Ingredients, Centennial, CO, U.S.A.
- 206-P. CFW 58:A52 - PosterTalk, WITHDRAWN**
- 207-P. CFW 58:A36 -- PosterTalk, WITHDRAWN**
- 208-P. CFW 58:A33 - PosterTalk**  
Fine structure and physicochemical properties of waxy wheat starch in comparison with other commercial waxy starches. E. O. ARIJAJE (1), J. R. Jinn (1), J. Patindol (1), Y. J. Wang (1), C. Maningat (2), M. Lasater (2). (1) University of Arkansas, Fayetteville, AR, U.S.A.; (2) MGP Ingredients, Atchinson, KS, U.S.A.
- 209-P. CFW 58:A48 - PosterTalk**  
Characterization of swollen cornstarch granules complexed with lauric acid by using different methods. Q. Huang (1), F. CHANG (1), X. He (1). (1) South China University of Technology, Guangzhou, People's Republic of China
- 210-P. CFW 58:A65 - PosterTalk**  
The comparison of leaf and grain phytoglycogen structure and liver glycogen structure by SEC and TEM. P. O. POWELL (1), M. A. Sullivan (1), D. I. Stapleton (2), J. Hasjim (1), R. G. Gilbert (1). (1) University of Queensland, Brisbane, QLD, Australia; (2) University of Melbourne, Melbourne, Australia
- 211-P. CFW 58:A74- PosterTalk**  
Variations in amylose fine structure of starches from different species. K. WANG (1), J. Hasjim (1), A. C. Wu (1), R. J. Henry (1), R. G. Gilbert (1). (1) University of Queensland, Brisbane, QLD, Australia
- 212-P. CFW 58:A55**  
Improving the nutritional property of starch by targeted mutagenesis on starch branching enzymes. C. LI (1), A. C. Wu (1), R. G. Gilbert (1). (1) University of Queensland, Brisbane, QLD, Australia
- 213-P. CFW 58:A76**  
Characterization of Tibetan hull-less barley starches for potential food applications. H. YANGCHENG (1), L. Gong (2), Y. Zhang (2), J.-l. Jane (1). (1) Iowa State University, Ames, IA, U.S.A.; (2) Zhejiang University, Hangzhou, People's Republic of China
- 214-P. CFW 58:A42**  
Properties of amylose complexes with hexadecyl amine and its hydrochloride salt prepared by steam jet cooking. F. C. FELKER (1), G. F. Fanta (1), J. A. Kenar (1). (1) USDA/ARS/NCAUR, Peoria, IL, U.S.A.
- 215-P. CFW 58:A69**  
Different polyphenols have different affinities for maltase of total human intestinal homogenate, inhibiting glucose release. M. SIMSEK (1), R. Quezada-Calvillo (2), 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) Facultad de Ciencias Químicas, Universidad Autónoma de San Luis Potosí, San Luis Potosí, Mexico; (3) Pediatrics-Nutrition, Baylor College of Medicine, Houston, TX, U.S.A.
- 216-P. CFW 58:A38**  
The role of barley starch structure in the process of brewing. S. CHU (1), J. Hasjim (2), G. P. Fox (2), C. Bamforth (3), R. G. Gilbert (2). (1) University of Queensland, Brisbane, Australia; (2) University of Queensland, Centre for Nutrition and Food Sciences, Queensland Alliance for Agriculture and Food Innovation, Brisbane, Australia; (3) Department of Food Science and Technology, University of California–Davis, Davis, CA, U.S.A.
- 217-P. CFW 58:A41**  
Starch granule amylolysis in the presence of soluble fibres. S. DHITAL (1), G. Donal (2), M. J. Gidley (1). (1) Centre for Nutrition and Food Sciences, ARC Centre of Excellence in Plant Cell Walls, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, Brisbane, Australia; (2) School of Chemical Engineering, ARC Centre of Excellence in Plant Cell Walls, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, Brisbane, Australia
- 218-P. CFW 58:A32**  
Assessment of the influence of amylose-LPC complexation on the extent of wheat starch digestibility by size-exclusion chromatography. S. AHMADI-ABHARI (1), A. Woortman (1), R. Hamer (2), K. Loos (1). (1) University of Groningen, Groningen, Netherlands; (2) Wageningen University, Wageningen, Netherlands

continued

- 219-P. CFW 58:A70**  
Starch for encapsulation and structured emulsions—Stability, structure, and functionality. M. E. SJOO (1), M. Rayner (1), P. Dejmek (1). (1) Lund University, Lund, Sweden
- 220-P. CFW 58:A75**  
The relationship between amylopectin molecular structure and the crystalline and crystalline-amorphous lamellae it produces. T. WITT (1), J. Douth (2), E. P. Gilbert (2), R. G. Gilbert (1). (1) University of Queensland, Brisbane, Australia; (2) Bragg Institute, Australian Nuclear Science and Technology Organisation, Kirrawee DC, Australia

### Update on Research on Starch

*Scientific Initiative:* Quality & Analytical Methods

- 221-P. CFW 58:A72 – PosterTalk, WITHDRAWN**

### Whole Grains

*Scientific Initiatives:* Chemistry & Interactions, Engineering & Processing, Health & Nutrition, Ingredients & Innovations

- 222-P. CFW 58:A53**  
Ancient grains: Use as wholegrain flour in bread dough and starch properties. P. Kumar Kollipara (1), G. Zoccarato (1), M. E. SJOO (1). (1) Lund University, Lund, Sweden
- 223-P. CFW 58:A64**  
Effects of physical and enzymatic treatments of bran on functional and nutritional properties of whole wheat flour. E. Y. PARK (1), E. P. Fuerst (1), B. K. Baik (2). (1) Washington State University, Pullman, WA, U.S.A.; (2) USDA-ARS-CSWQRU, Wooster, OH, U.S.A.
- 224-P. CFW 58:A36**  
Bran characteristics and bread-baking quality of whole grain wheat flour. L. Cai (1), I. Choi (2), J. N. Hyun (2), Y. K. Jeong (2), B. K. BAIK (3). (1) Washington State University, Pullman, WA, U.S.A.; (2) National Institute of Crop Science, Rural Development Administration, Iksan, Korea; (3) USDA-ARS-CSWQRU, Wooster, OH, U.S.A.
- 225-P. CFW 58:A70**  
Composition and structure of *Bauhinia* grain proteins. M. SIWELA (1), E. O. Amonsou (2), N. R. Dlamini (3). (1) University of KwaZulu-Natal, Pietermaritzburg, Republic of South Africa; (2) Durban University of Technology, Durban, Republic of South Africa; (3) CSIR, Pretoria, Republic of South Africa
- 226-P. CFW 58:A63**  
Maize processing to impart convenience to maize-based staples for the African market. M. Nussbaumer (1), U. Santschi (1), N. Girardet (1), W. Boefer (1), M. Ramseyer (1), S. R. KAPPELER (1), B. Conde-Petit (1). (1) Bühler AG, Uzwil, Switzerland

- 227-P. CFW 58:A34**  
Innovative healthy ingredients from controlled partial germination of cereals. S. Bellaio (1), S. R. KAPPELER (1), H. Thomas (1), E. Zamprogna Rosenfeld (1). (1) Bühler AG, Uzwil, Switzerland
- 228-P. CFW 58:A67**  
Pasting properties and total sugars of germinated quinoa. M. J. RICHER-ROY (1), D. Delgado (1), S. Lee (1), J. Pan (2), K. A. Rosentrater (3), W. Yokoyama (2), J. J. Berrios (2), C. I. Onwulata (4), A. E. Thomas (4), A. T. Hotchkiss (4), A. K. White (4), J. Rothschild (1), J. Gauthier (1), S. Mangalassary (1), M. Omary (1). (1) California State University–Los Angeles, Los Angeles, CA, U.S.A.; (2) USDA, ARS, PWA, WRRRC-PFR, Albany, CA, U.S.A.; (3) Iowa State University, Ames, IA, U.S.A.; (4) ERRC-USDA ARS, Wyndmoor, PA, U.S.A.
- 229-P. CFW 58:A40**  
Nutritional, chemical and functional properties of commercial quinoa. D. DELGADO (1), J. Gauthier (1), J. Rothschild (1), M. J. Richer-Roy (1), S. Lee (1), C. Onwulata (1), K. Rosentrater (2), M. Medina (3), M. Singh (4), S. Mangalassary (1), M. Omary (1). (1) California State University–Los Angeles, Los Angeles, CA, U.S.A.; (2) Iowa State University Department of Agricultural and Bio-systems Engineering, Ames, IA, U.S.A.; (3) USDA/ARS/ERRC, Wyndmoor, PA, U.S.A.; (4) USDA/ARS, Peoria, IL, U.S.A.
- 230-P. CFW 58:A68**  
Novel metabolites of alkylresorcinols as the exposure markers to reflect whole wheat consumption in human. S. SANG (1), Y. Zhu (1), K. Shurknight (1). (1) North Carolina Agricultural and Technical State University, North Carolina Research Campus, Kannapolis, NC, U.S.A.
- 231-P. CFW 58:A47**  
Microwave energy significantly increases extractability of grain pigments. D. HERRMAN (1), L. Yang (2), J. Awika (1). (1) Department of Soil & Crop Sciences, Department of Nutrition & Food Science, Texas A&M University, College Station, TX, U.S.A.; (2) Department of Soil & Crop Sciences, Texas A&M University, College Station, TX, U.S.A.
- 232-P. CFW 58:A43**  
Optimizing the experimental design for using the house mouse (*Mus musculus* L.) as a model for determining grain feeding preferences. P. Fuerst (1), C. F. MORRIS (2), N. Dasgupta (1), D. J. McLean (1). (1) Washington State University, Pullman, WA, U.S.A.; (2) USDA ARS WWQL, Pullman, WA, U.S.A.
- 233-P. CFW 58:A60**  
Whole grain in cereals-based foods: Current use, challenges and the way forward. A. MORONI (1), A. B. Ross (1), E. Ananta (1), M. F. Bietry (1), A. L. Eldridge (1), L. R. King (1), E. Labat (2), U. Lehmann (1), F. Robin (2), O. Roger (1), S. Srichuwong (1), A. S. Wavreille (1), R. Redgwell (1), C. Schaffer-Lequart (1). (1) Nestlé Research Center, Lausanne 26, Switzerland; (2) Nestlé Product Technology Center, Orbe 1350, Switzerland

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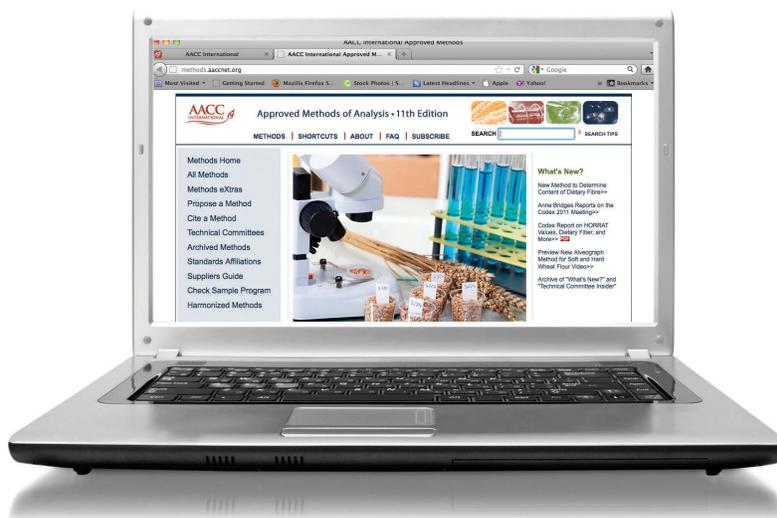
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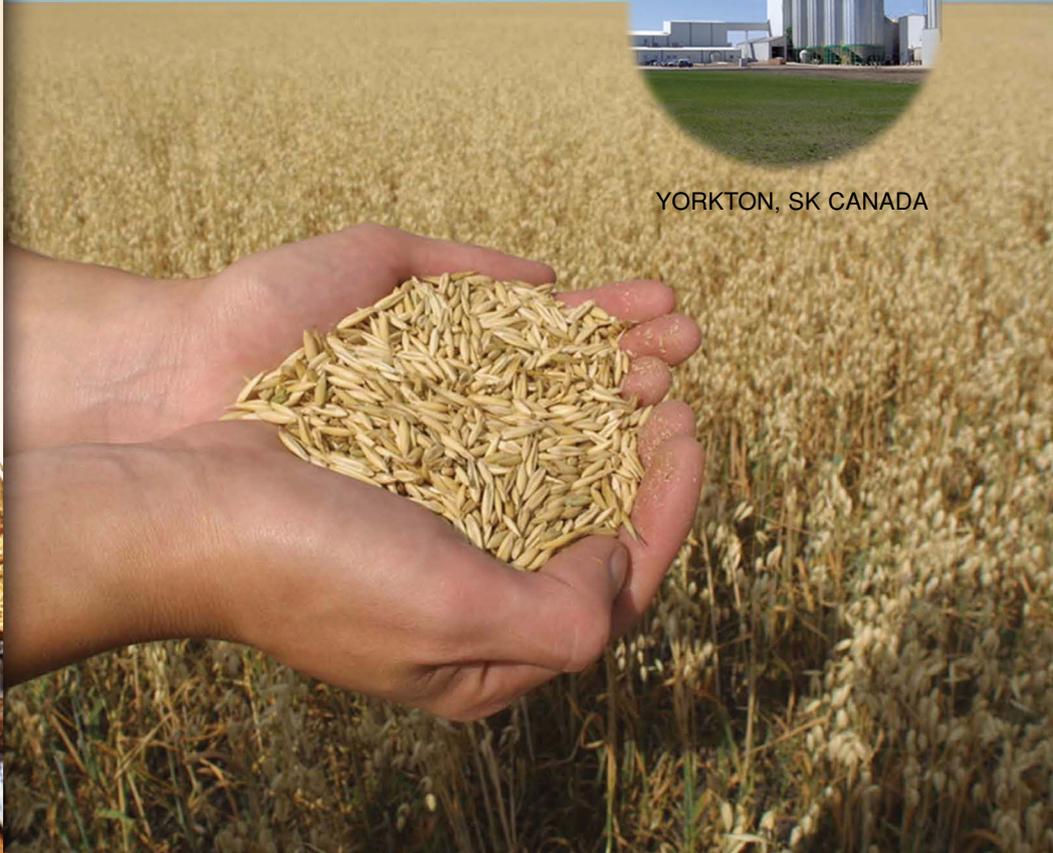
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# 2013 AACC International Awardees

Congratulations to the following members selected to receive AACCI awards in honor of their significant contributions to the field of grain science. You are invited to the Opening General Session and Awards Ceremony September 29, 2013, to celebrate their accomplishments. Lecture times for the 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.*



**Julie Miller Jones**, a board-certified nutrition specialist and licensed nutritionist, received her B.S. degree from Iowa State University and her Ph.D. degree from the University of Minnesota. Currently, she is an emeritus professor and distinguished scholar of food and nutrition at St. Catherine University in St. Paul, MN. She has been named an outstanding professor twice and was honored with the Myser Award as a

professor “who made a difference in people’s lives.” She is the author of several books, including *Food Safety*, and many scientific articles. She regularly speaks nationally and internationally about whole grains and dietary fiber, carbohydrates, sugars, the glycemic index, gluten-free products, food safety and dietary recommendations, and the Mediterranean diet, and she tries to debunk many dietary fads and myths. She has served as president and board chair of AACC International and chair of the IFT Nutrition Division and currently chairs the AACCI Whole Grains Working Group. She has received a number of awards, including the William F. Geddes Memorial Award from AACCI, and was named an academic fellow of the International Cereal Chemists. She is a scientific advisor for the Joint Institute of Food Safety and Nutrition of the U.S. Food and Drug Administration and the University of Maryland, the International Life Sciences Institute, the International Food Information Council, the Wheat Foods Council, and the Grain Foods Foundation.



**Pamela J. White, Ph.D.**, serves as dean for the College of Human Sciences at Iowa State University and is a university professor in the Department of Food Science and Human Nutrition. Her research program is centered around value-added crop research important to today’s agricultural economy, including lipid oxidation, oil quality, and carbohydrate structure/function relationships. Within AACCI, she has served as chair

of the Carbohydrate Division and chair of the Starch Round Table Board, among other assignments.

## Alsberg-French-Schoch Memorial Lectureship

*The Alsberg-French-Schoch Memorial Lectureship was established in 1965 to honor chemists who have made distinguished contributions to fundamental starch science. Established by the Corn Refiners with a grant to AACCI for its administration, the award is given every two to four years and includes a \$2,000 honorarium and a plaque, as well as the opportunity to present a lecture on some phase of starch science before an annual meeting of the association.*



**Bruce R. Hamaker** is director of the Whistler Center of Carbohydrate Research and holds the Roy L. Whistler Chair in Carbohydrate Science in the Department of Food Science at Purdue University, West Lafayette, IN, U.S.A. He obtained his undergraduate degree in biological sciences from Indiana University and afterward went into the U.S. Peace Corps in West Africa. His graduate studies are in human nutrition

(M.S.) and food chemistry (Ph.D.) from Purdue University. He was a postdoctoral researcher at the Nutrition Research Institute in Lima, Perú, under George Graham of Johns Hopkins University. His research career has spanned many aspects of cereal component chemistry and its applications, although now he focuses primarily on cereal starches and fibers related to the topics of health and wellness. In this regard, he has a number of clinical and nutrition group collaborations. He has and continues to be active in international research collaborations in Africa and Asia.

•••

This year’s award lecture, *The intricacies of starch digestion and a view towards quality and health benefit*, will take place at 8:30 a.m. on Tuesday, October 1, in the Brazos room of the Albuquerque Convention Center.

## Nominate Your Colleague for 2014 AACCI Awards

The call is now being made for 2014 AACCI award nominations to be presented at the 2014 AACCI Annual Meeting. Nominations must be submitted on or before January 31, 2014, using the online nomination form at [www.aaccnet.org/membership/awards/\\_layouts/AACCforms/AwardNomination.aspx](http://www.aaccnet.org/membership/awards/_layouts/AACCforms/AwardNomination.aspx)

A full list of award descriptions and criteria can be found online at [www.aaccnet.org/membership/awards/Pages/default.aspx](http://www.aaccnet.org/membership/awards/Pages/default.aspx), along with lists of previous award winners. Contact Linda Schmitt at [lschmitt@scisoc.org](mailto:lschmitt@scisoc.org) with questions.

## Edith Christensen Award for Outstanding Contributions in Analytical Methods

Established in 2005, this award and a \$1,500 honorarium 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 AACC International.



Stephen Delwiche is a research scientist in the Food Quality Laboratory of the USDA Agricultural Research Service in Beltsville, MD, U.S.A. He has resided there since 1990, the year he completed a Ph.D. degree at Cornell University. He also holds an M.S. degree from North Carolina State University and a B.S. degree from Cornell (both in engineering). Stephen has spent the majority of his career developing nondestructive,

rapid instrumentation and methods for quality assessment in cereal grains. His expertise lies with visible/near-infrared spectroscopy, hyperspectral imaging, and high-speed optics for classification and sorting, all of which require hardware and software design and mathematical modeling. He is active in AACC International (serving as chair of the Spectroscopic Methods Committee, associate editor of *Cereal Chemistry*, and Publications Committee member, with past assignments as Engineering and Processing Division chair, symposium organizer, and AOAC/AACCI liaison officer). He is a contributing author to both *Cereal Chemistry* and *Cereal Foods World*. He is also involved in the International Society for Optics and Photonics (SPIE) and the Council for Near-Infrared Spectroscopy (CNIRS). Stephen has authored more than 100 peer-reviewed journal articles, book chapters, and technical reports and has served on graduate student committees and hosted visiting international scientists.

•••

This year's award lecture, *The long journey of spectroscopic methods in cereals analysis, from moisture to the intangible*, will take place at 8:30 a.m. on Monday, September 30, in the Dona Ana/Cimarron room of the Albuquerque Convention Center.

## Excellence in Teaching Award

The AACC International 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. The award consists of a \$1,500 honorarium and plaque.



Vijay Singh is an associate professor in the Department of Agricultural and Biological Engineering and associate director of the Center for Advanced BioEnergy Research at the University of Illinois at Urbana-Champaign. His research is on development of bioprocessing technologies for corn/biomass to ethanol, advanced biofuels, food, and industrial products. Vijay has directed more than \$6.0 million in research, has

authored 110 peer-reviewed journal articles and 60 other publica-

tions, and holds 10 patents related to corn processing and biofuel production. Five of his patents have been licensed to engineering design and multinational companies. Vijay is a recipient of the Young Faculty Excellence Award from the Corn Refiners Association, New Holland Young Researcher Award from the American Society of Agricultural and Biological Engineers, Faculty Research Excellence Award from the University of Illinois, Young Cereal Scientist Award from AACC International, and Xerox Faculty Research Award. Vijay has also received excellence in teaching and innovation in research recognition several times. He received his M.S. and Ph.D. degrees in food and bioprocess engineering from the University of Illinois at Urbana-Champaign. He has served as associate editor for *Cereal Chemistry* and is currently associate editor for the *Journal of the American Oil Chemists' Society*, *Journal of Food and Bioproducts Processing*, and *Journal of Industrial Biotechnology*.

## Texture Technologies Quality Research Awards

### Best Paper Award

Established in 2012, this 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 presented to an author from either *Cereal Chemistry* or *Cereal Foods World* 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.

*Cereal Chemistry*, volume 89, issue 1, pages 44-51.

*A Study of Puroindoline b Gene Involvement in the Milling Behavior of Hard-Type Common Wheats.* Authors: Privat Lasme, Francois-Xavier Oury, Christophe Michelet, Joel Abecassis, Frederic Mabilie, Christine Bar L'Helgouac'h, and Valerie Lullien-Pellerin.



Privat Lasme is originally from Ivory Coast in West Africa. He holds an engineering degree in food and agricultural industries from Hassan II Agriculture and Veterinary Institute (IAV-Hassan II), Rabat, Morocco; an M.S. degree from ENSIA (National School of Agricultural and Food Industries), Massy, France; and a Ph.D. degree in food chemistry, biochemistry, and technology from the University of Montpellier

II, France. During his Ph.D. studies in 2011, Privat performed research on the biochemical and physicochemical bases of the milling behavior of bread wheat at UMR IATE, a joint research unit made up of INRA (National Institute for Agricultural Research), CIRAD (Centre for International Cooperation in Agronomic Research for Development), SupAgro (International Centre for Higher Education in Agricultural Sciences), and the University of Montpellier II, in the area of agro-polymer engineering and emerging technologies. Privat currently is a research associate at the Nestlé R&D Center in Abidjan, Ivory Coast.

### Best Presentation Award

The recipient will be announced during the Closing Session on Wednesday, October 2.

## Thomas Burr Osborne Medal

The prestigious Osborne Medal, established in 1926 to recognize distinguished contributions in the field of cereal chemistry, was named after the outstanding protein chemist Thomas Burr Osborne, who received the first award in 1928. The award consists of an honorarium of \$2,000 and a suitably inscribed medal in the form of a plaque. The recipient speaks at the AACCI Annual Meeting at which the medal is presented. Recipients of the Osborne Medal are also accorded the status of AACCI Fellow. This medal is awarded to an individual whose research in the field of cereal chemistry has contributed significantly to the progress of the science.



**Geoff Fincher** is the professor of plant science at the University of Adelaide and the director of the Australian Research Council Centre of Excellence in Plant Cell Walls. Until 2010, Geoff was deputy chief executive officer of the Australian Centre for Plant Functional Genomics and recently helped establish the Australian Plant Phenomics Facility. Geoff was the director of the Waite Campus of

the University of Adelaide from 2003 to 2010.

Geoff received his Ph.D. in biochemistry at the University of Melbourne and has since held academic positions at La Trobe University and the University of Adelaide. His research interests have been focused on the noncellulosic polysaccharides of plant cell walls in cereals. He and his group have made a contribution to our understanding of cell wall biology in commercially important cereals, including:

- the discovery of arabinogalactan-proteins (AGPs)
- defining the composition of cell walls from the starchy endosperm of barley
- characterizing hydrolytic enzymes involved in the depolymerization of (1,3;1,4)- $\beta$ -glucans and arabinoxylans in germinated barley grain
- crystallizing and resolving the 3D structures of (1,3;1,4)- $\beta$ -glucanases, (1,3)- $\beta$ -glucanases, and  $\beta$ -glucan glucohydrolases from barley
- defining the fine structure of barley (1,3;1,4)- $\beta$ -glucans
- identifying the roles of CslF and CslH genes in (1,3;1,4)- $\beta$ -glucan synthesis
- participation in the international consortium that recently published the scaffold genome sequence for barley.

•••

This year's award lecture, *New technologies in cereal chemistry and related industries: From biochemistry to genome sequences*, will take place at 8:30 a.m. on Wednesday, October 2, in the Pecos/Mesilla room of the Albuquerque Convention Center.

## 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 AACCI 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.

**2012 Recipient:** Maureen Olewnik, AIB International, U.S.A.

**2013 Recipient:** The name of the recipient is kept secret until unveiled during the Awards Ceremony.

## Young Scientist Research Award

Established in 2006, the AACCI International 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 AACCI International. Awardees must not be older than 40 years by June 1 of the year the award is given. The recipient receives a \$1,000 honorarium and a plaque and is encouraged to present a lecture at the AACCI International meeting of the year in which the award is given.



**Senay Simsek** is an associate professor in the Department of Plant Sciences at North Dakota State University (NDSU). She earned a B.S. degree in chemistry in 1998 and an M.S. degree in biochemistry from Gebze Institute of Technology. She began her Ph.D. studies in food science at Purdue University in 2003. Senay completed her Ph.D. degree in 2006 and began working as an assistant professor at NDSU in January 2007.

Her research focuses on structure-function relationships among biomacromolecules (particularly starch and nonstarch polysaccharides) found in food systems. Senay also works on plant metabolomics to study plant physiology, grain quality and processing, and the nutritional aspects of grains. She has authored or coauthored more than 50 peer-reviewed journal articles. Senay is an active member of AACCI International and Institute of Food Technologists. She also serves on the technical board of the Wheat Quality Council. In 2011, Senay received the Larson/Yaggie Excellence in Research Award from the NDSU College of Agriculture and the Early-in-Career Award of Excellence during the U.S. Quality Grains Research Consortium annual meeting.

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This year's award lecture, *Metabolic profiling in cereals: Analysis of secondary metabolites in wheat using LC-QTOF/MS*, will take place at 10:40 a.m. on Monday, September 30, in the San Miguel/Ruidoso room of the Albuquerque Convention Center

## AACC International Analytical Accuracy Awardees for 2012 Announced



Awardees of AACC International's Analytical Accuracy awards, based on 2012 check sample results, have been announced. This is the 14th year of the AACC International Analytical Accuracy awards. Awardees receive a certificate suitable for posting and are

listed in the 2013 November-December issue of *Cereal Foods World* and on the AACCI website.

All subscribers to the AACCI check sample program series that includes 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](http://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**  
Grain Foods Innovations Pty. Ltd., Christchurch, New Zealand

**Check Sample C—Soft Wheat Flour**  
Mondelez Canada, Inc., Mississauga, Ontario, Canada

**Check Sample D—Feed Analyses**  
Analytical Feed and Food Laboratories, Visalia, CA

**Check Sample DF—Dietary Fiber**  
ILC/Micro Chem, Mississauga, Ontario, Canada

**Check Sample HL—Farinograph**  
McKee Foods Corporation, Collegedale, TN

**Check Sample HS – Farinograph**  
ADM Milling Co., Overland Park, KS

**Check Sample I—Amylograph**  
Intertek Food & Agri., Saint Rose, LA

**Check Sample J—Mixograph**  
Southern African Grain Laboratory, Pretoria, South Africa

**Check Sample K—Fat and Fatty Acids**  
Covance Laboratories, Madison, WI

**Check Sample MBA—Microbiological Analyses (Including Pathogens)**  
CSM Bakery Products NA, Minnetonka, MN

**Check Sample MBB—Microbiological Analyses**  
AFB International, Aurora, MO

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

**Check Sample VMP—Vitamin Analyses**  
Covance Laboratories, Madison, WI

**Check Sample VMP—Mineral Analyses**  
Covance Laboratories, Madison, WI

**Check Sample VMP—Proximate and Vitamin Analyses**  
Covance Laboratories, Madison, WI

**Check Sample VMP—Proximate and Mineral Analyses**  
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**Check Sample VMP—Vitamins, Minerals, and Proximate Analyses**  
Covance Laboratories, Madison, WI

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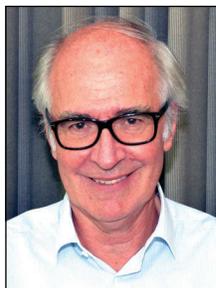
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# Making a Difference

Volunteering to serve on an AACCC International committee provides opportunities to gain skills and experience as well as the chance to give something back to the grains community. However, serving on a committee is just one way to get involved; there are a variety of other ways, including shorter-term engagements. If you are interested in serving on a committee or getting involved in a different manner, please contact Linda Schmitt at [lschmitt@scisoc.org](mailto:lschmitt@scisoc.org) or at +1.651.994.3828 or visit [www.aaccnet.org](http://www.aaccnet.org). AACCI thanks the following volunteers who served on committees; your dedication is deeply appreciated!

## Administrative Committees

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**2013 Annual Meeting Technical Program Planning:** **Chair:** Koushik Seetharaman. **Vice Chair:** Peter Koehler. **Scientific Initiative Track Chairs:** Brian J. Anderson, Trust Beta, Andrea Bianchini, Baljit S. Ghotra, Sathya Kalambur, Elaine J. Sopiwnyk, Michael Tilley. **Scientific Initiative Track Vice Chairs:** Deann Akins-Lewenthal, Andreas Blennow, Kristof Brijs, Mario Jekle, Satya Jonnalagadda, Supriya Varma, Feng (Jessy) Wang.

**2015 Centennial Planning:** **Chair:** William A. Atwell. **Members:** Lauren R. Brewer, Jan A. Delcour, Sean M. Finnie, David H. Hahn, Laura M. Hansen, Barry V. McCleary, Joshua D. Reid, Devin J. Rose, Koushik Seetharaman, Christine N. Shearer. **Ex-officio:** Steven C. Nelson, Deborah E. Rogers

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**Nomination:** **Chair:** Stuart A. Craig. **Members:** Arthur D. Bettge, Laura M. Hansen, Julie M. Jones, R. Don Sullins. **Members at Large:** Cindy Alosco, Peter L. Weegels.

**Osborne Medal Award:** **Chair:** Jon M. Faubion. **Members:** Peter Koehler, Paul A. Seib, Louise Slade, Jan Willem van der Kamp.

**Phil Williams Applied Research Award:** **Chair:** Jon M. Faubion. **Members:** Peter Koehler, Paul A. Seib, Louise Slade, Jan Willem van der Kamp.

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**Young Scientist Research Award:** **Chair:** Deirdre E. Ortiz. **Members:** Sajid Alavi, Jinsong Bao, Mirko Bunzel, Kim B. Koch, Chunjian Lin.

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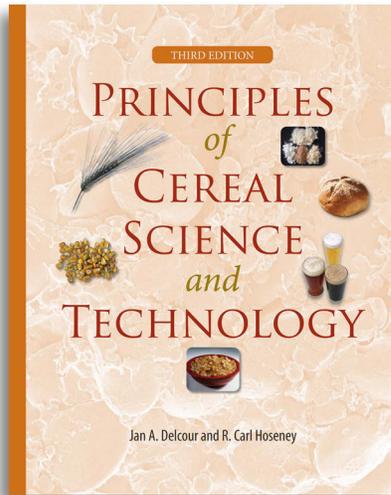
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1934: M. M. Brooke*	1981: J. J. Watson*
1935: W. Platt*	1982: N. L. Betz
1936: H. D. Liggitt, Jr.*	1983: D. R. Lineback
1937: C. H. Bailey*	1984: B. L. D'Appolonia
1938: W. F. Geddes*	1985: W. M. Schewecke
1939: G. F. Garnatz*	1986: J. Vetter
1940: 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*	

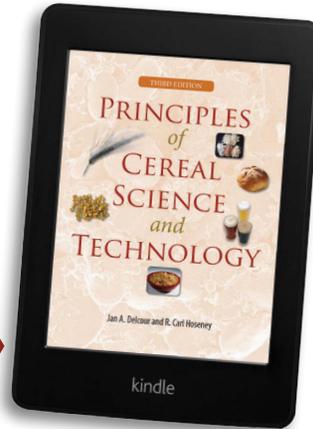
\*Deceased

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

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### AACCI Central, Exhibit Hall

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

### AACCI Central Bookstore, Tijeras Foyer (Convention Center)

Monday ..... 9:00 a.m. – 3:00 p.m.  
Tuesday ..... 9:00 a.m. – 11:00 a.m.  
Wednesday ..... 9:00 a.m. – 11:00 a.m.



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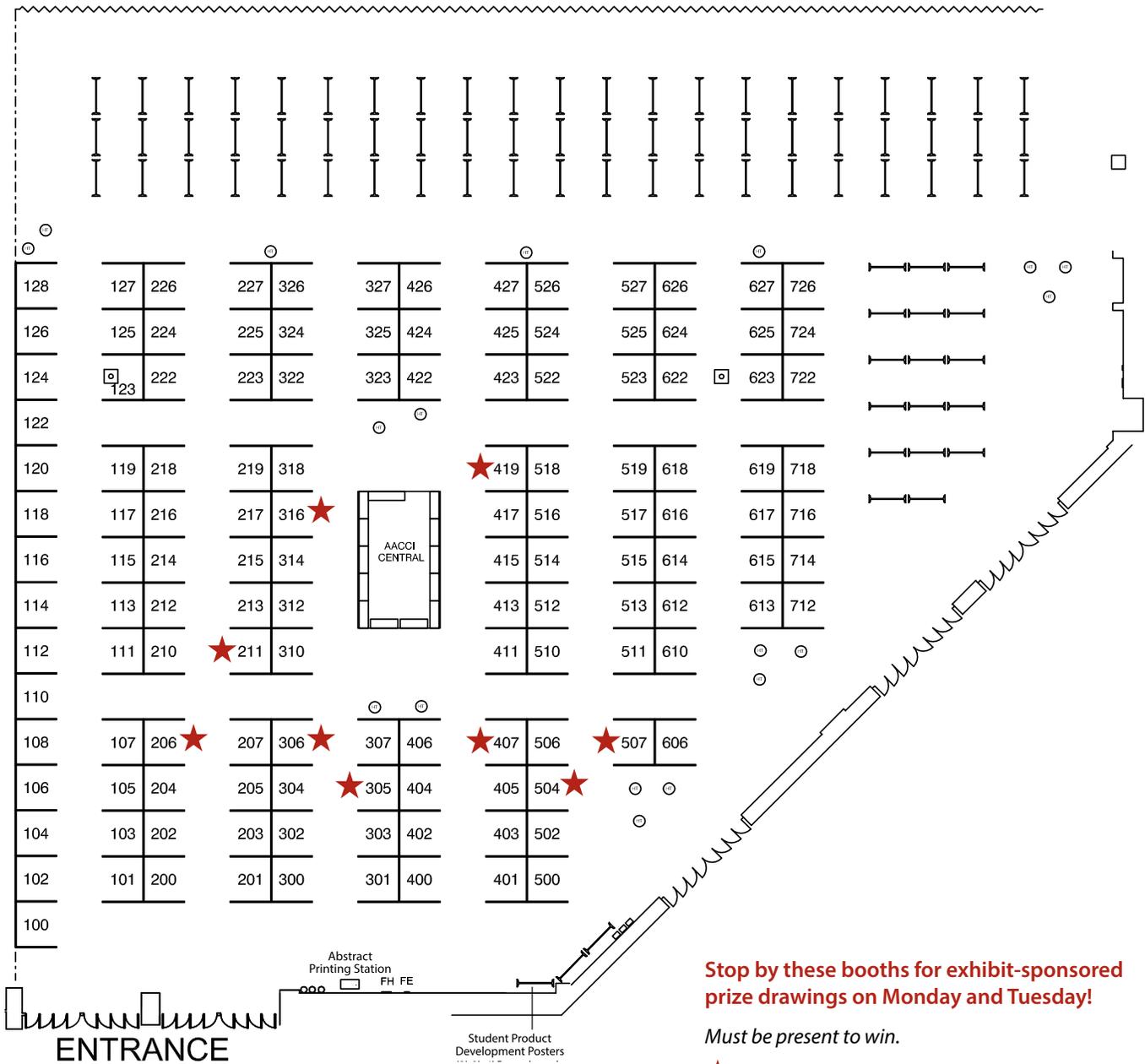
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AlmondBoard.com

Scientific evidence suggests, but does not prove, that eating 1.5 ounces per day of most nuts, such as almonds, as part of a diet low in saturated fat and cholesterol may reduce the risk of heart disease. One serving of almonds (28g) has 13g of unsaturated fat and only 1g of saturated fat. \*Breakfast Outlook Report, Sterling-Rice Group, 2009.

# Albuquerque Convention Center • Southeast Exhibit Hall



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

*Must be present to win.*

★ Prize drawing booth

**Monday's Booths**

- 211 Bunge
- 407 Cablevey Conveyors
- 305 FONa International
- 507 FOSS North America
- 419 Gold Coast Ingredients, Inc.

**Drawing**

- 4:30 p.m.
- 5:00 p.m.
- 5:30 p.m.
- 6:00 p.m.
- 6:30 p.m.

**Tuesday's Booths**

- 206 Palsgaard Inc.
- 305 FONa International
- 306 Medallion Labs
- 504 MGP Ingredients, Inc.
- 316 QualySense AG

- 12:15 p.m.
- 12:45 p.m.
- 1:15 p.m.
- 1:30 p.m.
- 2:00 p.m.

# 2013 AACC International Annual Meeting Exhibition

## Numerical Listing of Exhibitors

**Bold Type** indicates an advertising company. Page numbers for advertisers are listed on the Advertiser's Index on page 84.

<b>100</b>	<b>Tree Top, Inc.</b>	318	BENEEO, Inc.
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102	Herbstreith & Fox Inc.	<b>323</b>	<b>CHOPIN Technologies</b>
103	ADM/Matsutani LLC	325	Northern Crops Institute
104	Corbion	326	The Mennel Milling Company
106	Innophos, Inc.	327	BI Nutraceuticals
107	Carmi Flavor & Fragrance, Inc.	<b>400</b>	<b>Almond Board of California</b>
108	Blue Diamond Growers	401	Brookfield Engineering Laboratories
110	Suntava, Inc.	<b>402</b>	<b>CPM Wolverine Proctor</b>
111	Charm Sciences, Inc.	<b>403</b>	<b>ICL Food Specialties</b>
112	Lallemand Baking Solutions	404	Bay State Milling Co.
113	CEM Corporation	<b>405</b>	<b>Great Plains Analytical Laboratory</b>
114	Baker Perkins	<b>406</b>	<b>C. W. Brabender® Instruments, Inc.</b>
115	J. RETTENMAIER USA LP	<b>407</b>	<b>Cablevey Conveyors</b>
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118	Research Products Co.	<b>413</b>	<b>Grain Millers, Inc.</b>
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126	Nutraceuticals World	423	Caremoli USA
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<b>201</b>	<b>Perten, Inc.</b>	425	Merlin Development, Inc.
202	Calibre Control International Ltd.	426	David Michael & Co.
203	Perten AB	500	Richardson Milling, formerly Viterra
204	Ingredion Inc., formerly Corn Products International	504	MGP Ingredients, Inc.
205	DSM Food Specialties	506	Grain Processing Corp.
206	Palsgaard Inc.	507	FOSS North America
<b>207</b>	<b>DSM Nutritional Products, Inc.</b>	510	Fortitech, Inc.
210	Thermo Scientific	511	Givaudan Flavors Corp.
211	Bunge	512	Farmer Direct Foods
212	SunOpta Ingredients Group	513	International Fiber Corp.
214	Great Falls Development Authority	514	Carl Zeiss Microscopy, LLC
215	Church & Dwight Co., Inc.	515	Malt Products Corp.
216	Budenheim USA, Inc.	516	GNT USA, Inc.
217	Sensient Colors LLC	517	R-Biopharm, Inc.
218	California Natural Products	518	Enzyme Development Corp.
219	EnviroLogix Inc.	519	Glanbia Nutritionals
222	Balchem Encapsulates	522	International Flavors & Fragrances Inc.
223	Butter Buds, Inc.	523	Thymly Products
224	Eurofins Scientific	524	NP Analytical Laboratories
225	Neutec Group, Inc.	525	TIC Gums
227	CE Elantech	526	Brolite Products, Inc.
300	Megazyme International Ireland	527	Best Cooking Pulses, Inc.
<b>301</b>	<b>Wenger Manufacturing, Inc.</b>	606	HESCO, Inc./Dakota Organic Products
303	Sensus America, Inc.	610	Bruker Optics
304	AIB International	612	ANKOM Technology
305	FONA International	616	Nexira
<b>306</b>	<b>Medallion Labs</b>	618	Bepex International LLC
307	Brabender® GmbH & Co. KG	622	Elementar Americas Inc.
310/312	Texture Technologies Corp.	624	Eigenvector Research, Inc.
<b>314</b>	<b>Siemer Specialty Ingredients</b>		
316	QualySense AG		

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## Exhibits and Poster Hours

*SE Exhibit Hall, Albuquerque Convention Center*

Sunday, September 29	5:00 – 7:00 p.m.	Grand Opening Exhibition
Monday, September 30	4:00 – 7:00 p.m.	Exhibits with Beer and Poster Viewing with Authors Present
Tuesday, October 1	12:00 – 2:15 p.m.	Lunch with the Exhibitors

## Alphabetical Listing of Exhibitors

\* AACC International Corporate Member

† Participant in Supplier Innovation Session

**101\*** **ADM**, 4666 Faries Pkwy., Decatur, IL, 62526 U.S.A.; Telephone: 1.800.637.5843; Web: [www.adm.com](http://www.adm.com); E-mail: [food@adm.com](mailto:food@adm.com). ADM transforms crops into products that serve vital needs. Employees around the globe convert oilseeds, corn, wheat, and cocoa into products for food, animal feed, industrial, and energy uses. ADM helps connect the harvest to the home in more than 140 countries.

**103\*** **ADM/Matsutani LLC**, 500 Park Blvd., Suite 1240, Itasca, IL, 60143 U.S.A.; Telephone: +1.630.250.8720; Fax: +1.630.250.8725; Web: [www.fibersol.com](http://www.fibersol.com). Fibersol, the premier 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.

**304\*** **AIB International**, 1213 Bakers Way, P.O. Box 3999, Manhattan, KS, 66502 U.S.A.; Telephone: +1.785.537.4750; 1.800.633.5137; Fax: +1.785.537.1493; Web: [www.aibonline.org](http://www.aibonline.org). AIB International provides food safety education, audits and certifications, food labeling, and research and technical services. We provide analytical services, in-plant assistance, customized training, calibration and predictive services, and finished product quality evaluations. Our renowned school of baking offers educational services, troubleshooting, and assistance with product formulation and development.

**400†** **Almond Board of California**, 1150 Ninth St., Suite 1150, Modesto, CA, 95354 U.S.A.; Telephone: +1.209.549.8262; Web: [www.almondboard.com](http://www.almondboard.com); E-mail: [foodprofessional@almondboard.com](mailto:foodprofessional@almondboard.com). Consumers all over the world enjoy California almonds as a natural, wholesome, and quality food product. Almond Board of California promotes almonds through its research-based approach to marketing, farming, and production, on behalf of the more than 6,000 California almond growers and processors, many of whom are multi-generational family operations.

**612\*** **ANKOM Technology**, 2052 O'Neil Rd., Macedon, NY, 14502 U.S.A.; Telephone: +1.315.986.8091; Fax: +1.315.986.8091; Web: [www.ankom.com](http://www.ankom.com). ANKOM Technology produces analytical instrumentation for food and feed testing. We are best known for introducing our automated dietary fiber instrument, which allows high-volume, accurate analytical testing. Our systems are used in more than 93 countries worldwide. Come see us in booth 612.

**114\*** **Baker Perkins**, 3223 Kraft Ave. SE, Grand Rapids, MI, 49512-2027 U.S.A.; Telephone: +1.616.784.3111; Fax: +1.616.784.0973; Web: [www.bakerperkingroup.com](http://www.bakerperkingroup.com); E-mail: [bpinc@bakerperkingroup.com](mailto:bpinc@bakerperkingroup.com). Baker Perkins supplies unit machines and full process lines for virtually every kind of flaked, extruded, or shredded breakfast cereal. We combine in-depth process knowledge with engineering expertise to create modular systems ranging from high-output dedicated plants to flexible multipurpose lines.

**222** **Balchem Encapsulates**, 52 Sunrise Park Rd., New Hampton, NY, 10958 U.S.A.; Telephone: +1.845.326.5600; Fax: +1.845.326.5730; Web: [www.balchem.com](http://www.balchem.com); E-mail: [foodinfo@balchem.com](mailto:foodinfo@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.

**404\*** **Bay State Milling Co.**, 100 Congress St., Quincy, MA, 02169 U.S.A.; Telephone: +1.617.328.4400; Web: [www.baystatemilling.com](http://www.baystatemilling.com); E-mail: [infobsm@bsm.com](mailto:infobsm@bsm.com). Bay State Milling is a specialty solutions provider for the grain-based foods industry. Through our product portfolio that includes traditional and specialty flours, specialty grains, seeds, and sweet spices, our Nutrition Science Advisory Council and the Rothwell GrainEssentials Center, we can help turn today's ideas into tomorrow's successful products.

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- 318\*** **BENEO, Inc.**, 201 Littleton Rd., 1st Floor, Morris Plains, NJ, 07950 U.S.A.; Telephone: +1.973.867.2140; Fax: +1.973.867.2141; Web: [www.beneo.com](http://www.beneo.com). The BENEO product portfolio consists of functional ingredients with nutritional and technical advantages, derived from chicory roots, beet sugar, and rice. BENEO is the ideal partner to help improve the health (weight management, energy for mental and physical performance, digestive, bone, and dental health), taste, texture, and nutritional value (fat and sugar replacement/fiber enrichment) of a product.
- 618\*** **Bepex International LLC**, 333 Taft St. NE, Minneapolis, MN, 55413 U.S.A.; Telephone: +1.612.331.4370; 1.800.372.3739; Web: [bepex.com](http://bepex.com). Bepex International is a supplier of innovative processing systems and equipment. We provide custom process systems using a wide range of proprietary equipment. Systems include size modification, thermal treatment, and mixing. Our Process Development Center in Minneapolis, MN, provides a controlled setting for testing and market sample production.
- 527\*†** **Best Cooking Pulses, Inc.**, 124 10th St. NE, Portage la Prairie, Manitoba, R1N 1B5, Canada; Telephone: +1.204.857.4451; Fax: +1.204.239.6885; Web: [www.bestcookingpulses.com](http://www.bestcookingpulses.com). Canadian family-owned agri-foods company, active in world pulse trade since 1936. “Best” gluten-tested pulse flours (pea, chickpea, lentil, and bean), pea fiber, whole/split pulses. NA raw materials, strong grower relations, proprietary milling. BRC GPSI, CGC HACCP, organic, kosher, and WBEN certified. Healthy foods for healthy diets and a sustainable world.
- 327** **BI Nutraceuticals**, 2550 El Presidio St., Long Beach, CA, 90810 U.S.A.; Telephone: +1.310.669.2100; Fax: +1.310.637.3644; Web: [www.binutraceuticals.com](http://www.binutraceuticals.com); E-mail: [contact@binutraceuticals.com](mailto:contact@binutraceuticals.com). BI is the largest supplier of botanical ingredients in the United States. We supply and manufacture hundreds of products including botanical powders, teas, extracts, nutritional blends, vitamins, minerals, and more. BI is cGMP compliant as well as SQE, QAI organic, kosher, halal, and gluten-free certified.
- 108** **Blue Diamond Growers**, 1802 C St., Sacramento, CA, 95811 U.S.A.; Telephone: +1.916.446.8500; Fax: +1.916.446.8332; Web: [www.bdingredients.com](http://www.bdingredients.com); E-mail: [ingredientsales@bdgrowers.com](mailto:ingredientsales@bdgrowers.com). Blue Diamond Growers, established in 1910, is the world’s largest processor and marketer of almonds. The Blue Diamond brand is known for quality and service in over 90 countries. Our almond products include whole and manufactured almonds in a variety of forms for applications across the global baking industry.
- 307\*** **Brabender® GmbH & Co. KG**, Kulturstr. 51–55, Duisburg, 47055, Germany; Telephone: +49.203.7788.0; Fax: +49.203.7788.101; Web: [www.brabender.com](http://www.brabender.com); E-mail: [food-sales@brabender.com](mailto:food-sales@brabender.com). Brabender GmbH is the worldwide leading manufacturer of the highest quality instrumentation for testing physical properties and quality of various materials utilized in the food industry. See our two posters on the GlutoPeak—fast, simple, reliable measurement of gluten aggregation. Brabender GmbH & Co. KG is ... where quality is measured.
- 526\*** **Brolite Products, Inc.**, 1900 S. Park Ave., Streamwood, IL, 60107 U.S.A.; Telephone: +1.630.830.0340; Fax: +1.630.830.0356; Web: [www.bakewithbrolite.com](http://www.bakewithbrolite.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, natural and organic. Let us blend one for you.
- 401\*** **Brookfield Engineering Laboratories**, 11 Commerce Blvd., Middleboro, MA, 02346 U.S.A.; Telephone: +1.508.946.6200; 1.800.628.8139; Fax: +1.508.946.6262; Web: [www.brookfieldengineering.com](http://www.brookfieldengineering.com); E-mail: [sales@brookfieldengineering.com](mailto:sales@brookfieldengineering.com). Brookfield, the world’s leading manufacturer of viscometers and rheometers, now has touch screen technology! 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. Stop by and see how we can help with your applications.
- 610** **Bruker Optics**, 19 Fortune Dr., Billerica, MA, 01821 U.S.A.; Telephone: +978.439.9899; 888.427.8537; Web: [www.bruker.com/optics](http://www.bruker.com/optics); E-mail: [info@brukeroptics.com](mailto:info@brukeroptics.com); Facebook: [www.facebook.com/pages/Bruker/202120533128](https://www.facebook.com/pages/Bruker/202120533128); Twitter: [www.twitter.com/bruker](https://www.twitter.com/bruker). Bruker offers a comprehensive range of lab-based and in situ solutions to detect and diagnose potential and existing threats and contaminations at any stage of the production process. Our devices and technologies work quickly and efficiently, thus minimizing economic impacts for the agricultural industry as much as possible.
- 216\*** **Budenheim USA, Inc.**, 2219 Westbrooke Dr., Columbus, OH, 43228 U.S.A.; Telephone: +1.614.345.2400; Fax: +1.614.345.2440; Web: [www.budenheim.com](http://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 the strictest quality control to put great and healthy food on the table every day.
- 417†** **Bühler Aeroglide**, 100 Aeroglide Dr., Cary, NC, 27511 U.S.A.; Telephone: +1.919.851.2000; Web: [www.buhlergroup.com/drying](http://www.buhlergroup.com/drying); E-mail: [aeroglide.sales@buhlergroup.com](mailto:aeroglide.sales@buhlergroup.com). Visit the Bühler Aeroglide exhibit and learn about the new sanitary dryer for ready-to-eat cereals. This new dryer features 34 new innovations with five patents pending, all aimed at increasing the sanitary level of the drying operation in cereal production. Also learn more about our toasters, coolers, and other products.
- 415** **Bühler Inc.**, P.O. Box 9497, Minneapolis, MN, 55440 U.S.A.; Telephone: +1.763.847.9900; Web: [www.buhlergroup.com](http://www.buhlergroup.com); E-mail: [buhler.minneapolis@buhlergroup.com](mailto:buhler.minneapolis@buhlergroup.com). Bühler 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. Bühler recently introduced the Food Innovation Center, a new food-grade facility located in Plymouth, MN, designed for research, education, and consumer-ready testing.

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See our ad on the back of the Sessions/Posters tab.

- 211\*** **Bunge**, 11720 Borman Dr., St. Louis, MO, 63146-1000 U.S.A.; Telephone: 1.800.471.1952; Web: [www.bungenorthamerica.com](http://www.bungenorthamerica.com). Bunge, a leading agribusiness company, transforms commodities including grains and oilseeds into value-added food ingredients. We offer access to resources including logistics, commodity markets, and risk management tools, but it is our commitment to innovation through collaborative partnerships with our customers that is the hallmark of our success.
- 223\*** **Butter Buds, Inc.**, 2330 Chicory Rd., Racine, WI, 53403 U.S.A.; Telephone: +1.262.598.9900; 1.800.426.1119; Fax: +1.262.598.9999; Web: [www.bbuds.com](http://www.bbuds.com). We use proprietary enzyme modification technology to “unlock” the potent flavor elements in butter, cream, and cheese, delivering highly concentrated natural flavor in convenient powder, paste, and liquid form. These natural dairy concentrates allow the production of better-tasting, more economical, healthier foods with very clean label statements.
- 406\*** **C. W. Brabender® Instruments, Inc.**, 50 East Wesley St., South Hackensack, NJ, 07606 U.S.A.; Telephone: +1.201.343.8425; Fax: +1.201.343.0608; Web: [www.cwbrabender.com](http://www.cwbrabender.com); E-mail: [foodsales@cwbrabender.com](mailto:foodsales@cwbrabender.com). C. W. Brabender Instruments, Inc., is a forerunner in manufacturing the highest quality instrumentation for testing physical properties and quality of various materials utilized in the food industry. See our two posters on the GlutoPeak—fast, simple, reliable measurement of gluten aggregation. C. W. Brabender Instruments, Inc. is ... where quality is measured.
- 
- See our ad on the inside front cover.**
- 
- 407** **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](http://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 page 13.**
- 
- 202†** **Calibre Control International Ltd.**, 5–6 Asher Court, Lyn-castle Way, Warrington, WA4 4ST, United Kingdom; Telephone: +44(0)1925.860.401; Fax: +44(0)1925.860.402; Web: [www.calibrecontrol.com](http://www.calibrecontrol.com); E-mail: [info@calibrecontrol.com](mailto:info@calibrecontrol.com). Calibre will be launching the NEW C-Cell Colour instrument featuring the world's first crust unwrap technology! C-Cell is an advanced image analysis system that monitors the structure of bakery products and identifies faults or variability in process/ingredient to meet set quality targets.
- 218\*** **California Natural Products**, 1250 E. Lathrop Rd., Lathrop, CA, 95330 U.S.A.; Telephone: +1.209.858.2525; +1.209.483.1283; Fax: +1.209.858.4076; Web: [www.cnp.com](http://www.cnp.com). California Natural Products makes conventional and organic rice syrups and solids, Ricevia trans/saturated fat for baked goods and nutrition bars. Made in U.S.A., GFSI compliant, GFCO certified gluten free.
- 423\*** **Caremoli USA**, 23959 580th Ave., Ames, IA, 50010 U.S.A.; Telephone: +1.515.233.1255; Web: [www.caremoligroup.com](http://www.caremoligroup.com); E-mail: [info@caremoli-usa.com](mailto:info@caremoli-usa.com). At Caremoli USA, we serve our customers by providing high-quality, all natural, and naturally produced ingredients. The products offered fall in the grains division: grains, seeds, legumes, fibers, and flours; and the gums division: guar gum, LBG, tara gum, citric acid, and gluten-free ready mixes.
- 514** **Carl Zeiss Microscopy, LLC**, One Zeiss Dr., Thornwood, NY, 10594 U.S.A.; Telephone: 1.800.233.2343; Web: [www.zeiss.com/spectral](http://www.zeiss.com/spectral); E-mail: [micro@zeiss.com](mailto:micro@zeiss.com). Carl Zeiss Optical Sensor Systems offers a comprehensive line of spectral sensors, spectrometer components, and dedicated solutions for process analysis covering a wide spectral range (UV-VIS-NIR). ZEISS offers on-line, at-line, and in-line systems for color measurement, concentration, layer thickness, analytical, and process monitoring software packages specifically tailored to your requirements.
- 107** **Carmi Flavor & Fragrance, Inc.**, 6030 Scott Way, Commerce, CA, 90040 U.S.A.; Telephone: +1.323.888.9240; Fax: +1.323.888.9339; Web: [www.carmiflavors.com](http://www.carmiflavors.com); E-mail: [sales@carmiflavors.com](mailto:sales@carmiflavors.com); Facebook: [www.facebook.com/carmiflavors.com](http://www.facebook.com/carmiflavors.com). For 34 years Carmi Flavors has been an industry leader supplying flavors and fragrances to the food industry. We are dedicated to enhancing consumer products with innovative, health-conscious ingredients and professional-grade equipment. We recently created another unique brand, Flavor Depot, which creates distinct flavor products for Carmi Flavors.
- 227** **CE Elantech**, 170 Oberlin Ave. N., Suite 5, Lakewood, NJ, 08701 U.S.A.; Telephone: 888.232.4676; Fax: +1.732.370.3888; Web: [www.ceelantech.com](http://www.ceelantech.com); E-mail: [sales@ceelantech.com](mailto:sales@ceelantech.com). CE Elantech will feature Thermo Scientific Flash 2000 and 4000 nitrogen/protein analyzers. The Flash is ideal for analysis of all organic samples (solid and liquid). CE Elantech also distributes Next Instruments SeedCount image analyzers for rapidly and accurately analyzing a sample of grain to determine its principal characteristics.
- 113** **CEM Corporation**, 3100 Smith Farm Rd., Matthews, NC, 28106 U.S.A.; Telephone: 1.800.726.3331; +1.704.821.7015; Fax: +1.704.821.7894; Web: [www.cem.com](http://www.cem.com). CEM is a leading global supplier of innovative process and quality control instrumentation to the food industry for over 30 years. The new FAST Trac accurately measures moisture and fat in dry products, is more accurate and robust than NIR, and does not require costly calibration maintenance or chemicals.
- 111\*†** **Charm Sciences, Inc.**, 659 Andover St., Lawrence, MA, 01843 U.S.A.; Telephone: +1.978.687.9200; Fax: +1.978.687.9216; Web: [www.charm.com](http://www.charm.com); E-mail: [info@charm.com](mailto:info@charm.com). Charm Sciences is a leader in food safety and mycotoxin diagnostics for feed and grain. Our portfolio includes GIPSA-approved FAST Aflatoxin, FAST5 DON, FAST5 Fumonisin, ochratoxin, T2/HT2, and zearalenone quantitative lateral flow tests. ROSA WET eliminates ethanol/methanol and uses water for extracting mycotoxins. Rely on Charm to protect your brand!

**323\*† CHOPIN Technologies**, 20 Ave. Marcellin Berthelot, Villeneuve La Garenne, 92390, France; Telephone: +33.1.41.47.50.38; Web: [www.chopin.fr](http://www.chopin.fr). CHOPIN Technologies is specialized in quality-control methods and equipment. Our range includes analyses of moisture content and proteins (Infraneo). For laboratories, we offer tools for test milling (CD1), analyzing starch damage (SDmatic), as well as dough behavior during mixing (Alveograph), fermentation (RheoF4), baking (Mixolab), and many other process control solutions.

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**215 Church & Dwight Co., Inc.**, 469 N. Harrison St., Princeton, NJ, 08543 U.S.A.; Telephone: 1.800.221.0453; Web: [www.ahperformance.com](http://www.ahperformance.com). Church & Dwight is the leading North American producer of sodium bicarbonate, well recognized as Arm & Hammer.

**104\* Corbion**, 7905 Quivira Rd., Lenexa, KS, 66221 U.S.A.; Telephone: 1.800.669.4092; Web: [www.corbion.com](http://www.corbion.com); E-mail: [info@caravaningredients.com](mailto: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.

**402\* CPM Wolverine Proctor**, 251 Gibraltar Rd., Horsham, PA, 19044, U.S.A.; Telephone: +215.443.5200; Fax: +215.443.5206; Web: [www.wolverineproctor.com](http://www.wolverineproctor.com). E-mail: [sales@cpmwolverineproctor.com](mailto: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.

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**116\* Dakota Specialty Milling**, 4014 15th Ave NW, Fargo, ND, 58102 U.S.A.; Telephone: 1.800.426.7046; Fax: +1.253.475.1906; Web: [www.dakotaspecialtymilling.com](http://www.dakotaspecialtymilling.com); E-mail: [sales@dakotaspecialtymilling.com](mailto: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.

**426\* David Michael & Co.**, 10801 Decatur Rd., Philadelphia, PA, 19154 U.S.A.; Telephone: 1.800.DM.FLAVORS; +1.215.632.3100; Fax: +1.215.637.3920; Web: [www.dmflavors.com](http://www.dmflavors.com); E-mail: [dmflavor@dmflavors.com](mailto:dmflavor@dmflavors.com). Innovation starts here, at David Michael & Co. As a leading global manufacturer of flavors, stabilizers, and natural colors, we have over 117 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!

**124\* Delavau**, 10101 Roosevelt Blvd., Philadelphia, PA, 19154 U.S.A.; Telephone: +1.631.379.2031. Delavau is a supplier of high-quality ingredients for enrichment including minerals, vitamins, fibers, and proteins used commonly in such products as bread, donuts, nutrition bars, pasta, and more. An additional line of blends focuses on clean label dough conditioners, calcium fortification with sodium reduction, and shelf life extension.

**205\*† DSM Food Specialties**, 3502 North Olive Rd., South Bend, IN, 46628 U.S.A.; Telephone: +1.574.232.5000; 1.800.522.8110; Fax: +1.574.232.2468; Web: [www.dsm.com](http://www.dsm.com). DSM's range of baking enzymes offers a variety of solutions to the diverse challenges that bakers face every day. With our extensive technical expertise and years of experience, we'll work in partnership with you to create high-quality, affordable products with maximum consumer appeal.

**207 DSM Nutritional Products, Inc.**, 45 Waterview Blvd., Parsippany, NJ, 07054 U.S.A.; Telephone: +1.973.257.8500; Fax: +1.973.257.8468; Web: [www.dsm.com](http://www.dsm.com). DSM Nutritional Products, the global leader in nutrition, is the world's premier producer of vitamins, carotenoids, custom blends, omega-3 & 6 LC PUFAs, and nutraceuticals to dietary supplement and food product manufacturers. DSM Nutritional Products has global R&D capabilities and an international network of technical service, production, and distribution facilities.

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**411\* 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](http://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.

**624 Eigenvector Research, Inc.**, 3905 West Eaglerock Dr., Wenatchee, WA, 98831 U.S.A.; Telephone: +1.509.687.1039; Web: [www.eigenvector.com](http://www.eigenvector.com). Eigenvector Research, Inc. (EVRI), is a full-service chemometrics company, offering software, training, and consulting. Software products include Solo, PLS\_Toolbox, MIA\_Toolbox for multivariate image analysis, and tools for online implementation. Training includes Eigenvector University and custom in-house courses. EVRI's consultants have over a hundred years of combined experience.

**622 Elementar Americas Inc.**, 520 Fellowship Rd., Suite D-408, Mount Laurel, NJ, 08054 U.S.A.; Telephone: +1.856.787.0022; Fax: +1.856.878.0055; Web: [www.chnos.com](http://www.chnos.com); E-mail: [info@elementar-inc.com](mailto:info@elementar-inc.com). Elementar Americas offers the rapid-N-cube and vario-MAX-cube for accurate automated protein determination via Dumas combustion method: safer, faster, and less expensive than Kjeldahl. Key rapid-N features: small footprint, large sample size, stable calibration, 4-minute analysis time, low-maintenance design, inexpensive CO<sub>2</sub> carrier gas, no-stacking 60-position carousel, 10-year furnace warranty, and excellent service.

- 219 EnviroLogix Inc.**, 500 Riverside Industrial Pkwy., Portland, ME, 04103-1486 U.S.A.; Telephone: +1.207.797.0300; 1.866.408.4597; Fax: +1.207.797.7533; Web: [www.envirologix.com](http://www.envirologix.com). EnviroLogix is the global leader in innovative test kits serving the agricultural and food and feed safety markets. Our product portfolio includes immunoassay test kits for the detection of GMOs and mycotoxins in commodity grains. All our LFD tests are compatible with our innovative QuickScan System, giving accurate, quantitative results.
- 518\* Enzyme Development Corp.**, 505 8th Ave., Suite 1500, New York, NY, 10018-6505; Telephone: +1.212.736.1580 Ext. 247; Web: [www.enzymedevelopment.com](http://www.enzymedevelopment.com); E-mail: [info@enzymedevelopment.com](mailto:info@enzymedevelopment.com). Manufacturer of a wide range of baking enzymes to enhance your final product or optimize production. HQ in New York City and production and labs in Scranton, PA. On-site assistance available. Please call or E-mail us.
- 224 Eurofins Scientific**, 2200 Rittenhouse St., Des Moines, IA, 50321 U.S.A.; Telephone: +1.515.280.8378; Fax: +1.515.280.7068; Web: [www.eurofinsus.com](http://www.eurofinsus.com). Eurofins is an independent, international, multidiscipline laboratory group staffed by world-recognized scientists, technicians, and support staff. With over 180 laboratories worldwide, Eurofins forms the largest testing network with unrivaled analytical capabilities for clients in the food, feed, pet food, animal health, plant health, nutraceutical, biodiesel, dairy, grain, and seed industries.
- 512 Farmer Direct Foods**, 511 Commercial St., P.O. Box 326; Atchison, KS, 66002 U.S.A.; Telephone: 1.800.372.4422; +1.913.367.4422; Fax: +1.913.367.4443; Web: [www.farmerdirectfoods.com](http://www.farmerdirectfoods.com); E-mail: [sales@farmerdirectfoods.com](mailto:sales@farmerdirectfoods.com). Farmer Direct Foods specializes in high-quality, consistent flours made from Identity Assured white wheats. Natural s'Wheat 100% stoneground whole wheat flours offer naturally sweeter taste and lighter colored whole grain flour that can be formulated into a variety of breads and other applications. Heavy/clean brans; Handcrafters/patent flours also available.
- 305\* FONA International**, 1900 Averill Rd., Geneva, IL, 60134 U.S.A.; Telephone: +1.630.578.8600; Fax: +1.630.578.8601; Web: [www.fona.com](http://www.fona.com). 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.
- 510\* Fortitech, Inc.**, 2105 Technology Dr., Schenectady, NY, 12308 U.S.A.; Telephone: +1.518.372.5155; Web: [www.fortitech.com](http://www.fortitech.com). Fortitech, now a part of DSM, is the one-stop source for food, beverage, and pharmaceutical manufacturers looking for fortification as a way to differentiate their products from their competition, as well as helping meet the nutritional needs of consumers around the world. For more information, visit [www.fortitech.com](http://www.fortitech.com).
- 507\* FOSS North America**, 8091 Wallace Rd., Eden Prairie, MN, 55344 U.S.A.; Telephone: +1.952.974.9892; 1.800.547.6275; +1.952.974.9823; Web: [www.foss.us](http://www.foss.us); E-mail: [info@fossna.com](mailto:info@fossna.com). FOSS offers highly accurate, easy-to-use solutions for all stages of grain analysis—on-farm, grain receipt, in the lab, and at the production line. By using FOSS solutions, you can be confident in correct grading, payment, and production profitability.
- 511 Givaudan Flavors Corp.**, 1199 Edison Dr., Cincinnati, OH, 45216 U.S.A.; Telephone: +1.513.948.5616; Fax: +1.513.948.4978; Web: [www.givaudan.com](http://www.givaudan.com). As the leading company in the flavors and fragrances industry, Givaudan creates and manufactures unique and innovative taste and smell solutions. They are developed for global, regional, and local food and beverages manufacturers as well as household, personal care, and fine fragrance companies.
- 519\* Glanbia Nutritionals**, 5951 McKee Rd., Suite 201, Fitchburg, WI, 53719 U.S.A.; Telephone: +1.608.316.8500; 1.800.336.2183; Fax: +1.608.316.8504; Web: [www.glanbianutritionals.com](http://www.glanbianutritionals.com); E-mail: [nutrition@glanbia.com](mailto:nutrition@glanbia.com). Glanbia Nutritionals offers a full portfolio of flaxseed and ancient grain products. Our portfolio also includes OptiSol functional flaxseed and whey products for moisture management/shelf life extension, egg replacement, sugar reduction in cereal binders, and improving nutrition in baked goods and cereal products.
- 516 GNT USA, Inc.**, 660 White Plains Rd., Tarrytown, NY, 10591 U.S.A.; Telephone: +1.914.524.0600; Fax: +1.914.524.0681; Web: [www.gnt-group.com](http://www.gnt-group.com). GNT is the leading global manufacturer of cutting-edge food and beverage ingredients made exclusively from fruits, vegetables, and edible plants. With a focus on natural coloring solutions, GNT stands alone as the industry authority, providing innovative color solutions to many of the world's favorite food and beverage brands.
- 419\* Gold Coast Ingredients, Inc.**, 2429 Yates Ave., Commerce, CA, 90040 U.S.A.; Telephone: 1.800.352.8673; +1.323.724.8935; Fax: +1.323.724.9354; Web: [www.goldcoastinc.com](http://www.goldcoastinc.com). Gold Coast Ingredients, Inc., is a full-service custom flavor manufacturer. We pride ourselves on great customer service and the ability to formulate products based on our customer's specific needs. We offer online sample ordering and custom formulations.
- 413\* Grain Millers, Inc.**, 10400 Viking Dr., Suite 301, Eden Prairie, MN, 55344 U.S.A.; Telephone: 1.800.232.6287; Fax: +1.952.829.8819; Web: [www.grainmillers.com](http://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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- 506\* Grain Processing Corp.**, 1600 Oregon St., Muscatine, IA, 52761 U.S.A.; Telephone: +1.563.264.4265; Fax: +1.563.264.4289; Web: [www.grainprocessing.com](http://www.grainprocessing.com); E-mail: [food.sales@grainprocessing.com](mailto: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.

- 214\*** **Great Falls Development Authority**, P.O. 949, Great Falls, MT, 59403-0920 U.S.A.; Telephone: +1.406.771.9020; +1.406.750.2119; Fax: +1.406.454.2995; Web: GFdevelopment.org. Montana's Great Falls "Golden Triangle" region gives agri-processors direct access to high-quality, high-protein wheat, barley, lentils, dry peas, and oil seeds. Great Falls AgriTech Park offers 10-200 acre lots with rail and all utilities (including municipal, raw, and spring water) at \$20,000 an acre, plus financing and incentives.
- 405\*** **Great Plains Analytical Laboratory**, 9503 North Congress Ave., Kansas City, MO, 64153 U.S.A.; Telephone: +1.303.774.8262; +1.303.641.1335; Fax: +1.303.774.7545; Web: www.gpalab.com. Great Plains is the leading cereal chemistry laboratory in the United States with focus on serving the milling, baking, and grain industries. Known for rapid turnaround and full food service testing with microbiology, mycotoxins, full rheology and bake lab, and chromatography. Providers of the annual Wheat Crop Quality Survey. ISO 17025.
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- 102** **Herbstreith & Fox Inc.**, 570 Taxter Rd., Elmsford, NY, 10523 U.S.A.; Telephone: +1.914.806.7832; +1.914.345.9501; Fax: +1.914.345.0919; Web: www.herbstreith-fox.com. Herbstreith & Fox is a producer of high-quality pectin, fruit fiber, apple sweetener, and apple extract coloring for the food and nonfood industry. Both basic and application-oriented research form the basis of our customized products and applications for our customers. Founded in 1934, we are the pectin specialists.
- 606\*** **Hesco, Inc. / Dakota Organic Products**, 500 19th St. SW, Watertown, SD, 57201 U.S.A.; Telephone: 1.800.243.7264; 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 and grain products. Hesco's facilities are BRC and AIB certified, FDA registered, USDA and QAI certified organic, and OU certified kosher.
- 123** **ICC/MoniQA/Healthgrain**, Marxergasse 2, Vienna 1030, Austria; Telephone: +43.1.707.72020 or +43.1.707.72040; Web: www.icc.or.at. ICC is the preeminent 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 improved food quality, food safety, and food security for the health and well-being of all people.
- 403\*†** **ICL Food Specialties**, 622 Emerson Rd., Suite 500; Saint Louis, MO, 63141 U.S.A.; Telephone: 1.855.ICL.SPEC; 1.855.425.7732; +1.314.983.7500; Fax: +1.314.918.0117; Web: www.iclfood.com; E-mail: experts@iclfood.com. Introducing ICL Food Specialties, the merger of ICL Food and BK Giulini. Experience innovation in the form of a healthy-indulgent cake pop featuring Levona Brio zero-sodium leavener, Licresse natural shelf-life extender, and Salona low-sodium sea salt. Ingredients with endless possibilities.
- 204** **Ingredion Inc. (formerly Corn Products International)**, 5 Westbrook Corporate Center, Westchester, IL, 60154 U.S.A.; Telephone: +1.708.551.2600; Web: www.ingredion.com. Ingredion 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.
- 106\*** **Innophos, Inc.**, 259 Prospect Plains Rd., Building A, Cranbury, NJ, 08512 U.S.A.; Telephone: +1.605.495.2495; Web: www.innophos.com; E-mail: spcustomerservice@innophos.com. Looking for an easy way to reduce the sodium and keep the taste in baked goods? Innophos provides a wide range of solutions for reduced sodium applications in the baking industry. Cal-Rise is a unique leavening acid that delivers multiple benefits to enhance all of your bakery products.
- 513** **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.
- 522** **International Flavors & Fragrances Inc.**, 150 Docks Corner Rd., Dayton, NJ, 08810 U.S.A.; Telephone: +1.732.329.4600; Web: www.iff.com. IFF is a leading global creator of flavors and fragrances used in a wide variety of consumer products, including beverages, sweet goods, and food products. The company leverages its competitive advantages of consumer insight, R&D, creative expertise, and customer intimacy with innovative and differentiated product offerings. Visit us at www.iff.com.
- 115\*** **J. RETTENMAIER USA LP**, 16369 U.S. 131 Highway, Schoolcraft, MI, 49034 U.S.A.; Telephone: +1.269.679.3230; Fax: +1.269.679.3234; Web: www.jrsusa.com; E-mail: info@jrsusa.com. J. RETTENMAIER USA is a dynamic global leader of functional, label-friendly dietary fibers that contribute nutritional and functional benefits. Vitacel fibers include powdered cellulose, oat, wheat, sugarcane, psyllium, potato, pea, bamboo, apple, and orange. Vivapur fibers include microcrystalline cellulose and cellulose gel as well as hydroxypropyl methylcellulose and methylcellulose.
- 422** **Lab Synergy**, 374 Pulaski Highway, Goshen, NY, 10924 U.S.A.; Telephone: 1.866.435.7897; +1.845.258.1200; Fax: +1.845.258.1208; Web: www.labsynergy.com; E-mail: info@labsynergy.com. Lab Synergy is the North American distributor for leading manufacturers of laboratory instruments. We are the sole distributor for the unique line of Chopin products here in North America. These instruments offer a tool for the determination of starch damage and instruments that test the rheology of flour.

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- 112\*** **Lallemand Baking Solutions**, 1620 Prefontaine, Montreal, Quebec, H1W 2N8, Canada; Telephone: +1.514.251.3620; Fax: +1.514.255.6861; Web: [www.lallemand.com](http://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, and custom product solutions to the global baking industry. Also offering Bocker ready-to-use cultured flours in North America.
- 515\*** **Malt Products Corp.**, 88 Market St., Saddle Brook, NJ, 07663 U.S.A.; Telephone: 1.800.526.0180; Fax: +1.201.845.0028; Web: [www.maltproducts.com](http://www.maltproducts.com). Producer of liquid and dry malts, sugar cane molasses, and invert syrups. Also available are agave, rice, tapioca, oat, honey, and wheat syrups. Plants in the United States, Canada, and Holland provide worldwide product availability. Organic versions of most products are available.
- 200** **Mane, Inc.**, 2501 Henkle Dr., Lebanon, OH, 45036 U.S.A.; Telephone: +1.513.218.9876; +1.513.218.9876; Web: [www.mane.com](http://www.mane.com). Mane, Inc., is a fifth generation, privately held flavor and fragrance company with operations spanning 22 manufacturing sites globally. Mane delivers cutting-edge flavors, seasoning blends, and a unique expertise for designing sweet and savory products, combined with an unrivaled knowledge of natural raw materials.
- 306\*** **Medallion Labs**, 9000 Plymouth Ave. N, Minneapolis, MN, 55427 U.S.A.; Telephone: 1.800.245.5615; +1.763.764.4453; Fax: +1.763.764.4010; Web: [www.medallionlabs.com](http://www.medallionlabs.com); E-mail: [info@medlabs.com](mailto:info@medlabs.com). Since 1974, Medallion Laboratories, a department of General Mills, has been a technical leader in the food industry. Our areas of expertise include chemistry analysis, nutrition labeling, specialty fibers, food safety, shelf life, physical testing, microbiology, as well as technical consulting and method development.
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- 300\*** **Megazyme International Ireland**, Bray Business Park, Southern Cross Rd., Bray, Co. Wicklow, 0000, Ireland; Telephone: +353.1.2861220; Fax: +353.1.2861264; Web: [www.megazyme.com](http://www.megazyme.com); E-mail: [info@megazyme.com](mailto:info@megazyme.com). Megazyme International Ireland develops, manufactures, and supplies innovative test kits and reagents for quality management in the cereals, food, wine, and biofuels industries. These kits are used to measure components such as dietary fiber, sugars, organic acids, and enzymes.
- 326\*** **The Mennel Milling Company**, 128 W. Crocker St., P.O. Box 806, Fostoria, OH, 44830 U.S.A.; Telephone: +1.419.435.8151; Fax: +1.419.436.5150; Web: [www.mennel.com](http://www.mennel.com). The Mennel Milling Company is one of the leading soft wheat millers in the country and specializes in custom milling. In addition, Mennel produces hard and spring wheat flours and heat-treated flours. Mills are located in Fostoria and Bucyrus, OH; Dowagiac, MI; Roanoke, VA; and Mt. Olive, IL.
- 425\*** **Merlin Development, Inc.**, 181 Cheshire Lane, Suite 500, Plymouth, MN, 55441 U.S.A.; Telephone: +1.763.475.0224; Web: [www.merlindevelopment.com](http://www.merlindevelopment.com); E-mail: [merlin@merlindev.com](mailto:merlin@merlindev.com). Merlin Development provides contract R&D services to the food and beverage industry. Merlin provides creative and science-based solutions to deliver new or improved products to meet and exceed consumers' expectations. Our extensive experience in product development can resolve your unique challenges from prototype development through production start-ups.
- 504\*** **MGP Ingredients, Inc.**, 100 Commercial St., Atchison, KS, 66002 U.S.A.; Telephone: 1.800.255.0302; Web: [www.mgpingredients.com](http://www.mgpingredients.com). In business since 1941, MGP's core capabilities remain focused on providing customers with superior specialty wheat proteins and starches that provide a host of nutritional, sensory and functional benefits. These include Fibersym® RW resistant starch, Optein™ lightly hydrolyzed protein, Arise® protein isolates and TruTex® textured protein.
- 322** **Mid America Food Sales**, P.O. Box 904, Northbrook, IL 60065 U.S.A.; Telephone: +1.847.945.0104; Fax: +1.847.945.0424; Web: [www.midamfoodsales.com](http://www.midamfoodsales.com); E-mail: [mafs00@ameritech.net](mailto:mafs00@ameritech.net). Mid America Food Sales, Ltd., is an international food ingredient, marketing, and consulting company. We provide solutions to the food and nutritional industry. Our focus is fiber, grains, prebiotics, probiotics, organic grains, ancient grains, custom blending, packaging, bar fillings, dairy proteins, pea and rice proteins, cocoa, cereal, and cookie inclusions.
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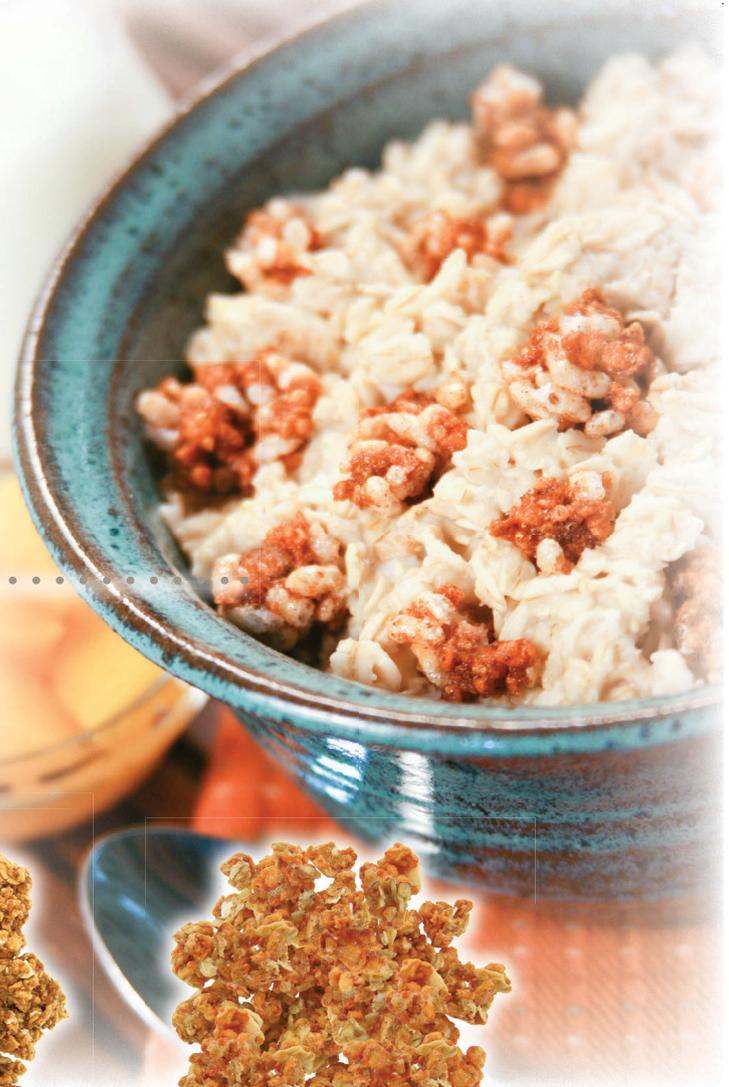
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# Author Index

The number following each name refers to the presentation number in the Program Book. The letter following each abstract refers to the type of presentation: O = oral technical session, P = poster, S = special session.

- Abbas, I., (205-P)  
Abdel-Aal, E. S., (86-S), (105-P)  
Abdel-Samie, M. S., (35-P), (115-P)  
Abou Hachem, M., (50-O)  
Adedeji, A. A., (168-P)  
Adedipe, O., (76-S)  
Agah, S., (34-P)  
Aguayo, J., (42-O)  
Ahmadi-Abhari, S., (218-P)  
Ai, Y., (42-P), (186-P)  
Akina-Lewenthal, D., (12-S)  
Alam, A. S., (89-S)  
Alavi, S., (90-S), (21-P), (168-P)  
Allen, P. V., (55-S)  
Allred, C. D., (2-S)  
Allred, K. F., (2-S)  
Almanza-Benitez, S., (60-P)  
Altenbach, S. B., (55-S)  
Alvarado Resendiz, M. G., (97-P)  
Alvim, I. D., (85-P)  
Ambrose, K., (4-P)  
Ames, N., (52-S), (31-P), (69-P)  
Amonsou, E. O., (137-P), (225-P)  
Ananta, E., (233-P)  
Andaya, V. C., (21-S)  
Annor, G. A., (24-O)  
Ao, Z., (12-O)  
Aoki, N., (30-O)  
Araki, T., (46-O)  
Arámbula-Villa, G., (87-P)  
Arijaje, E. O., (190-P), (208-P)  
Arndt, E. A., (28-S), (71-S)  
Ashida, K., (30-O)  
Assefaw, E., (80-S)  
Aussenac, T., (8-O)  
Austin, D., (87-S)  
Awika, J. M., (1-S), (2-S), (25-P), (30-P), (34-P), (47-P), (54-P), (55-P), (74-P), (91-P), (160-P), (231-P)  
Azzini, L., (144-P)  
Baasandorj, T., (93-P)  
Baga, M., (51-O)  
Baghdadi, C., (8-P), (78-P)  
Baik, B. K., (29-P), (223-P), (224-P)  
Bamforth, C., (216-P)  
Bao, J., (32-P)  
Barbiroli, A., (85-S)  
Barbosa-Cánovas, G. V., (132-P)  
Barrey, E., (17-P)  
Barros, F., (54-P), (55-P), (74-P)  
Barta, J., (66-S)  
Baumann, M. J., (77-S)  
Baumert, J., (47-S)  
Bean, S. R., (2-P), (12-P), (99-P)  
Beck, E. J., (171-P)  
Becker, T., (40-O), (47-O), (52-O)  
Beckles, D., (56-S)  
Bedford, M., (139-P)  
Bellaio, S., (79-S), (227-P)  
Bello-Perez, L. A., (60-P)  
Below, F. E., (38-P)  
Bender, S., (153-P)  
Berra, M., (80-P), (94-P)  
Berrios, J. J., (228-P)  
Bertoft, E., (8-S), (9-S), (24-O), (140-P), (184-P), (185-P)  
Bertoldi, F. C., (20-P)  
Beswa, D., (137-P)  
Beta, T., (3-S), (32-P), (33-P)  
Bethke, P., (76-S)  
Bettge, A. D., (72-S), (44-O)  
Bianchini, A., (14-S), (114-P)  
Bietry, M. F., (233-P)  
Biliaderis, C. G., (63-P), (101-P), (151-P)  
Bing, D. J., (142-P)  
Biswas, A., (196-P)  
Blennow, A., (23-O), (200-P)  
Blundell, M., (31-O)  
Bock, J. E., (31-S), (79-P), (103-P)  
Boefer, W., (226-P)  
Boinot, N., (80-P), (94-P), (146-P)  
Bonhoure, J. P., (8-O)  
Bonomi, F., (85-S)  
Bora, P., (133-P)  
Borsuk, Y., (143-P)  
Bosmans, G. M., (109-P)  
Bourré, L., (80-S), (141-P), (143-P)  
Boux, G., (92-S), (179-P)  
Boyacioglu, M. H., (28-P)  
Boye, J., (179-P)  
Brewer, C., (118-P)  
Brewer, L. R., (30-S), (19-O)  
Brijs, K., (28-O), (45-O), (77-P)  
Brown, P., (37-P)  
Brunnbauer, M., (2-O)  
Bryant, R., (29-O)  
Buckley, E. N., (62-P)  
Buggenhout, J., (28-O)  
Buléon, A., (6-S), (200-P), (206-P)  
Bussan, A., (76-S)  
Butardo, V. M., (199-P)  
Butterworth, P. J., (7-O)  
Byars, J. A., (128-P)  
Cai, L., (19-O), (224-P)  
Callahan, J. H., (148-P), (156-P)  
Campanella, O. H., (41-S), (42-S), (32-O), (98-P)  
Campasino, A., (53-P)  
Cappa, C., (132-P), (134-P)  
Carciofi, M., (23-O), (200-P)  
Carr, T. P., (38-O)  
Carrier, D. J., (68-P)  
Carriere, S., (8-P), (78-P)  
Carter, A. H., (48-P)  
Carter, C. E., (131-P), (177-P)  
Carver, B. F., (53-S)  
Casper, J. L., (95-S), (104-P)  
Castaneda-Pérez, R., (87-P)  
Cerqueira Barros, R. M., (36-P)  
Chang, F., (209-P)  
Chang, R. C., (89-P)  
Chang, Y. H., (89-P), (113-P), (195-P)  
Chen, J., (202-P)  
Chen, L., (51-S)  
Chen, M. F., (154-P)  
Chen, M. H., (26-O)  
Chen, M. H., (38-P), (68-P)  
Chen, S. Y., (195-P)  
Chen, Z., (182-P)  
Cherry, S., (127-P)  
Chezeau, B., (94-P)  
Chiang, E., (174-P)  
Chibbar, R. N., (51-O)  
Chiremba, C., (41-P)  
Cho, K., (162-P)  
Choi, I., (224-P)  
Choi, S. H., (26-O)  
Christidis, P., (63-P)  
Chu, S., (216-P)  
Chu, Y. -F., (35-S)  
Claussen, F. A., (18-P)  
Cogswell, T. S., (29-S), (65-S)  
Colasuonno, P., (56-S)  
Colgrave, M., (31-O)  
Collares-Queiroz, F. P., (85-P)  
Collins, F. W., (33-S)  
Collison, A., (47-P)  
Conde-Petit, B., (226-P)  
Cook, C., (60-S)  
Copeland, L., (21-O)  
Corredig, M., (24-O)  
Corsini, N., (31-O)  
Costa, M. S., (90-P)  
Courtin, C. M., (20-O)  
Cropper, S., (75-P)  
Cruz Villegas, R., (76-P)  
Cuevas Rodriguez, E., (42-O), (167-P)  
Daly, R., (73-P)  
Danao, M. G. C., (37-P)  
Dann, O. E., (95-P)  
Darly-Kindelspire, J. Y., (40-S)  
Dasgupta, N., (232-P)  
Daugelaitė, D., (22-P), (180-P)  
De La Peña, E., (42-S)  
D'Egidio, M. G., (102-P)  
Dejmek, P., (41-O), (219-P)  
Delcour, J. A., (10-S), (2-O), (11-O), (20-O), (28-O), (45-O), (77-P), (109-P)  
Delgado, D., (228-P), (229-P)  
Delwiche, S. R., (6-O), (9-P)  
Deng, L., (173-P)  
Derera, J., (137-P)  
DeVries, J., (56-O)  
Dey, M., (5-S)  
Dhital, S., (18-O), (35-O), (199-P), (204-P), (217-P)  
Diehl-Jones, W., (3-S)

Dien, B. S., (68-P)  
 Dietrich, B., (15-S)  
 Dlamini, N. R., (137-P), (225-P)  
 Dogan, H., (88-S), (21-P), (75-P), (99-P),  
 (110-P), (183-P)  
 Domínguez-García, C., (147-P)  
 Donal, G., (217-P)  
 Döring, C., (47-O)  
 Dornez, E., (20-O)  
 Douth, J., (220-P)  
 Drake, M., (14-O), (16-O)  
 Drapcho, D., (15-P)  
 Draves, J., (140-P)  
 Dreisoerner, J., (102-P)  
 Dubat, A., (80-P), (94-P), (146-P)  
 Dubcovsky, J., (56-S)  
 Duizer, L., (136-P), (164-P)  
 Dunn, K. L., (74-P)  
 Duodu, K. G., (1-S)  
 Dupont, F. M., (55-S)  
 Dykes, L., (2-S), (47-P)  
 Eden, D., (33-O)  
 Edwards, C. H., (7-O)  
 Edwards, N. M., (86-P), (96-P)  
 Eldridge, A. L., (233-P)  
 Elgeti, D., (40-O)  
 Ellis, P. R., (7-O)  
 Erickson, D. P., (41-S)  
 Fanta, G. F., (214-P)  
 Fardet, A., (4-S)  
 Faubion, J., (75-P)  
 Feccia, S., (144-P)  
 Felker, F. C., (214-P)  
 Feng, K., (51-O)  
 Fevzioglu, M., (32-O), (98-P)  
 Fiedler, K. L., (156-P)  
 Fierens, E., (11-O), (109-P)  
 Figueroa-Cárdenas, J. D., (43-O), (87-P),  
 (92-P), (150-P)  
 Figueroa-Rivera, M. G., (87-P)  
 Fincher, G. B., (34-O)  
 Finnie, S. M., (72-S), (95-S)  
 Finocchiaro, T., (54-O)  
 Fitzgerald, M., (24-S)  
 Flores, R. A., (93-S), (114-P)  
 Flowers, M. D., (7-P)  
 Fongaro, L., (134-P)  
 Foschino, R., (134-P)  
 Föste, M., (40-O)  
 Fox, G. P., (43-P), (216-P)  
 Francowiak, J., (43-P)  
 Franco, C. M. L., (90-P), (193-P)  
 Frank, L., (19-P), (157-P)  
 Frese, S. A., (161-P)  
 Frey, M., (168-P)  
 Friedman, M., (26-O)  
 Fritz, A. K., (49-P)  
 Frohlich, P., (92-S), (179-P)  
 Fu, B., (5-P)  
 Fu, J. T., (89-P)  
 Fuerst, E. P., (223-P)  
 Fuerst, P., (72-P), (232-P)  
 Fujita, K., (46-O)  
 Gadgil, P., (12-P)  
 Gao, J., (46-P)  
 Garcia, M. C., (193-P)  
 Gardner, K. M., (64-S)  
 Garg, A., (21-P)  
 Garland-Campbell, K. A., (48-P)  
 Gaspard, D., (104-P)  
 Gauthier, J., (228-P), (229-P)  
 Gaxiola Cuevas, N., (42-O)  
 Gayin, J. K., (185-P)  
 Gerrits, W., (35-O)  
 Ghahnaviehei, N. B., (4-O)  
 Gidley, M. J., (18-O), (35-O), (199-P),  
 (204-P), (217-P)  
 Gilbert, E. P., (220-P)  
 Gilbert, R. G., (48-O), (26-P), (43-P),  
 (187-P), (210-P), (211-P), (212-P),  
 (216-P), (220-P)  
 Girardet, N., (226-P)  
 Glaring, M. A., (200-P)  
 Glenn, G. M., (83-S)  
 Goderis, B., (10-S)  
 Gokmen, V., (75-S)  
 Goldstein, A., (32-S)  
 Golley, S., (31-O)  
 Golom, S., (31-P), (69-P)  
 Gomand, S., (10-S)  
 Gomes-Ruffi, C. R., (85-P)  
 Gommès, C. J., (10-S)  
 Gong, L., (42-P), (170-P), (186-P), (213-P)  
 Goodman, R. E., (46-S)  
 Goswami, H., (31-O)  
 Gous, P. W., (43-P)  
 Granvogel, M., (74-S)  
 Graybosch, R. A., (9-P)  
 Green, P. B., (19-S)  
 Guajardo-Flores, S., (147-P)  
 Guemes-Vera, N., (76-P), (97-P)  
 Guinness, N., (35-O)  
 Guo, B., (43-S)  
 Guo, G., (14-O), (15-O), (16-O)  
 Guo, J., (40-P)  
 Guo, W., (3-S)  
 Guthrie, B. D., (14-O), (15-O), (16-O)  
 Gutierrez Uribe, J. A., (42-O), (167-P)  
 Halbmayer-Jech, E., (19-P), (157-P)  
 Hall, C., (26-S), (14-P), (152-P)  
 Hamaker, B. R., (41-S), (58-S), (12-O),  
 (17-O), (32-O), (51-P), (57-P), (98-P),  
 (215-P)  
 Hamed, A. M., (105-P)  
 Hamer, R., (218-P)  
 Han, A., (124-P)  
 Han, J., (141-P)  
 Hanan, J., (35-O)  
 Hansen, L. M., (97-S)  
 Harriman, C. W., (67-S)  
 Hasjim, J., (25-O), (43-P), (187-P), (210-P),  
 (211-P), (216-P)  
 Hatcher, D. W., (22-P), (180-P)  
 Hattori, K., (86-P)  
 Haub, M. D., (38-O)  
 Hayman, D. M., (27-S)  
 Hazard, B., (56-S)  
 He, H., (15-P)  
 He, X., (209-P)  
 Hebelstrup, K. H., (23-O)  
 Hein, T., (19-P)  
 Henderson, K., (46-P)  
 Hendriksen, H. V., (77-S)  
 Henriksen, A., (50-O)  
 Henry, R. J., (54-S), (211-P)  
 Herald, T. J., (2-P), (12-P)  
 Hernández-Estrada, Z. J., (43-O)  
 Heravifar, K., (188-P)  
 Hernandez Uribe, J. P., (76-P)  
 Hernández-Estrada, Z. J., (92-P)  
 Herrman, D., (231-P)  
 Herrman, T. J., (23-P)  
 Hirsch, L., (70-P)  
 Honey, K., (99-P), (183-P)  
 Hood-Niefer, S., (81-S)  
 Horigane, A., (6-P)  
 Hotchkiss, A. T., (228-P)  
 Hou, G., (182-P)  
 Houchins, D., (118-P)  
 House, J. D., (78-S)  
 Howitt, C., (31-O)  
 Huab, M., (19-O)  
 Huang, D., (34-S)  
 Huang, J., (42-P), (170-P), (186-P)  
 Huang, Q., (209-P)  
 Huang, W., (35-P), (115-P)  
 Huang, Y. C., (126-P)  
 Hucl, P., (51-O)  
 Hurkman, W. J., (55-S)  
 Hwang, H. S., (121-P)  
 Hystad, S. M., (39-S)  
 Hyun, J. N., (224-P)  
 Iametti, S., (85-S)  
 Ikegaya, T., (30-O)  
 Inglett, G. E., (128-P)  
 Inouchi, N., (30-O)  
 Ishigo, K., (6-P)  
 Ishii, T., (30-O)  
 Issarny, C., (79-P)  
 Ivory, R., (73-P)  
 Izydorczyk, M. S., (49-S), (96-S)  
 Jackson, D., (161-P), (165-P)  
 Jaiswal, S., (51-O)  
 Jane, J. L., (42-P), (170-P), (186-P), (213-P)  
 Janovicek, K., (103-P)  
 Jekle, M., (40-O), (47-O), (52-O)  
 Jensen, J. M., (50-O)  
 Jensen, S. L., (200-P)  
 Jeong, H. Y., (116-P)  
 Jeong, J., (13-P)  
 Jeong, Y. K., (224-P)  
 Jeradechachai, T., (152-P)  
 Jernigan, K. L., (48-P)  
 Jervis, M. G., (14-O), (15-O), (16-O)  
 Jervis, S. M., (14-O), (15-O), (16-O)  
 Jin, Y. S., (40-P)  
 Jinn, J. R., (208-P)  
 Jodari, F., (21-S)  
 Johnson, C., (16-P)  
 Johnson, P., (103-P)  
 Johnson, Q. W., (18-S)  
 Jondiko, T. O., (25-P), (74-P)  
 Jones, J. M., (22-S), (84-S)  
 Jonnalagadda, S., (37-S), (61-S)  
 Juhani, S., (89-S)

Jung, K., (116-P)  
 Jurgens, A., (41-S)  
 Kadam, D., (112-P)  
 Kahraman, K., (64-P)  
 Kale, S., (56-P)  
 Kalinga, D., (8-S)  
 Kang, Y., (116-P)  
 Kao, W. T., (113-P), (195-P)  
 Kappeler, S. R., (79-S), (226-P), (227-P)  
 Kaufman, R., (2-P)  
 Kaur Chandi, G., (8-P), (78-P)  
 Kazennova, N., (138-P)  
 Kenar, J. A., (214-P)  
 Khalid, H., (59-P)  
 Khamis, M., (99-P), (110-P)  
 Kim, D. C., (111-P)  
 Kim, H., (111-P)  
 Kim, H. J., (26-O)  
 Kim, O. W., (111-P)  
 Kim, S. S., (111-P)  
 Kim, S. M., (40-P)  
 Kim, T., (116-P)  
 King, L. R., (233-P)  
 Kiszonas, A. M., (72-P)  
 Kitamura, Y., (6-P)  
 Knorr, V., (163-P)  
 Ko, D. W., (51-P)  
 Kocadagh, T., (75-S)  
 Köhler, P., (38-S), (74-S), (2-O), (5-O),  
 (163-P)  
 Kokawa, M., (46-O)  
 Koxsel, H., (64-P)  
 Kongraksaweche, T., (44-O), (7-P)  
 Kostaleva, E., (138-P)  
 Kozukue, N., (26-O)  
 Krishnan, P. G., (40-S), (11-P)  
 Kulakov, O., (138-P)  
 Kumar Kollipara, P., (222-P)  
 Kwak, H. S., (116-P)  
 Kwak, S., (40-P)  
 Labat, E., (233-P)  
 Labuschagne, M. T., (1-O)  
 Lagrain, B., (2-O), (109-P)  
 Lai, H. M., (126-P), (192-P)  
 Lakhali, L., (8-O)  
 Lakshmanan, S., (155-P)  
 Lamothe, L. M., (57-P)  
 Lamsal, B., (112-P)  
 Lanfer Marquez, U. M., (20-P), (36-P)  
 Lasater, M., (208-P)  
 Lazaridou, A., (63-P), (101-P), (151-P)  
 Lee, B. H., (51-P)  
 Lee, C. W., (162-P)  
 Lee, D., (40-P)  
 Lee, J., (53-P)  
 Lee, K. M., (23-P)  
 Lee, S., (228-P), (229-P)  
 Lee, S. E., (111-P)  
 Lehmann, U., (233-P)  
 Li, C., (212-P)  
 Li, J., (127-P)  
 Li, S., (37-P)  
 Lin, A. M., (12-O)  
 Lin, B., (125-P)  
 Lin, C., (61-P)  
 Lin, C. Y., (113-P)  
 Lin, J. H., (113-P), (195-P)  
 Lindsay, M., (64-S)  
 Lineback, D. R., (73-S)  
 Linscombe, S., (20-S)  
 Liu, K., (172-P)  
 Liu, R., (123-P)  
 Liu, S. X., (121-P), (128-P), (196-P)  
 Liu, T., (91-P)  
 Liu, Y., (177-P)  
 Longshore, J., (14-O), (15-O), (16-O)  
 Loos, K., (218-P)  
 Lu, S., (154-P)  
 Lu, Z. H., (3-O)  
 Lucisano, M., (132-P), (134-P), (144-P)  
 Lyly, M., (36-O)  
 Lynglev, G. B., (77-S)  
 Ma, H., (91-P)  
 Madl, R. L., (49-P)  
 Maher, J., (8-P)  
 Maier, D., (4-P), (120-P)  
 Malcolmson, L., (80-S), (92-S), (141-P),  
 (143-P), (179-P)  
 Malcolmson, L., (82-S),  
 Mandalari, G., (7-O)  
 Manepalli, P. H., (21-P)  
 Manful, J., (1-P), (185-P)  
 Mangalassary, S., (228-P), (229-P)  
 Mangan, D., (73-P)  
 Maningat, C., (22-O), (208-P)  
 Manthey, F. A., (42-S), (59-P), (93-P),  
 (131-P), (173-P), (177-P), (203-P)  
 Marcone, M., (24-O), (140-P)  
 Marefati, A., (41-O)  
 Marengo, M., (85-S)  
 Mariotti, M., (132-P), (134-P), (144-P)  
 Marquart, L., (122-P)  
 Martens, H. J., (23-O)  
 Marti, A., (85-S), (102-P), (144-P)  
 Martinez, I., (38-O)  
 Marume, T., (96-P)  
 Masey O'Neill, H. V., (53-P), (139-P)  
 Mashingaidze, K., (41-P)  
 Maskus, H. D., (80-S), (141-P), (143-P)  
 Massaretto, I. L., (20-P), (36-P)  
 Mathew, J., (21-P)  
 Matsuba, S., (30-O)  
 Mattinson, S., (29-P)  
 Mattson, J. E., (44-O)  
 McCleary, B., (57-O), (73-P)  
 McClung, A., (26-O), (29-O)  
 McGrath, S. C., (148-P), (156-P)  
 McIntyre, D., (11-S)  
 McKenzie, K. S., (21-S)  
 McLean, D. J., (232-P)  
 Medina, M., (229-P)  
 Mendez-Montealvo, G., (60-P)  
 Mendis, M., (59-P)  
 Mendoza-Elos, M., (87-P)  
 Mertens-Talcott, S. U., (160-P)  
 Metcalfe, H., (9-O), (139-P)  
 Meyer, J. D., (13-S)  
 Milán-Carrillo, J., (42-O), (27-P), (145-P),  
 (167-P)  
 Miller, C. L., (70-S)  
 Miller, R., (13-P), (62-P), (88-P), (95-P)  
 Miller, S. S., (83-S)  
 Milner, J. A., (59-S)  
 Miranda-Garcia, O., (44-O)  
 Miriani, M., (85-S)  
 Mkandawire, N. L., (161-P), (165-P)  
 Mogol, B. A., (75-S)  
 Mohammad, T., (88-P)  
 Mohr, P., (31-O)  
 Moiseeva, A., (138-P)  
 Moles, A., (134-P)  
 Møller, M. S., (50-O)  
 Mora Rochin, S., (42-O), (167-P)  
 Morales Sánchez, E., (92-P)  
 Morell, M. K., (31-O), (26-P)  
 Moretti, A., (134-P)  
 Moroni, A., (233-P)  
 Morris, C. F., (48-P), (72-P), (232-P)  
 Mukherjee, I., (125-P)  
 Muller, C., (161-P)  
 Murray, L., (63-S)  
 Murray, S., (47-P)  
 Murtini, E. S., (81-P), (82-P)  
 Mygdalia, A., (151-P)  
 Nabeshima, E. H., (85-P)  
 Nabetani, H., (46-O)  
 Nachimuthu, V., (39-O), (158-P)  
 Nakamura, K., (96-P)  
 Nakaura, Y., (30-O)  
 Nansen, C., (23-P)  
 Ndolo, V. U., (33-P)  
 Ng, P. K., (28-P), (64-P), (191-P)  
 Nhan, M. T., (21-O)  
 Niba, L., (54-O)  
 Nichols, B. L., (12-O), (215-P)  
 Nilufer-Erdil, D., (28-P)  
 Nishibori, F., (3-P)  
 Niu, M., (182-P)  
 Noda, T., (30-O)  
 Noguchi, H., (3-P), (194-P)  
 Noguchi, T., (3-P)  
 Noldin, J. A., (20-P), (36-P)  
 Noll, G., (125-P)  
 Nsabimana, P., (29-P)  
 Nussbaumer, M., (226-P)  
 O'Brien, P., (153-P)  
 Ohm, J. B., (162-P), (203-P)  
 Oka, D., (3-P)  
 Okusu, H., (176-P)  
 Oladzadabbasabadi, A., (59-P)  
 Olaerts, H., (20-O)  
 Olguin Pacheco, M., (76-P)  
 Oliveira, L. C., (65-P)  
 Omary, M., (228-P), (229-P)  
 Onwulata, C. I., (228-P), (229-P)  
 Orts, W. J., (83-S)  
 O'Shea, M., (35-S)  
 Osorio-Diaz, P., (60-P), (76-P)  
 Osorno, J., (14-P)  
 Ostrander, R., (16-O)  
 Ovando-Martinez, M., (198-P)  
 Ozturk, S., (64-P)  
 Packiyam, K., (169-P)  
 Pagani, A., (85-S)  
 Pagani, M. A., (102-P), (144-P)

- Page, J. H., (22-P), (180-P)  
Pan, J., (228-P)  
Pan, Z., (23-S)  
Pareyt, B., (11-O), (45-O), (77-P)  
Park, D. J., (111-P)  
Park, E. Y., (223-P)  
Park, W., (58-O)  
Patel, B. K., (42-S)  
Patindol, J., (127-P), (208-P)  
Paula, E., (65-P), (67-P)  
Pauly, A., (11-O)  
Payton, M., (81-P), (82-P)  
Peña, J. R., (43-O)  
Penson, S. P., (9-O), (139-P)  
Perez Herrera, M., (46-P)  
Perez Uriarte, J. H., (42-O)  
Pérez-Carrillo, E., (147-P)  
Perston, B. B., (7-O)  
Perumal, S., (4-P)  
Petersen, S., (17-S)  
Peterson, C., (82-S)  
Peterson, D. G., (13-O)  
Picozzi, C., (134-P)  
Piloni Martini, J., (97-P)  
Plank, D., (70-P)  
Plattner, B. S., (91-S)  
Poole, M. C., (9-O), (139-P)  
Poutanen, K. S., (89-S), (94-S)  
Powell, P. O., (210-P)  
Powers, J., (29-P)  
Pozniak, C., (5-P)  
Prinster, M., (19-P), (118-P), (157-P)  
Prior, R. L., (36-S)  
Putseys, J., (10-S)  
Qiu, D., (7-S)  
Quezada-Calvillo, R., (215-P)  
Quintero Lira, A., (97-P)  
R. Ravi, R. R., (191-P)  
Ragae, S., (105-P)  
Rajan, K., (68-P)  
Rallabhandi, P. V., (148-P)  
Ramchandran, D., (39-P)  
Ramos, O., (49-P)  
Ramseyer, M., (226-P)  
Ratnayake, W. S., (174-P)  
Rausch, K. D., (39-P), (68-P)  
Ravindran, M., (155-P), (169-P)  
Rayas-Duarte, P., (43-O), (81-P), (82-P), (92-P)  
Rayner, M., (41-O), (188-P), (219-P)  
Redgwell, R., (233-P)  
Reed, M., (186-P)  
Reicks, M., (122-P)  
Ren, X., (178-P)  
Renzetti, S., (41-S)  
Reyes-Moreno, C., (42-O), (27-P), (145-P), (167-P)  
Rhazi, L., (8-O)  
Richer-Roy, M. J., (228-P), (229-P)  
Rieschl, C., (104-P)  
Ritchie, L. E., (38-O)  
Rob Ostrander, R., (14-O)  
Robin, F., (233-P)  
Roder, M., (19-P)  
Rodríguez González, F., (87-P)  
Roger, O., (233-P)  
Rogers, A., (19-P), (157-P)  
Romani, M., (144-P)  
Rombouts, I., (2-O)  
Rooney, E., (73-P)  
Rooney, L. W., (38-O), (54-P), (55-P), (160-P)  
Rose, D., (56-P), (71-P), (114-P), (161-P), (165-P)  
Rosentrater, K. A., (228-P), (229-P)  
Ross, A. B., (233-P)  
Ross, A. S., (44-O), (7-P)  
Ross, M. M., (148-P), (156-P)  
Rothschild, J., (228-P), (229-P)  
Royall, P. G., (7-O)  
Saari, H., (188-P)  
Sabillon Galeas, L., (114-P)  
Salimi Khorshidi, A., (180-P)  
Samonte, S. O., (21-S)  
Sánchez-Peña, P., (42-O), (145-P), (167-P)  
Sanders, L., (68-S)  
Sandhu, H., (203-P)  
Sang, S., (230-P)  
Santra, D., (56-P)  
Santschi, U., (226-P)  
Sapirstein, H., (31-P), (69-P)  
Sarker, A., (164-P)  
Scanlon, M. G., (22-P), (180-P)  
Schäfer, C., (187-P)  
Schaffer-Lequart, C., (233-P)  
Schieberle, P., (74-S)  
Schiessl, A., (118-P)  
Schirmer, M., (52-O)  
Schlichting, L., (5-P)  
Schmid, M., (5-O)  
Schmiele, M., (65-P), (67-P)  
Schneider, D., (138-P)  
Sealey-Voyksner, J., (149-P)  
Seetharaman, K., (8-S), (9-S), (25-S), (3-O), (24-O), (78-P), (79-P), (103-P), (105-P), (133-P), (136-P), (164-P), (169-P), (184-P), (185-P)  
Seguchi, M., (135-P)  
Seib, P. A., (22-O)  
Seidel, D. V., (38-O)  
Sengupta, T., (53-O)  
Serna-Saldivar, S. O., (42-O), (147-P), (167-P)  
Shaik, S. S., (23-O)  
Shao, Y., (32-P)  
Sharma, G. M., (148-P)  
Shcolz, M. B. S., (90-P)  
Shebuski, J., (45-S)  
Shen, Q., (178-P), (201-P), (202-P)  
Shi, Y. C., (7-S), (19-O), (22-O), (27-O), (24-P)  
Shi, Y., (35-S)  
Shiau, S. Y., (89-P)  
Shibata, M., (46-O)  
Shimelis, O., (17-P)  
Shinsato, E., (153-P)  
Shiono, K., (3-P)  
Shukri, R., (22-O)  
Shurllknight, K., (230-P)  
Siebenmorgen, T., (127-P)  
Siegrist, J., (10-P)  
Simar, L., (146-P)  
Simnadis, T. G., (171-P)  
Simons, C., (14-P)  
Simsek, M., (215-P)  
Simsek, S., (10-O), (59-P), (93-P), (197-P), (198-P), (203-P)  
Singh, M., (121-P), (128-P), (196-P), (229-P)  
Singh, V., (37-P), (38-P), (39-P), (40-P), (68-P)  
Siska, K. P., (30-P)  
Sittipod, S., (27-O)  
Siwela, M., (137-P), (225-P)  
Sjöö, M. E., (41-O), (188-P), (219-P), (222-P)  
Slavin, J., (62-S)  
Smith, C. M., (49-P)  
Snelders, J., (20-O)  
Soto Simental, S., (76-P), (97-P)  
Souza, E., (57-S)  
Sozer, N., (89-S)  
Srichuwong, S., (57-P), (233-P)  
Stapleton, D. I., (210-P)  
Steel, C. J., (65-P), (67-P)  
Stephens, J., (205-P)  
Stojceska, V., (33-O)  
Stratton, J., (114-P)  
Strybulevych, A. L., (22-P), (180-P)  
Stukenborg, F., (47-O)  
Su, M. Y., (154-P)  
Suárez-Trujillo, D., (147-P)  
Subramanian, L., (81-P)  
Sugiyama, J., (46-O)  
Sugiyama, K., (6-P)  
Sullivan, M. A., (210-P)  
Sun, X., (32-P)  
Sundaraj, G., (39-O), (158-P)  
Supeene, Y., (80-S)  
Sutivisedsak, N., (196-P)  
Svensson, B., (50-O)  
Svensson, J. T., (200-P)  
Sweedman, M. S., (187-P)  
Syllaidopoulos, A., (63-P)  
Szucs, I., (140-P)  
Tacer-Caba, Z., (28-P)  
Takano, K., (3-P), (194-P)  
Taleon, V. M., (160-P)  
Tanackovic, V., (200-P)  
Tanaka, C. K., (55-S)  
Tanner, G., (31-O)  
Tapsell, L. C., (171-P)  
Tedesco, B., (134-P)  
Teng, A., (25-O)  
Thanompolkrungrung, T., (159-P)  
Thomas, A. E., (228-P)  
Thomas, C., (153-P)  
Thomas, H., (227-P)  
Tilley, M., (25-P), (95-P)  
Tizzotti, M. J., (187-P)  
Tongta, S., (159-P)  
Topping, D., (31-O)  
Tosh, S., (52-S)  
Tritt, A., (122-P)  
Tsuta, M., (46-O)  
Tumbleson, M. E., (39-P), (68-P)  
Tuncil, Y. E., (98-P)  
Turner, J., (95-S)  
Turner, N. D., (38-O)

Uauy, C., (56-S)  
 Uchino, M., (3-P), (194-P)  
 Umemoto, T., (30-O)  
 Uriarte-Aceves, P. M., (145-P)  
 Uriyo, E. A., (14-O), (15-O), (16-O)  
 Uzunalioglu, D., (153-P)  
 Vamadevan, V., (9-S), (184-P)  
 van Biljon, A., (1-O)  
 van de Wiele, T., (20-O)  
 Van Puyvelde, P., (10-S)  
 Van Steertegem, B., (45-O), (77-P)  
 Vandenberg, A., (142-P)  
 Vasanthan, T., (50-S), (46-P)  
 Véles-Medina, J. J., (87-P)  
 Vemulapalli, V., (125-P)  
 Vensel, W. H., (55-S)  
 Vericel, G., (80-P), (146-P), (191-P)  
 Verma, S., (10-P)  
 Vester-Christensen, M. B., (50-O)  
 Victoriano Gonzalez, L., (97-P)  
 Vigentini, I., (134-P)  
 Vilaplana, F., (48-O)  
 Vincent, M. L., (38-P)  
 Vouris, D., (101-P)  
 Voyksner, R., (149-P)  
 Waduge, R., (8-S)  
 Waldron, K. W., (7-O)  
 Walter, J., (38-O), (161-P)  
 Walter, T., (38-S)  
 Wang, F. J., (35-P)  
 Wang, H., (174-P)  
 Wang, K., (25-O), (48-O), (211-P)  
 Wang, N., (142-P)  
 Wang, S., (140-P)  
 Wang, Y. J., (124-P), (127-P), (190-P), (208-P)  
 Warkentin, T., (142-P)  
 Warren, F. J., (7-O), (48-O)  
 Wavreille, A. S., (233-P)  
 Weber, C., (19-O)  
 Wei, Y. C., (181-P)  
 Wei, Y. M., (43-S), (123-P), (181-P)  
 Weier, S., (165-P)  
 Welker, E., (19-P), (157-P)  
 Weller, C. L., (161-P), (165-P)  
 Whalen, P. J., (48-S)  
 White, A. K., (228-P)  
 Whitney, K., (197-P), (198-P)  
 Wickersham, T., (53-P)  
 Wieser, H., (38-S), (5-O), (163-P)  
 Williams, B. A., (35-O)  
 Williams, K. M., (148-P)  
 Williams, T. G., (83-S)  
 Wilson, J. D., (2-P), (12-P), (95-P)  
 Witt, T., (25-O), (220-P)  
 Wood, D. F., (83-S)  
 Woortman, A., (218-P)  
 Wu, A. C., (48-O), (26-P), (211-P), (212-P)  
 Wu, C., (30-P)  
 Wu, F., (44-S)  
 Xing, Y. N., (123-P)  
 Xue, M., (24-P)  
 Yamada, M., (6-P)  
 Yang, J., (71-P)  
 Yang, L., (2-S), (25-P), (34-P), (47-P), (91-P), (231-P)  
 Yangcheng, H., (170-P), (213-P)  
 Yao, J., (91-P)  
 Ye, M., (17-P)  
 Yeater, K., (29-O)  
 Yencho, C., (76-S)  
 Yokoyama, W., (228-P)  
 Yongsawatdigul, J., (159-P)  
 Yoo, S. H., (51-P)  
 Yoshimura, M., (46-O)  
 Yu, C., (112-P)  
 Yu, J. H., (192-P)  
 Yun, U., (23-P)  
 Zamprogna Rosenfeld, E., (79-S), (227-P)  
 Zemetra, R. S., (7-P)  
 Zhang, B., (18-O), (204-P)  
 Zhang, B., (123-P), (181-P)  
 Zhang, L., (13-O)  
 Zhang, P., (91-P)  
 Zhang, X., (56-S)  
 Zhang, Y., (42-P), (170-P), (186-P), (213-P)  
 Zhang, Y. Q., (123-P), (181-P)  
 Zhao, H., (43-S)  
 Zhao, R., (108-P)  
 Zhu, F., (140-P)  
 Zhu, Y., (230-P)  
 Zielinski, G., (66-P)  
 Zoccarato, G., (222-P)  
 Zweigenbaum, J., (149-P)

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#### 2014 AACC International Annual Meeting

October 5–8

Providence, Rhode Island, U.S.A.

#### 2015 AACC International Centennial Meeting

October 18–21

Minneapolis, Minnesota, U.S.A.

## Advertisers' Index

Almond Board .....	Exhibition Tab Back
www.almondboard.com	
Bühler, Inc. ....	Sessions/Posters Tab Back
www.buhlergroup.com	
C.W. Brabender <sup>®</sup> Instruments, Inc. ....	Inside Front Cover
www.cwbrabender.com	
Cablevey Conveyors .....	13
www.cablevey.com	
Chopin Technologies .....	Index Tab Back
www.Chopin.fr	
CPM Wolverine Proctor .....	24
www.wolverineproctor.com	
DSM Nutritional Products .....	Recognition Tab Front
www.dsm.com	
Grain Millers Inc. ....	Recognition Tab Back
www.grainmillers.com	
Great Plains Analytical Laboratory .....	Inside Back Cover
www.gpalab.com	
ICL Performance Products LP .....	Sessions/Posters Tab Front
www.iclfood.com	
Medallion Laboratories .....	Exhibition Tab Front
www.medallionlabs.com	
Perten Instruments .....	1
www.perten.com	
Siemer Specialty Ingredients .....	4
www.siemersi.com	
Tree Top, Inc. ....	Index Tab Front
www.Treetoppingredients.com	
Wenger .....	Back Cover
www.wenger.com	

### AACC International

AACCI Speed Mentoring Event and Social .....	9
AACCI Job Center .....	9
AACCI Foundation T-shirt Sale .....	16
Atlas of Stored-Product Insects and Mites .....	25
Durum Wheat Chemistry and Technology .....	25
AACCI Custom Search Alert .....	26
Mixolab – A New Approach to Rheology .....	28
<i>CFW Plexus</i> .....	40
AACCI 2014 Annual Meeting .....	53
AACC International Approved Methods of Analysis .....	54
Principles of Cereal Science and Technology .....	66
AACCI 2015 Centennial Meeting .....	78
AACCI Members are BRAN-tastic .....	83
Help AACCI Recreate the History of Cereal Science .....	85

# Help AACCI Recreate the History of Cereal Science



**Share Your  
Moments  
in History**

The 2015 Centennial Meeting will feature a cereal science evolution timeline, and we want your contributions.

- Remember AACCI History
- Recognize Scientific Breakthroughs
- Identify Key Moments in Cereal Grain Science



Drop this form at AACCI Central (located in the exhibit hall) and enter to win a free registration to the Centennial Meeting.

Your Name: \_\_\_\_\_

Moment in History:

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