The Cereals & Grains 18 Story

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Castles, moats, and bridges…

Cereals & Grains 18 in London brought together technical breakthroughs in cereal science with storytelling to put data and analytics into the broader context of major global trends like skeptical consumers, climate change, population growth, and food safety/security. Scientific sessions explored the latest advances in innovation throughout the value chain—from breeding in grain fields to messaging on labels in supermarkets—while participants also explored how to convey their data through stories and storytelling. Bridging logic and imagination, participants learned how to tell cereal stories.

This first AACCI Annual Meeting outside North America assembled more than 600 attendees from 36 countries in London; half of whom were first time attendees. The 2018 Annual Meeting Technical Program Planning Team, chaired by Katharina Scherf, pushed for fresh thinking. They approached this meeting with the overarching theme of Field to Fork, and for the first time, the program was shaped around daily themes. Key experts who are known and respected globally were invited to share their insights on

- Sustainability from Gene to Field (Sunday)
- Safe Ingredients and Quality Products (Monday)
- Formulating for Health and Wellness (Tuesday)

During the general sessions, attendees were also exposed to the storytelling movement, which was introduced in the corporate world in the early 2000s and has been gaining more momentum over the last 10 years. In fact, Nike, a forerunner in corporate storytelling, has had a chief storytelling officer since 1999 (E. Ransell, The Nike story? Just tell it! Fast Company, December 21, 1999). More recently, AACCI members from companies like General Mills and Kellogg’s have been trained in storytelling.

A storytelling framework helped attendees weave together the scientific sessions throughout the meeting.

To set the stage for the 2018 Story, outgoing AACCI President Laura Hansen, revisited information presented by 2017 keynote speaker Linda Eatherton, managing director and partner, Ketchum Global Food & Beverage Practice, who shared provocative data about the changing consumer landscape. Eatherton revealed some disruptive new truths:

- Consumers fear science
- Science denialism meets “fake news.” Consumers don’t trust science or the agriculture/food industry
- Science rejection leads to food inspection
- Skeptical consumers trust “Food eVangelists” (self-proclaimed experts) more than scientists!

Eatherton challenged us to communicate with these skeptical consumers in their language—through stories and dialogue.

While skeptical consumers challenge manufacturers and retailers, stressors like climate change and population growth will strain the capacity of the global food system to feed the world over the coming decades. Cereal scientists must innovate more rapidly to address these challenges.

“I found that this meeting gave me an opportunity to learn a lot of what is currently happening in the science world plus passing on some contact details regarding new product or machinery available on the market.”
Professor Achim Dobermann, director and chief executive, Rothamsted Research, a leading authority on sustainable management of agricultural systems, led the first 2018 keynote session on Sunday. His presentation, “Leading from an Illustrative Past into a Demanding Future,” offered an aggressive and integrated approach to innovation.

He distinguished the differences between science, invention, and innovation. Innovation, which goes beyond science and invention, is the process by which science and invention are converted into commercially viable products. He asserted that the all-too common occurrence of “excellent science but poor innovation” will be insufficient to tackle tomorrow’s challenges. Doberman offered a model for merging visionary thinking with lean start-up. Rather than testing and refining until near perfection, he urged scientists and innovators to scale up while they build and learn in order to solve problems faster.

After an exhilarating first day connecting with colleagues from around the world and attending scientific sessions on breeding and sustainable agriculture, attendees gathered on Monday morning for the second keynote session. Dr. Ian Roberts, chief technology officer, Bühler Group, also stressed the impacts of climate change, but he brought deforestation, free trade, the sharing economy, and food fraud into consideration. Roberts proposed that the grain value chain of the future can be enabled through digital tools, which are accelerating innovation in grain fields through “smart farms” and breeding technologies. Plus, digital tools throughout the value chain are contributing to innovations. With more consumers buying their food online and using smart technology to research their choices at point of purchase, the digital revolution is disrupting the landscape.

Both Dobermann and Roberts pushed attendees to think beyond the traditional bounds of cereal and grain science. These keynote sessions revealed how cereals and grains fit into larger global and societal trends. The range of Monday sessions on Safe and Quality Products provided opportunities for attendees to delve into the complexity of producing cereal products for a global food supply.

Operating and innovating within the web of interconnected, moving parts that comprise the global food systems will require new types of collaboration and push cereal scientist to find connections beyond traditional partners. Civil engineers will be needed to solve the problem of safely and efficiently transporting food around the world. Solving sociopolitical barriers will require the “soft skills” of influence and persuasion, as well as facts and data. Attendees had opportunities to explore one of these soft skills through an Evidence-Based Storytelling Workshop on Tuesday morning (see 264 for highlights).

“I was inspired by the Keynote presentation given by Ian Roberts from the Buhler Group. The insights he shared to the benefits and challenges posed by the implementation of emerging technologies, such as blockchain, were thought-provoking. This forward-thinking approach is something I am excited to bring back to my workplace.”

A wealth of valuable sessions on Tuesday explored facets of health and wellness, such as “Processing for Health” and “How to Define Whole Grains.” A provocative symposium on carbohydrate quality and lively debate on glycemic index provided a range of viewpoints on the controversies surrounding the role of carbohydrates in the diet and how to measure the quality of carbohydrate choices.
Incoming AACCI President Maureen Olewnick offered the final lesson from Cereals & Grains 2018 by challenging attendees to explore the future through “systems thinking,” which involves integration and collaboration across the globe. In 2019, AACCI will build on the concept of systems thinking. Look for more on this in Cereal Foods World and other AACCI programs in coming months.

Special thanks to all the volunteers, from the program team to the session organizers, moderators, and presenters, who made this event such a success. It was a remarkable experience, with a wealth of science and stories to share and from which to learn. Make sure to mark your calendars for Cereals & Grains 19, which will be held in Denver, Colorado, U.S.A., November 3–5.

Why Storytelling? Introducing Evidence-Based Storytelling

Scientists are taught that anecdotal evidence is not valid, and stories are anecdotes. So why did AACCI promote storytelling at Cereals & Grains 18? Evidence-based storytelling conveys the idea the you don’t replace data with stories, but rather package data in a story so that facts fall on more fertile ground.

Evidence from the field of neuroscience reveals why stories are transformational. In response to a good story, the brain releases oxytocin, a hormone associated with empathy, compassion, and trust.

Simply introducing a set of facts or series of events with the statement, “I’m going to tell a story,” does not produce these changes in brain chemistry. The story must include four key elements: character(s), struggle, moment of truth, and change. Simply put, a character encounters an obstacle and during the struggle to overcome it, he/she experiences a “moment of truth” that results in an emotional transformation. When a story is well told, the audience takes the journey with the character and feels their emotions.

Business storytelling is an advanced communication skill that takes training, practice, and discipline to master and use effectively in work settings. Using a three-phase approach, scientists and business leaders can build skills in storytelling:

1. Mine for Story Gems—Look for human angles about your research and technical projects. This phase involves brainstorming for “story gems,” which are raw story ideas that have the potential to be developed into a story. Four pathways to find cereal story gems are
   • Inventor’s journey
   • People who helped you
   • People who benefit from your work
   • How your work fits into the global food system

2. Develop Plot and Meaning—Use the story plotting visual to diagram the key elements of the plot. Distill down to the key plot points that set the stage, build tension, reveal the “Ah ha” moment of truth, and bring resolution/closure. Clarify what changed for the character during this journey and make sure that your story conveys the new truth.

3. Polish with Salient Details—Describe the setting and develop characters by including sensory details that bring an audience into the setting. Imagine the people and place through all five senses (sight, sound, smell, touch, taste).

For an example and tools to learn this process, visit the AACCI Continuing Education page (www.aaccnet.org/meetings/continuuinged). You will also find an example that shows how a business experience can be turned into a story using the tools.

Reference
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CHOPIN Technologies

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Karlsruhe Institute of Technology

Board Liaisons, Ex-Officio: 
Anne Birkett  
Kellogg Co.

Christophe Courtin  
KU Lueven
Watch a recap of all the action during the meeting, with this photo video!

Enriched Educational Opportunities

Attendees seeking additional professional education took advantage of a pre-meeting course during Cereals & Grains 18. The onsite Enzymes in Cereal-Based Foods short course welcomed attendees who work as application bakery technologists, cereal scientists, bakery plant supervisors, and quality assurance employees from cereal-based product industries. The workshop was designed in response to enzymes’ increasingly important role in the baking industry. It gave an overview on the latest developments in enzyme applications in baked goods via professionals from the leaders of enzyme research and development in the enzyme industry and academia.

A short tube ride away, participants traveled to the London Southbank University to take part in the Methods in Action – Practical Baking Quality Workshop organized by Calibre Control. The university environment provided the optimal setting for this practical, hands-on workshop. Following the methods through the grain chain relevant to research and professional organizations, three major global manufacturers gathered to present the AACCI Approved Methods.

Another unique opportunity was offered after the conclusion of the meeting – a field trip to tour the oldest continually operating agricultural research station in the world – Rothamsted Research.

Participants were welcomed with an introductory talk on the history of Rothamsted and its contribution to agriculture and an introduction to the wheat program. They were then divided into four groups who rotated through each of the following expertly guided:

- tour of the Broadbalk continuous wheat, planted since 1843 and the Park Grass continuous permanent grassland, since 1856
- visit on the farm to see two of the “Classical” experiments which established the science of plant nutrition
- tour of the automated field phenotyping system complete with a demonstration of drones
- tour of the archive of samples from the classical experiments (dating back to 1843)

2018 Technical Committees Report

The AACC International Technical committees held annual meeting sessions in London during Cereals & Grains 18. All committees reported active work agendas ranging from proposed new methods to method revisions and method enhancements. Some committees are undergoing routine member updates and introducing new chairs. The technical committees work on a year-round basis, and all of them will have follow-up conference call meetings in the next three months and continue their work in the online discussion forum. The committees welcome new methods and guideline ideas and encourage you to contact the Approved Methods Technical Chair to share your ideas. The technical committees are also working on plans for method training modules. In addition, they have formed a close liaison with the AACCI Check Sample and Laboratory Proficiency Program. The launch of the new proficiency rating program in July 2018 was reviewed, and several new series and reference materials are under discussion. Watch for the AACCI webinar series, which provides a general discussion on laboratory data management and evaluations.

Hands-on lab demonstration at the pre-meeting Methods in Action – Practical Baking Quality Workshop

Rothamsted’s Malcolm Hawkesford explains the Broadbalk Wheat Experiment – running since 1843.
The following exhibitors shared the latest products and services available to meet the industry's challenging need for solutions.

Agri-Neo, Inc.
AMETEK Brookfield
Ardent Mills
Avena Foods Limited dba Best Cooking Pulses
Baker Perkins Ltd.
BASTAK Instruments
BENEIO Inc.
Brabender GmbH & Co. KG
Budenheim
Buhler
C.W. Brabender Instruments, Inc.
C-Cell
Campden BRI
Carmi Flavors
Cereal Ingredients, Inc.
Cgrain AB
CHOPIN Technologies
DSM Food Specialties USA, Inc.
Edlong
Elsevier
EnviroLogix
FOSS Analytical
FrigorTec GmbH
GlycoSpot
Gold Coast Ingredients, Inc.
Grain Millers, Inc.
Henriette (Flag Shop for The Low Carbohydrate Bread Society of Japan)
ICL Specialty Solutions
Klaus Ruttmann GmbH
Lallemand Baking Solutions
Northern Crops Institute
NOVOLYZE
PacMoore Products, Inc.
Palsgaard, Inc.
Perten Instruments AB
Perten Instruments, Inc.
PGP International, Inc.
QualySense AG
Randox Food Diagnostics
REPCO
REVTECH Process Systems
Siemer Specialty Ingredients
Stable Micro Systems
U.S. Highbush Blueberry Council
Wenger Manufacturing, Inc.
Wiley

Reach all segments of the grain science community by reserving a booth at Cereals & Grains 19 | November 3–5 | Denver, Colorado, U.S.A.

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General Mills
Making Food People Love

VTT

Brabender CWB
...where quality is measured.

Perten
a PerkinElmer company

Ardent Mills

AICL Food Specialties

Baker Perkins

Cereal Process Systems - Extruded | Traditional | Granola

WILEY
Congratulations to AACCI's most prestigious awardees who are being recognized for their significant contributions in the field of cereal grain science!

### AACC International Fellows

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<tr>
<th>Name</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Marta Izydorczyk</td>
<td>Canadian Grain Commission</td>
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<td>Kristof Brijs</td>
<td>KU Leuven</td>
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### Thomas Burr Osborne Medal

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<tr>
<td>Kaisa Poutanen</td>
<td>VTT Technical Research Centre</td>
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<td>Vijay Singh</td>
<td>University of Illinois</td>
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### William F. Geddes Memorial Award

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<tr>
<td>Jon M. Faubion</td>
<td>Kansas State University</td>
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<tr>
<td>Weining Huang</td>
<td>Jiangnan University, China</td>
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### Young Scientist Research Award

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<tr>
<td>Katharina Scherf</td>
<td>Leibniz-Institute for Food Systems Biology, Germany</td>
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<tr>
<td>Ray Shillito</td>
<td>BASF Corporation</td>
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### Student Competition Winners

#### Best Student Research Paper Competition

*In order of appearance:*

- First Place, **Emma Jobson**, Montana State University
- Second Place, **Ana Maria Magallanes Lopez**, North Dakota State University
- Third Place, **Leigh Schmidt**, Purdue University
- Finalist, **Sabina Jakobi**, Technical University of Muni
- Finalist, **Anke Boeswetter**, Technical University of Muni

#### Student Baked Product Competition Awards

- Core Breakfast Bar – London Southbank University – Best Overall, Best Taste & Texture
- QuickStick – Universita degli Studi di Milano – Most Nutritious, Overall runner-up
- Pinole – CeProBi-IPM – Most Novel Use Ingredients
- Grainious, University of Wisconsin, Madison – Best Overall Appearance

#### Carbohydrate Division Megazyme Awards

- First, **Denisse Bender**, University of Natural Resources and Life Sciences Vienna
- Second, **Elena Marasca**, ETH Zurich
- Third, **Mankea Malalgoda**, North Dakota State University

#### Engineering and Processing Division Best Student Paper Award

- **Sravanthi Budaraju**, University of Minnesota

#### Nutrition Division Best Student Research Award

- **Anna Hayes**, Purdue University

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Texture Technologies Quality Research Award – Best Paper

- **Jayne Bock**, University of Guelph

Texture Technologies Quality Research Award – Best Presentation

- **Fang Fang**, Purdue University

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For the 2018 meeting, students applied for an AACCI Student Travel Award to help support their participation in the AACCI Annual Meeting as part of the annual meeting abstract submission process form.

Student Travel Awards were limited to the first 50 students who had requested the support, who had an accepted abstract, and who are members of AACCI. **Awards of $500 were provided from the AACCI Foundation as a credit toward registration for the meeting.**

Elisa Arte, University of Helsinki
Eden Barrett, University of Wollongong
Yaiza Benavent-Gil, IATA-CSIC
Jose Bonilla, Purdue University
Julia Brantsen, Texas A&M University
Andrea Bresciani, University of Milan
Sravanthi Budaraju, University of Minnesota
Esther Callcott, Charles Sturt University
Gaetano Cardone, University of Milan
Kristina Cook, Louisiana State University
Stephen Cork, Functional Grains Center
Cesar Cornejo Hurtado de Mendoza, Universidad Nacional Agraria La Molina
Janelle Courcelles, University of Manitoba
Princess Tiffany Dantes, Iowa State University
Jaya Dhungana, University of Minnesota
Sabrina Geisslitz, Leibniz-Institute for Food Systems Biology at the Technical University of Munich
Audrey Girard, Texas A&M AgriLife Research
Stefanie Hackenberg, Technical University of Munich
Jenny Hayek, University of Minnesota
Anna Hayes, Purdue University
Ye Eun Hong, Pusan National University
Brasathe Jeganathan, University of Alberta
Soojeong Jeon, Pusan National University
Duyun Jeong, Chonnam National University
Amber Kaiser, North Dakota State University
Xiaojing Li, Jiangnan University
Misen Luu, University of Minnesota
Maneka Malalgeda, North Dakota State University
Coline Martin, INRA Montpellier - UMR IATE
Juan Mogoginta, University of Minnesota
Zeinab Mohammadi Shad, University of Arkansas
Yujin Moon, Pusan National University
Sviatoslav Navrotskyi, University of Nebraska
Olivia Ogilvie, University of Auckland
Mayra Perez-Fajardo, Kansas State University
Rachana Poudel, University of Nebraska Lincoln
Laura Roman, University of Valladolid
Aylin Sahin, University College Cork
Nancy Saji, School of Biomedical Science
Xiaojuan Tang, Jiangnan University
Allonso Topete-Betancourt, CINVESTAV Unidad-Querétaro
Pablo Torres Aguilar, Purdue University
Michelle Toutounji, Charles Sturt University
Min-Hui Tsai, University of Idaho
Annelien Verbauwhede, KU Leuven
Yujie Wang, University of Helsinki
Yingxin Zhong, University of Minnesota