

# Spotlight on Katharina Scherf

AACC International members each have their own story, and we want to highlight all of their amazing accomplishments. "Spotlights" is a series of individual and institutional member interviews capturing the unique stories of our many volunteers and their journeys with AACCI.



**Katharina Scherf**  
Leibniz-Institute for Food  
Systems Biology, TUM  
Member for 7 years

**Q: What is your current position and what type of work do you do?**

**A:** I am head of the Functional Biopolymer Chemistry research unit at the Leibniz-Institute for Food Systems Biology at the Technical University of Munich (TUM) in Freising (near Munich), Germany. Our research focuses on the multidisciplinary investigation of relationships between the structure, functionality, and bioactivity of cereal proteins and utilization of these insights to improve food security, quality, and safety. One key

area is focused on studying celiac disease, non-celiac gluten sensitivity, and wheat allergies. In my work, I supervise undergraduate and graduate students, teach courses in food chemistry at TUM, write scientific papers, devise new project proposals, lead several research projects, and am active in a variety of national and international advisory boards and committees.

**Q: When and how did you first decide you wanted to work in cereal grain science?**

**A:** As a Ph.D. student at the Chair of Food Chemistry and Molecular Sensory Science at TUM, led by Prof. Thomas Hofmann, I developed novel strategies for salt reduction in bread and worked on elucidating fundamental mechanisms of texture-taste relationships. My interest in cereals deepened during a research stay at the Cereal and Beverage Science Research Group, led by Prof. Elke Arendt, at University College Cork in Ireland. When a position as a research scientist in cereal science became available at the Leibniz-Institute in the group of Prof. Peter Koehler, I took the opportunity to pursue this path further and look into the complexity of cereals at all stages—from the grain to the bread. As one of the most fundamental components of the diet in Western countries, bread is a topic that generates huge consumer interest, especially as it relates to flavor, health nutrition, and well-being.

**Q: How have you been involved with AACCI? How has your involvement with AACCI enriched your career?**

**A:** My involvement with AACCI started when I was a finalist in the Best Student Research Paper Competition at the 2012 AACCI Annual Meeting in Hollywood, FL, where I won third prize. Soon after, I was asked by Dr. Clyde Don to become secretary-treasurer of the Protein Division, where I had the great opportunity to work with the other officers to increase the visibility of the division, organize scientific sessions at the annual meetings, and invite members to join. I took the lead in the Protein and Enzymes Technical Committee and was invited to become a member of the Annual Meeting Technical Program Planning Team in 2014. The exciting journey to

becoming the 2018 Program Planning Team Chair had started, and I had the unique opportunity to organize the scientific content for the first-ever AACCI Annual Meeting held outside of North America. Especially when looking at the previous recipients, it was a great honor for me to receive the prestigious Young Scientist Research Award this year. Being involved in AACCI allowed me to take on leadership roles quite early in my career and offered the opportunity to meet many new faces from both academia and industry—many of whom have become friends. My extensive network of collaborators grew through AACCI to a great extent and attending the AACCI Annual Meetings was like coming home to a huge family of all those concerned with cereals.

**Q: What types of future innovation do you see in the field of cereal science? How are broader societal and technology trends affecting cereal science and the cereal grain industry overall?**

**A:** Cereal science is such an exciting field to be working in, as it is highly relevant for sustainability, biodiversity, health, nutrition, product innovation, and food safety, quality, and security. Among technology trends, big data, industry 4.0, and traceability are transforming the cereal grain industry. These again pose new challenges, like data ownership and how data can be used in such a way that all players will profit equally. Societal trends include increasing consumer mistrust of the food industry combined with a desire for healthy, sustainable, regionally sourced, and individualized food products. This is an important area where cereal science needs to play a fundamental advisory role in communication and consumer education to help understand consumer preferences and improve consumer acceptance, while addressing consumer needs.

**Q: This issue of *Cereal Foods World* focuses on innovation through the value chain. Do you have any perspectives on this topic?**

**A:** One of the topics we are working on in my research group is the optimal gluten composition for different end uses, including extrusion, proofing interruption, and lamination. The idea is to develop tools to be able to predict breadmaking performance as early as possible. To achieve innovation through the whole value chain, it is critical to take everyone along and make sure that everyone involved talks to one another and understands the needs of the other participants and vice versa. One interesting example was when two wheat breeders argued that meaningful results cannot be derived from 60 wheat samples in total, whereas the food technologists argued this was the maximum number of samples they could run on their equipment in a reasonable timeframe. Bringing these two very divergent views together was challenging, but at the same time valuable, because there are so many different angles and ways of approaching questions.

**Q: What's next for you?**

**A:** First of all, I'd like to say that it was great to feel such a vibe of excitement at the 2018 AACCI Annual Meeting in London, because there were so many excellent scientific talks, new faces, inspiring keynote presentations, and networking opportunities. Now I am open to new challenges. My research area on wheat hypersensitivities opens up so many doors across the whole value chain—from plant breeding to

plant genetics, bioinformatics, food technology, health and nutrition, immunology, gastroenterology, and gut microbiota. With all the media attention that wheat consumption has received in recent years, it will be especially important to regain consumer trust and lay solid scientific foundations to help dispel the many myths and unknowns currently surrounding cereals and cereal consumption.