

# Food Science Scoops

Department Edition



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*This newsletter is prepared by faculty of the Department of Food Science at the University of Arkansas System Division of Agriculture. If you have ideas for stories or individuals to highlight, news or photos to share, or would like to be added to the circulation list, please email Jennifer Acuff (jcacuff@uark.edu).*

## Recent Events



### Snack and Study Reading Day

FDSC faculty and staff prepared pancakes and other treats for students throughout the Friday before finals week to give a little encouragement and nourishment while studying! Thanks to Simmons for providing some of the treats!

### Winter Festival

The FDSC Club organized the 2024 Winter Festival with great success! December graduates were honored, fun was had with a white elephant gift exchange, and fantastic food and dessert were shared by everyone! It was a great way to end the semester. Thank you to the club and all who helped organize such a fun event for our FDSC community!

# FDSC Faculty Highlight

*Ali Ubeyitogullari, Ph.D.*

Dr. Ali Ubeyitogullari, an Assistant Professor in the Department of Food Science at the University of Arkansas for over four years, brings a dynamic perspective to advancing sustainable and innovative food systems. A food engineer by training, he was captivated early on by the science behind what we eat. Pursuing his undergraduate degree at the Middle East Technical University, he realized the unique combination of practicality and creativity that food engineering offers, cementing his decision to contribute to this impactful field. “I was captivated by the idea of using science and technology to create foods that are safe, nutritious, and accessible,” Ubeyitogullari says. “It is incredible to work in a field that combines practicality with creativity, shaping what ends up on our plates every day!”

In his Food Engineering for Health Lab, Dr. Ubeyitogullari leads groundbreaking research with far-reaching implications for food science, by which he is genuinely excited and gains inspiration. “These projects we conduct in our Food Engineering for Health Lab are more than just research—they represent steps toward a future where food is not only safer and more nutritious but also produced in a way that respects our planet.” One key project involves using 3D food printing to encapsulate micronutrients like carotenoids, enhancing their stability and bioavailability to improve nutrition. His team is also addressing sustainability by creating aerogel materials from rice byproducts for eco-friendly packaging and developing alternatives to petroleum-based solvents. Using supercritical carbon dioxide, they extract and refine lipids, including producing waxes from sorghum bran as a sustainable substitute for carnauba wax.

Collaboration with students is central to Dr. Ubeyitogullari’s work. His lab includes undergraduate, graduate, and postdoctoral researchers who gain hands-on experience with cutting-edge techniques, contribute to publications, and develop skills for careers in academia, industry, or government. He values the fresh ideas students bring, often sparking innovative approaches to complex challenges, noting that many of their investigations start as discussions.

Through his research and teaching, Dr. Ubeyitogullari emphasizes the critical role of food engineering in creating sustainable, healthy food systems. His work not only addresses immediate challenges but also inspires a new generation of scientists to innovate responsibly, ensuring food systems are both resilient and environmentally respectful. He is hopeful and excited about the future of his program and the groundbreaking research his team conducts.



**“THESE PROJECTS WE CONDUCT IN OUR FOOD ENGINEERING FOR HEALTH LAB ARE MORE THAN JUST RESEARCH—THEY REPRESENT STEPS TOWARD A FUTURE WHERE FOOD IS NOT ONLY SAFER AND MORE NUTRITIOUS BUT ALSO PRODUCED IN A WAY THAT RESPECTS OUR PLANET.”**



# FOOD SCIENCE

## *Fun Fact*

### Why does chocolate sometimes have a “dusty” surface?

Do you know why chocolate sometimes looks "dusty" on the surface? The process of making chocolate might be more than you realize, and it has to do with crystallization! Hear all about tempering and how it plays a role in chocolate quality from [Dr. Ubeyitogullari's food science fun fact video!](#)



# FDSC Alumni Highlight

*Amanda Bigando, M.S.*

Amanda Bigando, a Senior Research and Development Manager at Newly Weds Foods, has spent 14 years with the company, including six in leadership and two and a half in her current role. Her journey into food science began during college when she sought a field that combined her love of science and food. “I had always loved cooking and grew up with the Food Network, so merging the two interests of food and science made sense,” she shares. “I loved how applicable food science was to the real world and enjoyed all my classes!”



Her education at the University of Arkansas provided a solid foundation for her career. “The U of A food science program really prepared me for my research project in graduate school. I learned a lot of relevant test methods, how to properly structure an experiment, and problem-solving skills. This has carried over into my career and has greatly helped me as a product developer,” Bigando explains.

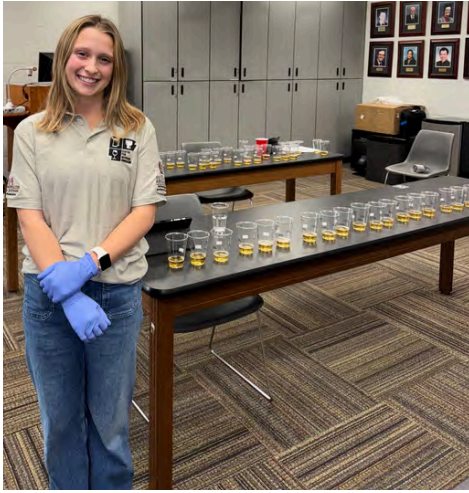
At Newly Weds Foods, Bigando leads a team of product developers creating custom-formulated seasonings and coatings tailored to client needs. “My food science background served as a great building block to gain the broad knowledge of raw materials and manufacturing processes required as a customized ingredient supplier,” Bigando says. Their seasonings and coatings are used across the entire industry, so having unique experiences during her time at U of A were invaluable. “I always enjoyed anytime we were able to interact with the industry, especially visiting local facilities. I loved all the plant tours and field trips, something so unique to our area and industry,” Bigando explained.

Reflecting on her time in the food science program, Bigando highlights the importance of taking advantage of all experiences the department has to offer, particularly the interactions with industry members. These exchanges have shaped her career and inspired her to advise current students: “I would advise that they attend the special events, go on field trips, visit with guest lecturers. Take advantage of interactions with industry,” Bigando heavily emphasizes. “The department does a great job of exposing students to food industry professionals and those interactions can lead to internships and jobs.”

**“THE U OF A FOOD SCIENCE PROGRAM REALLY PREPARED ME FOR MY RESEARCH PROJECT IN GRADUATE SCHOOL. I LEARNED A LOT OF RELEVANT TEST METHODS, HOW TO PROPERLY STRUCTURE AN EXPERIMENT, AND PROBLEM-SOLVING SKILLS. THIS HAS CARRIED OVER INTO MY CAREER AND HAS GREATLY HELPED ME AS A PRODUCT DEVELOPER.”**

# FDSC Student Highlight

**Anne Hood ('25)**



**Anne Hood**, an undergraduate student in the Dept. of Food Science, has embraced a journey of discovery during her time at the U of A. Initially a biology major on a pre-dental track, she stumbled upon food science and found it to be the perfect blend of her love for science and food. “I’ve always loved food, especially with my mom being an amazing cook. Food science seemed like the perfect fit to combine my passion and interest in science,” she shares. “I didn’t know the major existed until the week before school started, but after learning about it, I switched!”

Hood’s honors research in Dr. Lafontaine’s brewing lab has been a standout experience, where she determined the flavor thresholds of iron in nonalcoholic beer. Hood gained valuable skills in experimental design, executing protocols, running sensory panels, and analyzing results. She describes learning about professional research from graduate students and the professors “invaluable.”

Hood highlights the community as a defining feature of the program. “The relationships I’ve built with classmates and professors have made my college experience unique,” she says. Though she eventually redeclared a pre-dental track, she values the department and program, encouraging students to explore food science. “It’s a great mix natural sciences and other topics. Get involved in research, internships, and the food science club—you never know what you’ll enjoy until you try it,” she advises. “The hands-on experiences, like my research on iron in beer, have been a highlight, and the professors have been incredibly supportive. I’m glad to have experienced food science and its supportive environment,” she concludes.

**Annegret Jannasch ('25)**



**Annegret Jannasch**, a PhD candidate who joined the department in 2018 to work with Dr. Ya-Jane Wang, brings a passion for combining science with culinary arts to her academic journey. Inspired by her love for cooking and baking, Jannasch found food science to be the perfect way to blend her interests in chemistry, physics, and engineering. “I chose to pursue a degree in food science to combine my love for cooking and baking with my fascination for the sciences, particularly chemistry, physics, and engineering,” she shares.

During her master’s program, Jannasch worked on a transformative project to address micronutrient deficiencies. She developed an efficient rice cooking technique that enriches grains with essential vitamins and minerals while conserving water. “We trained employees at a rice plant in Burkina Faso to implement this method, aiming to help reduce micronutrient deficiencies in the region,” she explains. Jannasch’s experience speaks to the applied nature of food chemistry research and the gratification of seeing the real-world impacts.

Jannasch has also gained valuable industry insights through internships with Kellogg in Product Development and Cargill in Ingredient Research. These opportunities taught her to approach research with a practical mindset, effectively communicate findings to customers, and expand her professional network. Looking ahead, Jannasch is committed to advancing food science by contributing to the creation of sustainable and nutritious food products. “My goal is to advance food science by helping the industry create more sustainable and nutritious food products that promote global health and well-being.” **5**