

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



FDSC Students Win 3MT

Two grad students made the department very proud with their three minute thesis presentations! Andrew Maust won first place for "Improving Non Alcoholic Beer Quality Through Investigation of Production Methods, Flavor, and Safety," and Chetanjot Kaur Romana won the People's Choice Award for "Byte sized Bites: Will 3D Food Printing Revolutionize Elderly Meals?"



Kerry R&D Plant Tour

Several members of the club and faculty members visited the local Kerry R&D Lab and facility to explore and learn about the ingredient industry. Alum Jonas Romine led a tour and ingredient mixing activity to try on chicken poppers. Thank you, Kerry, for a great experience!

FDSC Faculty Highlight

Philip Crandall, Ph.D.

Dr. Philip Crandall's time at University of Arkansas Department of Food Science started in 1989, but over the years, he's explored food science around the globe far beyond Arkansas! Since starting his academic and research career in 1975, his interests in retail food safety and the human factor that impacts foodborne illnesses has taken him to different universities, states, countries, and continents! He frequently reflects on the pleasure and privilege it was to experience global food science, cultural differences, and trends.

Now his research is tackling one of the biggest challenges in the food industry: labor shortages. "Currently, we are working collaboratively with a group of engineers from the University of Arkansas and Purdue to increase automation in the poultry industry," Crandall explains. With poultry being the largest food processor in Arkansas and a critical protein source nationwide, automation is essential. "It's becoming increasingly difficult to find people who want a career working in a poultry processing plant. All phases of automation will help have robots do the heavy, repetitive jobs so humans can do jobs that require critical thinking skills."

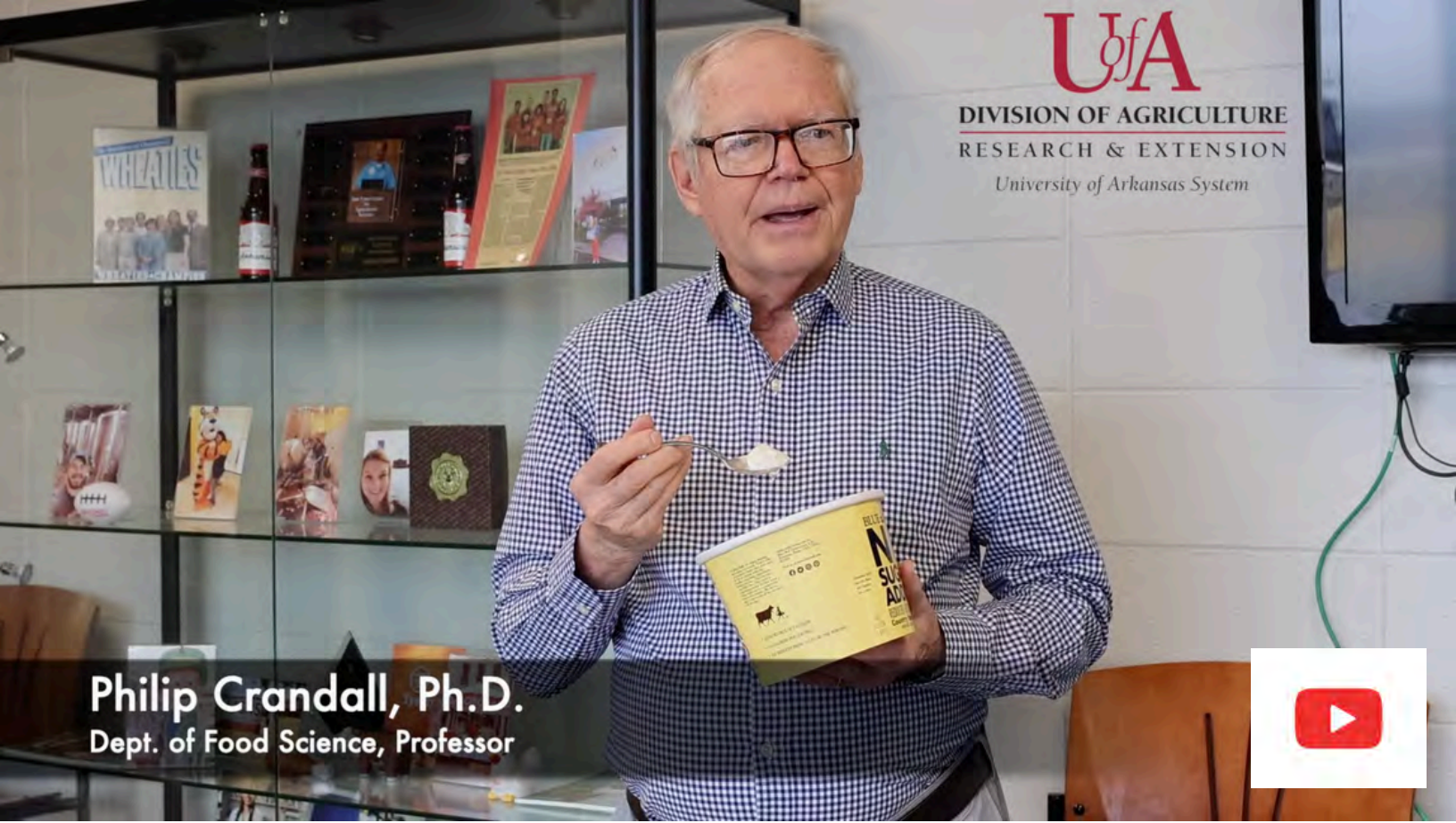
His team is also investigating how human workers interact with automation. "One MS student in food science is working to understand if hands-on training with robots will reduce anxiety for persons working next to a robot," he says. This research is critical, as up to 75% of automation projects fail due to underestimating human-robot interactions.

Another game-changing project from Crandall's lab is a new detection system that determines whether a food contact surface is clean. "Everything you ate for lunch was likely made on food contact surfaces that were presumed, not verified, to be clean," he explains. His team will be demonstrating this new technology to the poultry industry this spring.

Collaboration with industry partners is a key part of Crandall's work. "We have and are continuing to collaborate with the poultry industry in the testing and evaluation of our new validation procedure that can tell if a food contact surface is clean," he says.

Looking ahead, Crandall sees automation as the most exciting trend in food science. "One of our major poultry processors has pledged a billion dollars to incorporate automation into their operations," he notes. With industry and academic collaboration, his research is helping to shape a more efficient and sustainable future for food production.





Philip Crandall, Ph.D.
Dept. of Food Science, Professor

FOOD SCIENCE

Fun Fact

Why does chocolate sometimes have a “dusty” surface?

Do you know why ice cream sometimes seems “sandy” or “ricey”? This is because of the way ice crystals form due to the way the components of ice cream refreeze when thawed. Learn more by listening to what Dr. Phil Crandall has to say about this!



FDSC Alumni Highlight

Rosa Buescher, B.S.



Rosa Buescher’s journey into food science seems almost destined. “At 16, I started working at the Tyson Corporate Laboratory, where I conducted chemical and microbiological research. It was there that my boss, Dr. Peggy Cook, encouraged me to explore the field of food science,” she recalls. A chance meeting with her husband, whose father was a professor in the Department of Food Science, solidified her path. “It was as if everything was pointing me in the same direction,” Buescher says.

After graduating, Buescher and her husband opened and ran a successful Chinese restaurant, Far East, for 17 years. “I applied everything I learned in food science—particularly in areas like food safety, quality, and innovation—to improve our business every day,” she explains. In 2018, the couple chose to close the restaurant to spend more time with their children, opening the door to a new chapter.

Not long after, Buescher returned to the Department of Food Science as a part-time recruiter, a role that felt like coming full circle. Today, she serves as the Student Relations Coordinator and Recruiter, guiding the next generation of food scientists. “My in-depth knowledge and understanding of food science are crucial to the success of our recruitment efforts,” she says. “I’m fortunate to simplify and highlight the fascinating complexities of the field, helping prospective students recognize the vast potential and exciting opportunities a career in food science can offer.”

Buescher has seen the field evolve significantly over the years. “Food innovation and sustainability are becoming increasingly interconnected with culinary arts,” she notes. “This opens up our recruitment to a broader field of prospective students.”

Her advice for current students? “Never underestimate the value of hands-on experience. Whether it’s research, internships, or leadership roles, those opportunities will prepare you for the workforce and open doors to unexpected opportunities,” Buescher says. Through her work, she continues to inspire others, showing how food science can shape sustainable and innovative food systems while fostering meaningful careers.

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FDSC Student Highlights

Allie Autrey, a senior in the Department of Food Science, discovered her passion for food science during high school culinary competitions. This experience led her to the Culinary Ignite program, where she was introduced to the field. For the last four years through her coursework, Autrey has found the program to be enriching. “My education has taught me how to approach challenges with both analytical and creative solutions,” she says. “It has also reinforced my passion for sustainability, innovation, and addressing food insecurity, which I hope to focus on as a food scientist.” Autrey says her courses in the department allow her to further build on this interest, such as product development projects that focus on sustainable and underutilized ingredients. “These experiences taught me the importance of balancing creativity with practicality, and they gave me hands-on skills I’ll use in my future career,” she says.

Allie Autrey ('25)



For those considering a degree in food science, Allie encourages exploration. “Don’t be afraid to ask questions or explore different areas within food science. The field is so broad, and there’s something for everyone, whether it’s product development, quality assurance, research, or something else,” she advises. Personally, Autrey engages in virtual seminars, reads industry journals, and participates in organizations like the Institute of Food Technologists (IFT) to stay curious and engaged in the field. “Networking with peers and professors in the department has been invaluable for learning about current trends,” she notes.

Aside from her classes, one of Autrey’s favorite experiences in the program has been participating in the Apple Butter Bash with the Food Science Club. “Utilizing teamwork, applying knowledge, and sharing our passion for food science with the community really is special,” she shares. Events like this have reinforced her love for the field and its ability to connect people. As she approaches graduation, Autrey hopes to make a meaningful impact as a food scientist, creating sustainable solutions to improve global food security. “By developing practical and affordable products, I want to make a difference in the food system and the lives of those who depend on it,” she concludes.

Sahaana Chandran ('25)

Sahaana Chandran, a doctoral student in the Department of Food Science, combines her passion for food with a background in molecular biology to address challenges in food safety. “My interest in growing my own vegetables using environmentally friendly methods and making conscious choices for healthy eating inspired me to pursue a degree in food science,” she says. Her doctoral research focuses on using a zebrafish model to study human norovirus infection mechanisms. “I never expected to work with zebrafish in food science, but it’s the unexpected challenges and opportunities for discovery that I find most exciting.”



Her research required her to establish a zebrafish system from scratch, learning breeding techniques, fish care, and microinjection processes. “It was a steep learning curve, but it taught me valuable skills in troubleshooting and seeking solutions,” Chandran explains. These experiences have shaped her into an independent researcher and strengthened her resolve to contribute to food safety advancements.

In 2023, Chandran presented her research at the U of A Grad School 3MT Thesis Competition, a pivotal experience in her academic journey. “As someone who has always been introverted and hesitant about public speaking, this experience was transformative,” she shares. “Although I only made it to the top 15, it significantly boosted my confidence. Since then, I’ve been able to confidently share my research at various conferences, which has greatly contributed to my growth.”

Looking to the future, Sahaana aims to bridge the gap between research and industry practices. “My goal is to ensure that advancements in food safety translate into tangible benefits for public health and the global food supply chain,” she says. Through her dedication and innovative research, Sahaana is poised to make a meaningful impact in the field.