

# 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



### Conference Accomplishments

The Department was well represented at several summer conferences!

[Food SMART](#) and [CFS](#) at IAFP 2024 - Long Beach, CA  
[IFT 2024](#) - Chicago, IL



### Bumpers Bash

Members of the FDSC Club, faculty, and staff attended Bumpers Bash on campus to advertise the activities and opportunities for anyone wishing to join the FDSC Club.



### Back to School BBQ

The FDSC Club (with faculty and staff support) hosted an event to welcome everyone back for the fall. There was record attendance for the great BBQ and tie-dyeing!

# FDSC Faculty Highlight

*Kristen Gibson, Ph.D.*

**“WATER PLAYS A MAJOR ROLE IN AGRICULTURE AND FOOD PRODUCTION, SO FOR ME, THERE WAS A NATURAL TRANSITION FROM MICROBIAL WATER QUALITY TO FOOD SAFETY”**



Dr. Kristen Gibson, Professor of Food Safety and Microbiology and Director of the Center for Food Safety, has spent 12 years in the Department of Food Science, contributing significantly to food safety research. She shares that she has “always been interested in the ‘unseen’”, and her background in Microbiology and Molecular Biology, coupled with early experiences in water quality, naturally led her to food safety. “Water plays a major role in agriculture and food production, so for me, there was a natural transition from microbial water quality to food safety,” she explains.

Dr. Gibson’s research focuses on viral and bacterial pathogens, particularly noroviruses. One exciting project investigates the efficacy of foaming hand sanitizers in inactivating viruses, which could help manage virus spread. She and her students have also developed a small animal model using zebrafish to study human norovirus pathogenesis. This innovative approach could revolutionize how we detect and study infectious virus particles in food, water, and environmental samples. Dr. Gibson’s team also studies pathogen persistence in hydroponic lettuce systems, exploring how soilless substrates can serve as critical control points for preventing contamination. In addition to academic research, Dr. Gibson collaborates with industry partners to address real-world challenges, like the aqueous ozone treatments for bacterial pathogens in raw pet food products that she recently investigated, which provides practical solutions for industry applications.

Dr. Gibson emphasizes the vital role of students in her research, noting, “Students are the only way that the research gets done!” She ensures that both graduate and undergraduate students gain valuable hands-on experience and insight into the complexities of research. Known for her dedication to mentoring the next generation of scientists, always lending a helping hand to other researchers, and leading efforts to help the department with growth, community development, and innovation, Dr. Gibson continues to push the boundaries of food science for a safer, more sustainable future.



**Kristen Gibson, Ph.D.**  
Dept. of Food Science, Professor, Food Safety & Microbiology

# FOOD SCIENCE

## *Fun Fact*

### **Vomit particles spread HOW far?!**

Norovirus, also called the stomach bug or stomach flu, is a highly contagious illness that has been described by the “perfect human pathogen.” Why is it so adept to transmitting between humans?

Norovirus causes vomiting, which can release up to 30 million virus particles per gram of vomit, and as few as 18 particles can cause a human infection! How far can the vomit spread? And how long can it survive on a surface? See [Dr. Gibson’s video](#) to learn more about human Norovirus, prevention strategies, and [Vomiting Larry](#).



# FDSC Alumni Highlight

*Brian Davis, M.S., CCS*

Brian Davis, Vice President of Research & Development, Culinary, and Innovation at Simmons Foods, has spent over 26 years in the food industry, making a significant impact on food safety, product development, and innovation. Davis credits his early interest in food science to his father, a USDA food inspector, who introduced him to the field through correspondence courses. "My brother and I watched tapes on topics like meat quality and winemaking... I'm not sure I would have known that Food Science existed without that encounter with my Dad," he recalls.

Davis reflects on some of the most valuable lessons he learned during his time in the Food Science Department, especially through hands-on experiences like apple butter production. The project allowed students to experience every step of food production, from procuring raw materials and packaging to managing sanitation, production, and inventory. "This was not only a great fund raiser for our food science club, but it taught us a lot about how food production works from a larger look," Davis says. This experience laid the groundwork for his approach to leadership in the food industry.

In his current role, Davis leads a team of product developers and scientists working on a wide range of projects, from new product development to improving existing processes. His food science education helps him navigate the daily challenges of the industry, including ensuring food safety and maintaining high-quality standards. "We tend to wear a lot of different hats and I feel that the focus of Food Science helps prepare us for many different issues that we may face on any given day," he explains. "From new product development, food safety issues, and even product performance, we can tackle many of these issues with the knowledge that is taught in a food science curriculum."

As an adjunct faculty member at the University of Arkansas, Davis remains committed to mentoring future food scientists. His advice for students is simple: be a lifelong learner. "I've observed that those that choose to work hard in a way of acting with integrity, taking responsibility, taking action, and being curious, usually end up having a really long and rewarding career."



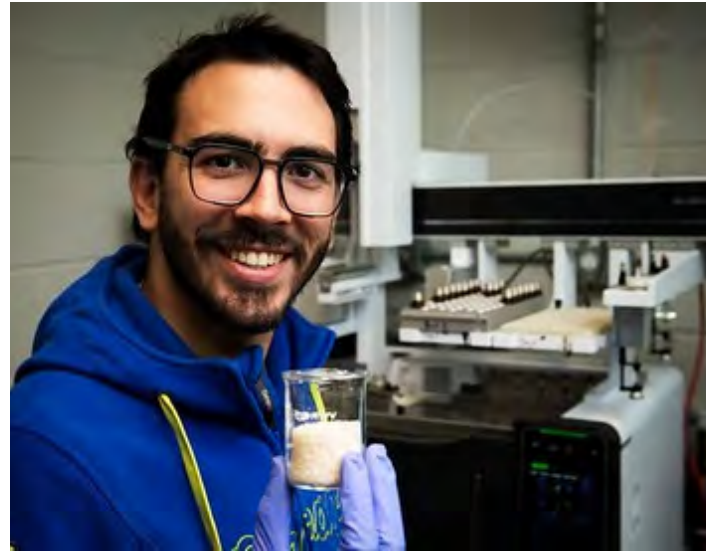
**"THOSE THAT CHOOSE TO WORK HARD IN A WAY OF ACTING WITH INTEGRITY, TAKING RESPONSIBILITY, TAKING ACTION, AND BEING CURIOUS, USUALLY END UP HAVING A REALLY LONG AND REWARDING CAREER."**



***Cason Frisby ('26)***

Cason Frisby, an undergraduate since 2022, has already made significant impacts in the department through his passion for food science. Frisby was introduced to food science cooking and gardening with his grandmother, and later through FFA competitions in high school. He quickly found a home in the department and has enjoyed “learning about parts of the industry which are commonly unknown or misunderstood by the public,” he says. One of Frisby’s most impactful experiences was competing on the College Bowl Team, further exploring the breadth of the food science industry and winning the regional tournament to enter the national tournament at IFT FIRST in July.

Frisby recently interned with Simmons Foods. “I had not been exposed to the full world of byproducts or pet food manufacture, so I was not only able to expand my general food science knowledge through this internship, but also develop knowledge of industries which I would not normally have learned about in typical coursework.” Looking ahead, Frisby hopes to address consumer perception challenges in the food industry. “It is easier now more than ever to spread misinformation, and if we as food scientists sit on our hands and complain about uneducated consumers while not taking action, then we are no better than those spreading misinformation.”



***Bernardo Pontes Guimaraes ('26)***

Bernardo Pontes Guimaraes, now in his fourth semester pursuing a PhD in Food Science, has already left his mark on the University of Arkansas' Food Science Department. With a background in Chemistry, Guimaraes found his passion for food science through brewing research. “Brewing research combined everything I was looking for professionally – interdisciplinary and closely related to industry,” he shares. This led him to pursue both a master's degree and now a PhD, with a focus on brewing sciences. One of his most impactful experiences has been participating in the Food Science Quiz Bowl, which provided opportunities for networking and representing the university at regional and national levels. He stays busy in other ways, by being an active leader in the department, attending conferences, and exploring the entire universe of food science.

Guimaraes is particularly passionate about addressing challenges in the brewing industry. His research focuses on finding alternatives to traditional barley malt, which is increasingly impacted by climate change. “Rice opens doors for gluten-free beers and is more resilient to temperature changes and drought,” he explains. Looking ahead, he hopes to see rice malt-based and non-alcoholic beers on the market, contributing to both inclusiveness and sustainability in brewing.