

PURDUE FOOD SCIENCE  
**GRADUATE STUDENT**

NEWSLETTER • Spring 2024

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## NEW SPRING 2024 **FOOD SCIENCE GRADUATE STUDENTS**



**Fanny Gozzi, MS**  
Dr. Feng's Lab



**Alice Duarte Mendoca, PhD**  
Dr. Liceaga's Lab



**Dalne Sinclair, MS**  
Dr. Huang's Lab

## GRADUATE STUDENTS - Graduated Spring 2024



**Anael Kimble MS**

## GRADUATE STUDENTS - PASSED PRELIMINARY EXAMS



**Halak Mehta**

The Next  
Generation  
Extruder:  
Leveraging Artificial  
Intelligence and 3D  
Visualization Tools  
for Texture  
Optimization and  
Training  
Enhancement



**Anurag Pujari**

Effect of Nonnutritive  
Sweeteners on the  
Gut Microbiome:  
Uncovering Genes  
and Mechanisms

# GRADUATE AG RESEARCH SPOTLIGHT

If it's one thing Nick Gallina knows, it's the value of perseverance. Growing up in Griffith, Indiana, Gallina overcame a developmental disorder that made academics challenging until science "clicked" in high school. Two TV shows — the infectious disease documentary *Monsters Inside Me* and the medical drama *House* — sparked Gallina's interest in studying microbiology at Indiana State University. But he was diagnosed with type 1 diabetes in the second semester of his freshman year. A lengthy hospital stay due to slight organ failure led to



years of adjustment to the disease, which delayed his graduation — with honors. He stayed on at ISU to complete a master's degree under Kathleen Dannelly, the same professor who welcomed him into her lab the second week of his freshman year. "I originally wanted to be an infectious

disease pathologist, kind of like Dr. House," Gallina says. "Then I realized I would much rather pursue a PhD instead of an MD." His research at ISU had focused on pathogens, specifically MRSA (methicillin-resistant *Staphylococcus aureus*). To learn more about food microbiology, he then worked at Mérieux NutriSciences under Silliker Labs for a year to acquire skills and techniques in that field. "That's how I found Dr. Bhunia, a well-authored, well-known professor of food microbiology," he recalls. Gallina came to Purdue and the lab of Arun Bhunia, professor of food science, in 2019, where he learned that his research focus

## FEATURED GRADUATE PROFILE *- Continued*

would change again, this time to probiotics. Gallina says of his advisor, "If you work, he'll put in ten times the amount of effort. That is one of the many reasons why I enjoy working for him.

I study Crohn's disease and colitis in mice, and we use probiotics to remediate the disease," Gallina says. In these digestive diseases, the body expresses a lot of one type of protein, heat shock protein 60 (Hsp60), and inflammation, he explains. His research focuses on a common probiotic that is genetically modified to express an enzyme from another bacteria. "The cool thing about this enzyme is, when we plug it in to this Lactobacillus probiotic, we can suppress inflammation because the enzyme adheres to Hsp60. This allows the probiotic to have close contact with the cells of the gastrointestinal tract. Because of that interaction, the probiotic can be more beneficial.

Gallina has enjoyed teaching throughout his academic career, including four times at Purdue. "This material can be very challenging. I love to see when a student 'gets' something you're trying to explain," he says. He has attended five conferences and received the Outstanding Student Poster Award at the 2023 American Society for Microbiology Annual Meeting. He also has been the

graduate student representative for the Interdepartmental Food Science Graduate Program, served on safety committees and has mentored numerous undergraduate students.

### Future Plans

When he completes his PhD, Gallina intends to work in industry. He also is looking forward to finally leaving academia: "I've worked a long time to get to this position," he says. "I just want to relax and start enjoying life." That will include bass fishing and football games, which he currently attends with Bhunia, other professors and his fellow graduate students. He also enjoys spending time in the gym and his service as a deacon in his church.



# AWARDS & RECOGNITIONS



Congratulations to Ph.D. student Busayo Oluyemi, recipient of the 2024 Unsung Diversity Hero Award! Mary also received the Steps to Leaps (S2L) Student of the Year Award! This award is presented to a Purdue student who has shown a passion for growth within the Steps to Leaps pillar areas and/or contributed toward the education of peers within the Steps to Leaps pillar areas of well-being, leadership, impact, networks and grit/persistence.



Congratulations to PhD candidate Manoj Sawale! Manoj's paper, "Inactivation parameters in liquid and vapor hydrogen peroxide sterilization of aseptic packaging systems" won first place in the Charles R. Stumbo paper competition presented by the Institute for Thermal Processing Specialists 2024 (IFTS). Manoj will present his paper at the IFTS annual meeting later this year. Way to go, Manoj!



Congratulations to Amandeep Singh, who was awarded the International Society of Beverage Technologists (ISBT) - Purdue Scholarship! The ISBT scholarship program is designed to encourage students to pursue a technical career in the beverage industry.

2024-2025 FSGSA Officer Board!

President- Sarah Eckrote  
Vice President- Heather Milliron  
Treasurer- Marcelo Guerrero  
Secretary- Victoria Gutierrez  
Social Media Chair- Dalne Sinclair  
FSGSA Senate Representative- Daniel Fajardo  
Be on the lookout for FSGSA events starting this fall.

April 1-5 , we celebrated Graduate Student Appreciation Week! Students participated in a daily egg hunt for prizes and enjoyed a delicious breakfast where we saluted their hard work and dedication. Thank you, grad students, for all that you do!





Food Science

FEEDING THE WORLD.

**PURDUE FOOD SCIENCE**

745 Agriculture Mall Dr.  
West Lafayette, IN 47907  
(765) 494-8258

