



# The Hornblower



NORTHERN CALIFORNIA INSTITUTE OF FOOD TECHNOLOGISTS



## UC Davis FTC Update

As we thrive through the beautiful summer of 2025, let's review the activities and accomplishments of FTC in this past flourishing spring.

### FOOD DEMONSTRATIONS AND COMPETITIONS

With the smell of blooming flowers in the Davis spring air, FTC brought students together to turn creative food ideas into reality:

- In April, we hosted the Oobli Sweet Protein Product Development Competition, where students used Oobli sweet protein as a sugar substitute. The winning team sold their cookies during the FTC Spring Bake Sale.
- Collaborating with the Davis Alt Protein Project, we invited ShroomHouse from Sacramento to lead a mushroom kit workshop. Over 40 undergraduate and graduate students grew and cooked their own blue oyster mushrooms in various delicious ways.
- In May, we held our Spring Chopped Challenge. With required ingredients like kimchi, goat cheese, tempeh, and plantains, students practiced product development with a creative twist, exploring new culinary approaches and flavor pairings.

### VOLUNTEER OPPORTUNITIES

Spring brought a wave of community engagement and professional exposure for FTC members:

- In our yearly tradition, we had students learn and use the pilot plant in the food science department to produce refreshing school-made ice cream to help guests beat the Davis heat during picnic day.
- FTC members proudly represented the club at NCIFT Suppliers' Night, where they networked with professionals from across the food industry.
- We concluded the quarter with a community conversation on cultural appropriation in food product development, creating a space for students to reflect on the cultural significance of food and innovation.
- To finish off our 2024-2025, we had our mentor and mentee meet up for a picnic event in Davis Central Park. We also held an end-of-school-year sunset social for all of our club members and students in the Food Science Department. These were great opportunities to chat about another school year and continue to build the communities in the UC Davis Food Science Department.

### GUEST SPEAKERS

We were honored to welcome a diverse lineup of guest speakers this spring, who shared their expertise and career insights:

- A product and mission presentation from the food scientists and product development team at Oobli Sweet Protein.

- A Q&A session with the UC Davis Food Science and Technology Leadership Board, featuring Carol Maccall (PepsiCo), Jackie Beckley, and Leslie Herzog (Understanding & Insight Group).
- A Zero Waste Cooking Talk with Chef Eric Martinez from Crispin Supper Club.
- A conversation with John Satumba from Cargill R&D on the future of edible oils.

### INDUSTRY TOUR

To wrap up the quarter, FTC organized an industry tour with The Better Meat Co. Students had the opportunity to explore the mycelium protein production process and learn about cutting-edge alternative protein technologies.

Thank you all for staying connected with FTC at UC Davis. Wishing you a joyful summer – see you in the fall!



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## NCIFT New Professionals Event – George Chiala Farms, May 28, 2025

by Erin Evers

George Chiala Farms hosted the New Professionals at their facility in Morgan Hill, CA. Karen Dawes, NCIFT board member, organized the event. We were honored to hear from Alice Chiala, founder of the company. We were happy to have current IFT board members, NCIFT volunteer leaders, industry members and student members all in attendance!





# The Hornblower

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## NCIFT New Professionals Event – Blindwood Cider, July 31, 2025

by Erin Evers

The NCIFT New Professionals enjoyed a summer afternoon at Blindwood Cider, a local family-run cidery in San Leandro, CA. Blindwood originated with a desire to create interesting and thought-provoking ciders using a wide array of apple varieties, botanicals, and aging processes. We enjoyed learning from the owners about their cider philosophy and manufacturing and taste their seasonal and core offerings. Additionally, we appreciate Evan Quigley sharing insights and updates on Packaging EPR (Extended Producer Responsibility) laws.

The NCIFT New Professionals are grateful to the many supporters who enhanced our event at Blindwood cider: **La Terra Fina, Columbus Craft Meats, Albertson's companies, and Debra Topham of Knowledge Bank.**

The NCIFT new Professionals are a community of recent food science graduates and members in the industry less than 10 years. Many thanks to Michelle Flood and Erin Evers for organizing every New Professionals event!



## Welcome New Members

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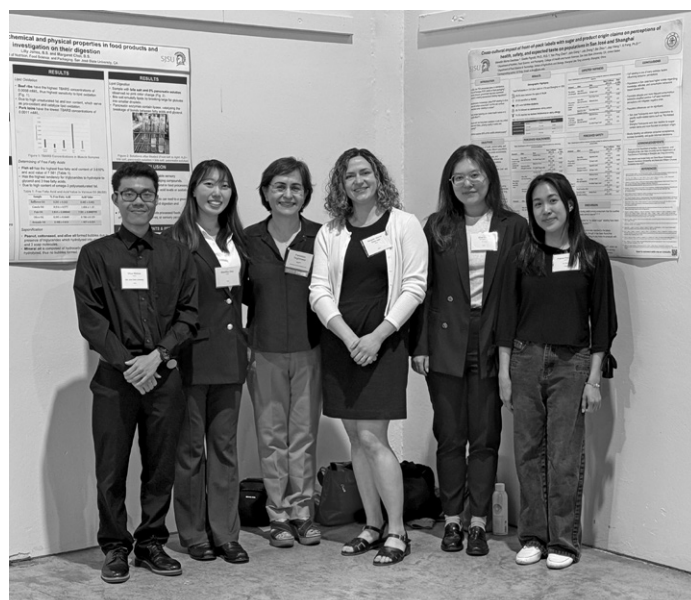
# Golf Tournament

Callippe Preserve, Pleasanton, May 5, 2025



## 2025 Poster Competition

The NCIFT Student Poster Competition is now in its fourth year. This year competition was a success with participants from UC Davis and San Jose State University. Participants showcased a wide range of research topics, parking engaging discussions and valuable feedback. The judges noted the efforts and quality of the posters. Throughout the event, attendees stopped by the poster session, posed questions about the methodology, and real-world applications. The competition encouraged knowledge sharing and networking among participants.











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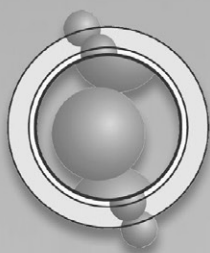


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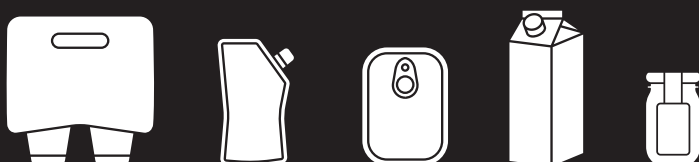
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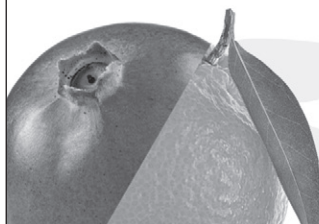
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## The Role of AI in Modern 3D Food Printing

by Nicol Leon Nunez (Department of Nutrition, Food Science and Packaging, San Jose State University)

3D printing is a manufacturing method that creates objects by layering materials like plastics or resins based on digital models (Vinod et al., 2017). In recent years, new technologies such as AI have made it possible to increase the efficiency of this process and have allowed for the growth in 3D printing applications, even being used in the food industry. Food companies now use 3D printing not just for creative designs and nutritional enhancements, but also to cook food.

According to an article titled "AI-enhanced 3D printing cooks food with infrared precision", researchers at the Hong Kong University of Science and Technology, HKUST, have developed an AI-assisted 3D food printing system that includes infrared cooking of starch-based foods during the printing process (AI-enhanced, 2025). Researchers used AI to help design food shapes, making the process automatic, looking to improve the food's quality while keeping the process efficient.

This new 3D printing addresses two of the main problems when preparing healthy food, which are giving it an appetizing appearance and maintaining food safety while keeping it nutritious. By cooking food as it prints, the system helps reduce cross-contamination risks and maintains the intended shape of the food. From a food safety perspective, this immediate cooking process could help reduce the chances of microbial growth in raw ingredients, which is necessary for producing safe foods.

Furthermore, from a nutritional perspective, this technology could help to create personalized nutrition by allowing meals to be made exactly for each person's needs. For instance, hospitals could use it to prepare customized soft-textured meals for patients with dysphagia, ensuring they receive essential macronutrients safely and efficiently.

This new printing system not only offers an in-line, simultaneous printing and cooking process using a laser-induced graphene heater, but also uses AI to accelerate the technique (Lee et al., 2025). The university suggests the use

of AI to generate simple 2D images and then turn those into 3D shapes. This approach reduces the time and expertise required for 3D food design, making the technology more accessible to people who do not have training.

However, the article mentions that this area needs further research because using AI to transfer 3D designs may not be very useful when applying complicated designs. Also, they recommend combining this study with further sensory evaluation to test consumers' acceptance of the printed food (Lee et al., 2025). In addition, the article mentions that the team is planning to improve the system to preserve heat-sensitive vitamins, such as ascorbic acid, allowing people to have a cooked meal without losing vitamin C (AI-enhanced, 2025).



In brief, while 3D food printing has existed for years, integrating infrared cooking and AI represents a major step forward in efficiency, safety, and personalization. However, there are still a few concerns about the use of this system, such as the creation of 3D designs with AI, the acceptability of people to the food, and the high cost of implementing it in public hospitals. Nevertheless, the AI-enhanced 3D food printing technology developed by HKUST is one of the new methods that add artificial intelligence to make food safer, customizable and nutritious.

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