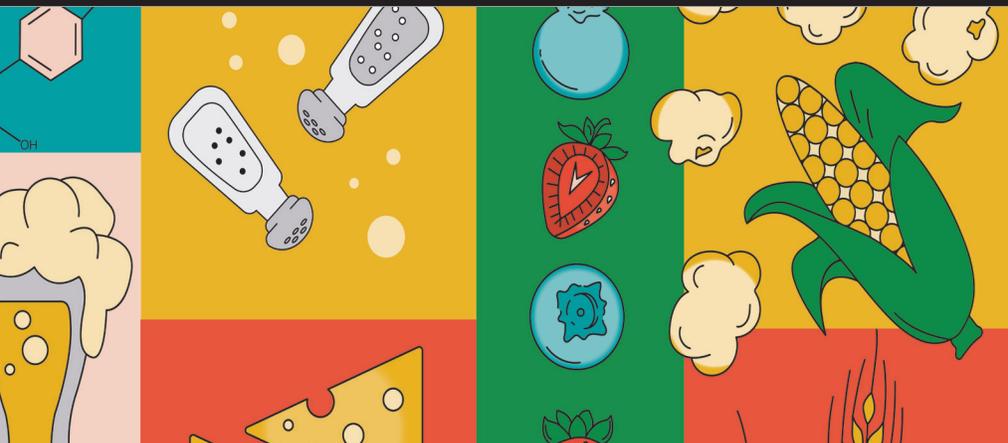


OREGON STATE UNIVERSITY

# FOOD SCIENCE AND TECHNOLOGY

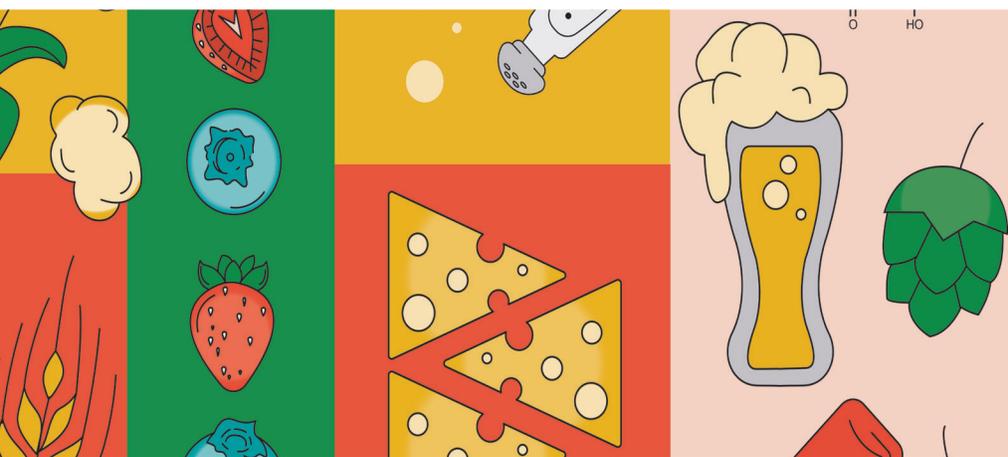
DECEMBER 2021



## FOOD SCIENCE & TECHNOLOGY

Inspiring, Collaborating, Innovating

To Advance Safe and Sustainable Food for a Healthier World



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Help Transform FST  
BACK COVER

# Message from FST Department Head

Dr. Lisbeth Goddik

## Dear Alumni, Stakeholders, and Friends

Welcome to the Holiday edition of the FST newsletter.

We are back! Classrooms and teaching laboratories are once again filled with students and everyone is grateful to resume traditional in-person teaching.

OSU has a vaccine mandate and everyone must wear masks. Ninety-three percent of our students and 94% of faculty and staff are vaccinated and the precautions appear to be working as we haven't had to enforce quarantines or switch to remote teaching.

## As you will read in this newsletter, our program is bustling.

- The Grant and Alice Schoenhard fund aims to support practical education experiences for up to 50 undergraduate students.
- Our research program is growing at unprecedented speed.
- We are upgrading our equipment, and developing a plan to improve our infrastructure.
- We are the proud owners of a food truck.

**It's an exciting time to be an OSU food scientist!**



See page 6 to learn more about the new FST Food Truck!



**Dr. Lisbeth Goddik, Department Head**

Paul & Sandy Arbuthnot Professor  
Jacobs-Root Professor

[Lisbeth.Goddik@oregonstate.edu](mailto:Lisbeth.Goddik@oregonstate.edu)

*From all of us at FST  
Happy Holidays!*



## FST Proudly Announces

# The Grant & Alice Schoenhard Practical Education Fund

**Grant and Alice Schoenhard have established a scholarship fund to support practical education experiences in Food Science & Technology.**

The scholarship fund will support internships, undergraduate research, and study and work abroad experiences. The goal is to support from 30-50 FST undergraduate students during 2022.

- **Internship support:** The scholarship will include housing support while on a food science based internship for students who already carry a 12 month lease on their Corvallis housing, travel support, and tuition subsidies for students planning to register for internship credits.
- **Undergraduate research support:** The scholarship will support students conducting undergraduate research in FST.
- **Study or work abroad:** The scholarship will support travel and/or lodging for students studying or working abroad in food science via official OSU exchange programs.

**Dr. Goddik states, "The Grant & Alice Schoenhard Practical Education Experience Fund will be a gamechanger for FST undergraduate students."**

The sheer size of this program makes it possible to support up to 50% of all undergraduate students. Each component of the scholarship aims to remove obstacles to experiential learning and allow more students to participate in these opportunities.



**The impact of encouraging practical education experiences is clear: we will develop better food scientists.**

**Internships** provide valuable understanding of the food industry and help students connect and relate the information taught in FST courses.

**Research** provides an extraordinarily beneficial opportunity to not only prepare for graduate school, but also to develop useful skills applicable beyond research such as attention to details, project planning, data analysis, etc. It allows students to gain great knowledge in specific topic areas that will help provide framework for classroom learning.

**Studying or working internationally** often results in life altering perspectives and provide lessons well beyond the science of food.

**FST is grateful for this impactful contribution to FST and thanks Grant and Alice Schoenhard for their generous contribution.**



# The Inspiring Tale of the FST Research Program

*Inspiring, Collaborating, Innovating  
To Advance Safe and Sustainable Food for a Healthier World.*

A few years ago, FST research faculty gathered to discuss ways to improve the overall research program. This led to a yearlong effort where committees investigated opportunities to:

- Develop a research focused community
- Strengthen research worker training
- Strengthen proposal writing
- Increase dissemination of research and build external visibility

These efforts led to the creation of the **FST Roadmap to Research Excellence**, which provides specific action items for the FST faculty.

Some action items that we've already implemented are adding a pre-defense program meeting for MS students, an elevated publication requirement for graduate students, a new 'research methods' course for graduate students, along with improved inclusion of Postdocs and Faculty Research Assistants.

We have implemented "Research Dialogues" where faculty lead informal discussions on future research interests and opportunities for collaboration.

A key component of the Roadmap is rigorous self-assessment and benchmarking to measure progress. And we are seeing significant progress.

Over the past 5 years, the number of peer reviewed publications is up by 47%, citations of our work are up by 105%, and our federal research funding is up by nearly 300%. This past year alone, the number of FST PhD students has increased by 40%, an indicator for growth in basic research.

Along with the positive trends in research outputs, the national ranking of FST is showing robust growth. We don't conduct research for the sake of national program rankings, but it is nice to receive validation of our increased efforts and strategic planning.

## Roadmap to Research Excellence

Define Successful outcomes of "Research Excellence"  
Identify and collect data for metrics to follow progress

Develop research  
focused community

Improve research-worker  
training

Strengthen grant/proposal writing

Increase dissemination of research  
and build external visibility

**Research  
Excellence**

you are  
here

## FST Proudly Announces

# CAS Leadership, Legacy, and Hall of Fame Award Winners



## LARRY SIDOR

### 2021 DISTINGUISHED ALUMNI LEADER AWARD

The **Leader Award** is given to an individual who has distinguished herself or himself through professional practice and service to OSU, her or his profession, or society at large. Nominees should have at least 20 years of professional experience to be considered for this award.

## JULIANNE WOOD RETHWILL

### 2021 DISTINGUISHED ALUMNI LEGACY AWARD

The **Legacy Award** is a career lifetime achievement award. It is given to an individual who has made a lasting and meritorious contribution to their chosen field, OSU, or society at large throughout their career.



## TILLAMOOK COUNTY CREAMERY ASSOCIATION

### AGSCI HALL OF FAME AWARD WINNER

The **Hall of Fame Award** recognizes the recipient's contribution to agriculture and natural resources or activity directly concerned with agriculture and natural resources, as well as their excellence in accomplishment and service and cooperative involvement with Oregon State University and the College of Agricultural Sciences.

# Department Highlights

## FST Buys a Food Truck

Hurrah for thinking outside the box! Our dairy fairy, Robin Frojen, has purchased a food truck to sell Beaver Classic products.

An observant reader may have noticed that the truck is red rather than traditional Beaver orange. Until the paint supply chain challenges are overcome, we will depend on the truck decorations to communicate our connection to OSU, College of Agricultural Sciences (CAS), and FST.

The observant reader may also have noticed the bee below the cow. As part of the CAS emphasis on growing experiential learning opportunities for all students, we have expanded the Beaver Classic product categories to include honey (made by bees but harvested and packaged by entomology students) and products from the Clark Meat Science Center (processed by Animal and Rangeland Sciences students).

We now get help with marketing and selling our products from students in the Agricultural Business Management program. It's a college wide effort that will continue to grow.

After numerous requests, including from many of you, we are also transitioning into Beaver Classic ice cream production, which will be sold from the food truck.

The Beaver Classic Food Truck will be available for rental on campus and for OSU events.

To support FST and CAS students food producers: go to <https://foodsci.oregonstate.edu/foodsci/beaver-classic>

**The inaugural outing of the Beaver Classic Food Truck was November 16th at the OSU Used Store. Beaver Classic cheese, honey, jerky, and newly added ice cream products were available. Future food truck offerings will include grilled cheese, and brats from the Clark Meat Center.**



*The new FST Food Truck sells Beaver Classic products, including ice cream, and will be available to rent on campus and for OSU events.*

Contact Creamery Manager [Robin Frojen](#) for more details.



# Department Highlights

## FST Students Make Pink Potato Chips



Oregon State University College of Agricultural Sciences partners with scientists across the region at peer institutions, the USDA and the Oregon Potato Commission to develop more than 40 potato varieties.

Sagar Sathuvalli, based in OSU's Hermiston Agricultural Research and Extension Center, led the effort to create this pink potato known as the TerraRossa. It was developed as part of the Tri-State Potato Variety Development Program.

Food Science and Technology students transformed the TerraRossa potatoes into the delicious limited edition Beaver Classic™ chips. **These limited edition potato chips are made in honor of breast cancer awareness month.**

For more information on the limited edition Beaver Classic™ pink potato chips contact [Zak Wiegand](#), Food Processing Pilot Plant Manager.



Limited edition Beaver Classic™ Pink Potato Chips made from TerraRossa potatoes developed at OSU's Hermiston Agricultural Research and Extension Center.



Student workers (left to right) Rafsan Bashir, Shah Meer, and MacKenzie Warren display single-serve bags for Beaver Classic™ limited edition Pink Potato Chip production.



Single-serve bags of limited edition Beaver Classic™ Pink Potato Chips; over 500 single-serve bags were produced for distribution at OSU in honor of breast cancer awareness month.

# Department Highlights

## New Equipment and Pilot Plant Updates

### New State-of-the Art Research Supercritical CO2 Extractor Installed in Wiegand Hall



*Zak Wiegand, Food Processing Pilot Plant Manager, conducted the inaugural run of the MIDAS XII Supercritical CO2 Extractor*

Vanguard Inc. of Aurora, Oregon has donated a MIDAS XII to Oregon State University.

This equipment significantly augments the capacity to extract essential oils from agricultural commodities such as hemp and hops and provides exciting new opportunities to faculty from across campus for research and industry partnerships.

Installation costs for the entire process line were provided from a donation by Natural Plant Products of Salem, Oregon, with additional financial support from the College of Agricultural Sciences, Global Hemp Innovation Center, Linus Pauling Institute, the College of Pharmacy, and Department of Food Science & Technology.

FST thanks everyone for their generous donations and support.

### A Window (and Door) into the Future of the Wiegand Hall Pilot Plant



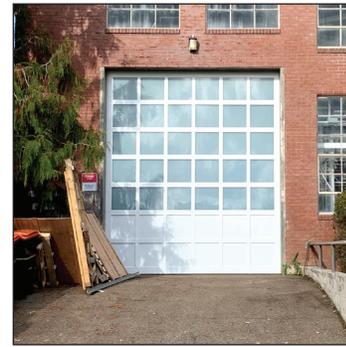
*Single pane, aging windows of Wiegand pilot plant*



*New test window installed in Wiegand pilot plant*



*BEFORE - Old roll up door to pilot plant loading dock*



*AFTER - New roll up door to pilot plant loading dock*

Many of you may be familiar with the aging windows in the Pilot Plant. Single pane, uncleanable, poorly sealed. All of that is about to change. After many years of working closely with OSU Facility Services and building good working relationships, something magical happened.

The capitol planners at OSU deemed it time for Wiegand Hall to get some new windows in the Pilot Plant! Not just basic replacement windows, but high-quality, modern windows with screens that will help us in our efforts to maintain a clean food processing facility.

As an added bonus to the project, the work included a replacement for the dock door on Campus Way. No more pull-chain! It's automated, insulated, and matches the design of the door from when the building was first constructed.

One test window has been installed (north balcony) and the main replacement of windows is scheduled to start in February 2022. The dock door was recently installed and is an incredible upgrade!

# Department Highlights

## FST Farm 2 Fork Webinar Series



2



### A Sneak Peak at 2022!

If you have not already discovered this wonderful webinar series about people, technologies and collaborations that are enabling positive change, we invite you to join us!

You can find the current webinar schedule and a link to recordings of past webinars on the [F2F WEBPAGE](#).

**JANUARY 21, 2022**



[How Dulse and Other Seaweeds Will Shape the Future of Food](#)

*Speaker:*  
*Charles Toombs*  
*CEO/Founder of Oregon Dulse*  
*Instructor, OSU College of Business*

**FEBRUARY 18, 2022**



[Are Volatile Thiols the Only Cause of Tropical Fruit Aroma in White Wines? Exploring Aroma Interactions and Adapting Winemaking Procedures](#)

*Speaker:*  
*Angelica Iobbi*  
*Graduate Student, OSU Department of Food Science and Technology*

# FST Faculty in the News



Yanyun Zhao

## Sustainable Food Packaging Made from Pomace

Rick Lingle | *Packaging Digest* | Sep 20, 2021

What if packaging that could dramatically reduce the environmental impact was made from a food processing byproduct, pomace?

That's one of the projects underway in the Sustainable Food Processing and Packaging Lab on the campus of Oregon State University under the direction of Yanyun Zhao, a professor in the Department of Food Science and Technology.

With a doctorate in food engineering — she studied modified atmosphere packaging for her dissertation research — Zhao specializes in sustainable packaging development. [FULL STORY](#)



*Edible fruit leather wrap film made of cranberry pomace extract with natural cranberry juice color.*

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*Classic*

**Cheddar**  
CHEESE

Made by Cows.  
Crafted by Oregon State Beavers.  
EST. 1868  
CORVALLIS, OREGON

# FST Grant Awards



*Dr. Elizabeth Tomasio*  
Associate Professor,  
Enology and Sensory  
Analyst  
Lead Grant PI

## **\$7.56M Grant from USDA-NIFA - Assessment and Management of Risk Associated with Wildfire Smoke Exposure of Grapes in the Vineyard**

Oct 28, 2021 - Oregon State University researchers and a team of West Coast university collaborators have received a \$7.65 million grant to study the impact of smoke exposure on grapes, a project that will provide critical knowledge to grape growers and winery owners severely impacted by widespread wildfire smoke in recent years.

Oregon State researchers will work with scientists at Washington State University and the University of California, Davis, on the four-year project, which is funded by the U.S. Department of Agriculture's National Institute of Food and Agriculture.

Other Oregon State researchers involved with the new project are: Alec Levin, James Sterns, Yanyun Zhao and James Osborne, all of whom are part of the College of Agricultural Sciences or Oregon State University Extension Service.

[\(More about this grant\)](#)



### **RELATED STORIES:**

[OSU Receives \\$7.65 Million USDA Grant to Study Impact of Wildfire Smoke on Grapes and Wine \(KTVZ\)](#)

[Grapes and Wildfires' Wrath: OSU Granted \\$7.6M to Study Impace \(KEZI\)](#)

[OSU Resarchers Develop Innovative Ways to Protect Wine Grapes from Wildfire Smoke \(KGW\)](#)

[Grants in Oregon to Tackle Smoke Threat to Grapes, Wild Carrots Invading Fields, and More \(Salem Reporter\)](#)



*Dr. James Osborne*  
Professor, Enology  
Extension Specialist  
Grant Co-PI

### **RELATED GRANT AWARD:**

#### **Novel Coatings to Prevent Uptake of Smoke into Wine Grapes**

**Grant total: \$167,000 for 2 years**

Oregon State University will conduct research to produce novel food coatings to stop uptake of smoke volatile compounds into wine grapes.

The wildfire threat is not going away but OSU researchers hope to mitigate the threat to Oregon's wine industry by developing safe coatings for grapes that keep smoke out.

The university has a team specialized in creating edible coatings for food and evaluating the impact of smoke on grapes and wine, it said in its program summary.

[\(More about this grant\)](#)



*Dr. Yanyun Zhao*  
Professor, Sustainable  
Food Packaging and  
Value Added Food  
Product Development  
Grant Co-PI  
\$7.65M USDA-NIFA

Grant PI  
\$167,000 Specialty  
Crop Block Grant  
Program



Application of 13C-labelled smoke on Pinot noir grapes in Woodhall Vineyard. Photo credit: Cole Cerrato

# FST Grant Awards



*Dr. Tom Shellhammer,  
Professor,  
Brewing Science  
Grant Co-PI*

## **\$4.8M Grant from USDA-NIFA - Enhancing Supply Chain Sustainability and Global Competitiveness for Pacific Northwest Hops**

Oct 28, 2021 - Dr. Shellhammer serves as co-PI on the grant: *Enhancing Supply Chain Sustainability and Global Competitiveness for Pacific Northwest Hops*.

Although OSU is not the lead institution for this grant, Dr. Shellhammer will receive close to 20% of the \$4.8M grant. This funding will be a game changer for the brewing program and demonstrates Tom's standing within the "world of hops." [\(More about this grant\)](#)



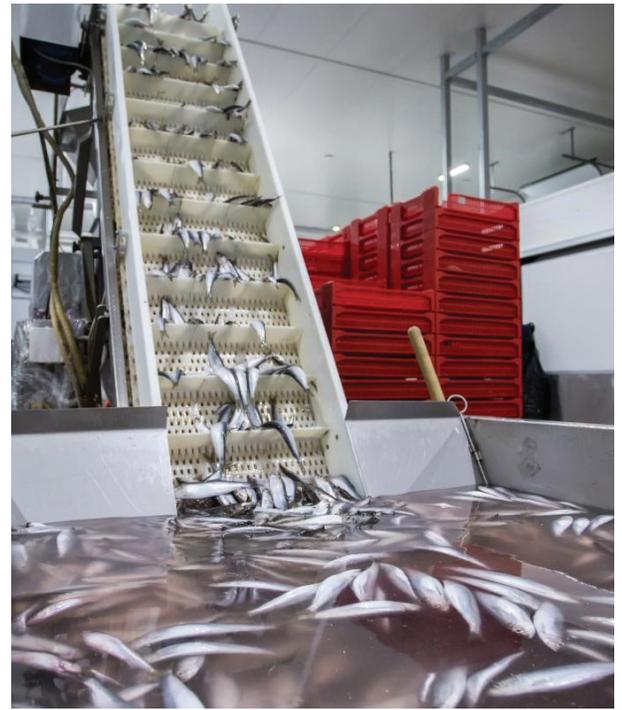
*Dr. Jung Kwon  
Assistant Professor,  
Nutritional  
Pharmacology,  
Grant PI*

## **\$333,777 Grant from FFAR - Converting Seafood Byproducts to Food**

Nov 16, 2021 - The Foundation for Food & Agriculture Research (FFAR) is providing a \$333,777 Seeding Solutions grant to researchers at Oregon State University (OSU) to develop high protein, nutritious and attractive food products from byproducts of the seafood industry.

Matching funds and in-kind support were provided by Alaska Seafood Marketing Institute, OSU, OSU Food Innovation Center, Pacific Seafood Group, Seafood Industry Research Fund, Trident Seafoods and West Coast Seafood Processors Association for a total \$667,570 investment.

Researchers at OSU, led by Dr. Jung Kwon (grant PI) and Drs. Mike Penner and Dave Stone (grant co-PIs), are quantifying the nutritional value of seafood byproducts and developing dietary products that will be attractive to consumers.



*Photo courtesy of Foundation for Research and Agricultural Research*



*Dr. Mike Penner  
Associate Professor,  
Bio-product/fuel  
Research  
Grant Co-PI*



*Dr. Dave Stone  
Professor and Director -  
Food Innovation Center,  
Food Safety and  
Public Health  
Grant Co-PI*

The first step in this process is optimizing the process of extracting protein from the byproducts. Once an efficient technique is in place, the researchers will assess the proteins' nutritional content as compared to other protein supplements, and how the seafood protein interacts with human health.

The team will then develop prototype food products and supplements from the protein that will be assessed through consumer panels. Finally, the researchers will conduct research and outreach to determine market demand and increase consumer interest in these products.

[\(More about this grant\)](#)

# FST Grant Awards



*Dr. Paul Hughes  
Assistant Professor,  
Distilled Spirits  
Grant Co-PI*

## Oregon State University Receives \$10-Million Grant to Study Hemp Market in Western U.S.

Oct 6, 2021 - Oregon State University's Global Hemp Innovation Center has been awarded a \$10 million grant from the U.S. Department of Agriculture (USDA) to define economic opportunities for hemp in the western United States.

**Paul Hughes is a co-PI on this grant and receives research funding that will support a new graduate student in his research lab.**

The five-year project is funded by the USDA National Institute of Food and Agriculture's Sustainable



Oregon State University's Global Hemp Innovation Center  
*Photo courtesy of HempGrower*

Agricultural Systems grant program.

Oregon State scientists are partnering with eight institutions across the nation on this research, which addresses the needs of Native American and other rural community businesses and farmers in a four-state Western Pacific region. [\(More about this grant\)](#)

## USDA - NIFA Invests Over \$10M for Food Safety Outreach, Training, and Education

Sep 29, 2021 - Oregon State University's project, "Western Regional Center to Enhance Food Safety," will continue to foster collaboration in food safety education and stakeholder support of FSMA implementation.

Leveraging a multi-institutional infrastructure already established across the U.S. Western Region, this initiative will expand the education network to include additional participants from Land-grant Universities, Alaska Native-serving, Native Hawaiian-serving, and Hispanic-serving Agricultural Institutions, as well as non-governmental organizations from 13 western states and two Pacific territories.

The total of the grant awarded to Oregon State University PI's Jovana Kovacevic, Joy Waite-Cusic, and Stephanie Brown is \$793,592, and runs through Fall 2024.

[\(More about this grant\)](#)

*Dr. Jovana Kovacevic  
Assistant Professor and  
Extension Specialist,  
Food Microbiology  
Grant PI*



*Stephanie Brown  
Faculty Research Ass't,  
Food Safety Specialist  
Grant Co-PI*



*Dr. Joy Waite-Cusic  
Assoc. Professor, Food  
Microbiology and Safety  
Grant Co-PI*

# FST Grant Awards



*Dr. Joy Waite-Cusic  
Assoc. Professor,  
Food Microbiology  
and Safety  
Grant Co-PI*



*Dr. Jovana Kovacevic  
Assistant Professor  
and Extension  
Specialist,  
Food Microbiology  
Grant Co-PI*

## **\$400K USDA-NIFA Grant - Multi-Modal Dairy Food Safety Plan Education to Support Small and Medium Dairy Producers**

Oct 4, 2021 - Drs. Joy Waite-Cusic and Joavana Kovacevic serve as co-PIs on the grant: **Multi-Modal Dairy Food Safety Plan Education to Support Small and Medium Dairy Producers.**

This grant is a continuation of the national education grant which has supported in-person artisan cheese and ice cream workshops since 2017.

The new round of funding helps to continue nationwide support for the next three years, while adding an on-line component with pre-recorded sessions and frequent live virtual office hours.

This grant continues the mission of supporting small dairy processors as they build and improve their food safety plans and practices.

[\(More about this grant\)](#)



## **OSU partners with California Dairy Business Innovation Initiative to receive \$1.8M USDA Grant for “Pacific Coast Coalition”**

Nov 10, 2021 - Sheri Cole is a partner in the new \$1.8M USDA grant for regional dairy business innovation awarded to Cal State Fresno and California Dairy Innovation Center to create a “Pacific Coast Coalition” to support dairy businesses in California, Oregon, and Washington in the development, production, marketing and distribution of dairy products.

Sheri Cole has been instrumental in her efforts to connect OSU Food Science and Technology with external partners to establish strategic alliances. FST's participation in the Pacific Coast Coalition is a direct result of Sheri's vision.

Dairy Business Innovation Initiatives provide direct technical assistance, educational support, and grants to dairy businesses.

“The Pacific Coast Coalition will contribute to our competitive advantage in global markets and directly benefit our regional businesses. It will be instrumental to stimulating innovation and entrepreneurship, strengthening the development of our workforce pipeline, and ultimately leading to the increased use of our milk in value-added products,” said John Talbot, CEO of the California Milk Advisory Board (CMAB).

[\(More about this grant\)](#)



*Sheri Cole  
Assistant Professor  
of Practice,  
Food Science and  
Technology Work Force  
Training and Dairy  
Extension  
Grant Co-PI*

# FST Grant Awards



*Dr. Joy Waite-Cusic  
Assoc. Professor,  
Food Microbiology  
and Safety  
Grant PI  
NIH Grant Co-PI*

## **\$411,215 Grant from California Dept. of Food and Agriculture Specialty Crop Block Grant Program for: Assessing the Potential for Production Practices to Impact Dry Bulb Onion Safety**

Nov 5, 2021 - The Center for Produce Safety (CPS) will partner with Oregon State University to determine contamination risks in dry bulb onion production practices.

In 2020, the dry bulb onion industry faced its first significant outbreak of foodborne illness when red onions grown in California were

epidemiologically linked to greater than 1,000 cases of salmonellosis.

The primary goal is to collect evidence demonstrating the risks of these practices and to communicate the findings to relevant stakeholders to reduce the potential for an outbreak like this from recurring in the future.



*Dr. Dave Dallas  
Assistant Professor,  
Adjunct Faculty,  
Nutrition/Milk Protein  
NIH Grant Co-PI*

## **\$463,369 NIH Grant (year 1 funding within a 5 year project) for: Can High Pressure Processing and Ultraviolet-C Irradiation Treatment Preserve Donor Milk Bioactive Protein Structure and Function Better than Holder Pasteurization**

Nov 5, 2021 - The objective of this research is to identify the minimum HPP and UV-C treatment conditions that achieve equivalent microbiological safety to Holder pasteurization while optimally preserving bioactive protein structure and function.

The positive impact of this research will be guidance for donor milk processors on how

to optimally process donor milk for feeding preterm infants and information for clinicians on how to evaluate available donor milk sources.

The long-term goal is to optimize feeding practices for preterm infants to improve their health outcomes.

## **CAS Grants Funding for FST & BEE Ignite Proposal Titled "Innovation Hub for Sustainable Food Manufacturing"**

Oct 4, 2021 - The College of Agricultural Sciences selected the FST & BEE Ignite proposal titled *Innovation Hub for Sustainable Food Manufacturing* for funding.

The CAS Ignite Program encourages interdisciplinary research projects that align with CAS priority focus areas.

Congratulations to Sheri Cole, Tom Shellhammer, and Yanyun Zhao from FST, and Frank Chaplen and Hong Liu from BEE for preparing an outstanding proposal.

[\(More about Strategic Advantage Ignite Sessions\)](#)



*Sheri Cole  
FST*



*Dr. Tom Shellhammer  
FST*



*Dr. Yanyun Zhao  
FST*



*Dr. Frank Chaplen  
BEE*



*Dr. Hong Liu  
BEE*

# Update from the Shellhammer Research Lab



## Shellhammer Receives 2021 MBAA Award of Merit

Dr. Shellhammer is the recipient of the MBAA Award of Merit. This award may be given annually to an individual who has made an outstanding contribution to the brewing industry.

*Dr. Tom Shellhammer*

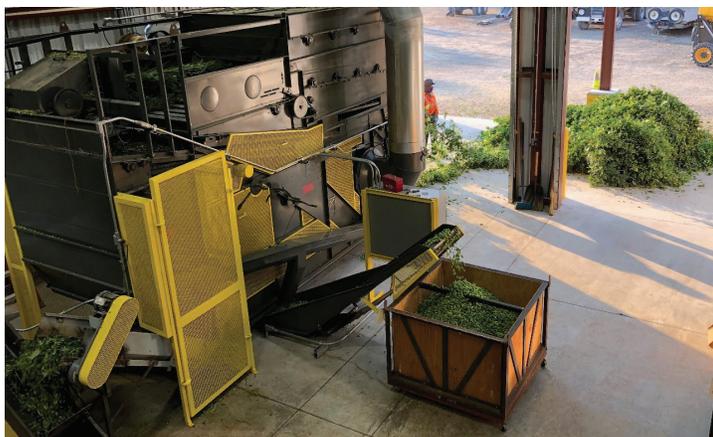
From 2010 – 2020,

Dr. Shellhammer served on the Executive Board of the Master Brewers District Northwest.

Tom is a member of the Board of Examiners for the Institute of Brewing and Distilling and a Fellow of the Institute of Food Technologists and the Institute of Brewing and Distilling.



*Above: Tom Shellhammer (left) and Lindsey Rubottom (PhD student, right) running experimental hop kilning trials at Elk Mountain Farm, Bonners Ferry, ID..*



## TOM IN THE NEWS:

[Hop Growers Balance Demands of Craft Beers with Climate Concerns \(Crosscut\)](#)

[Brewing Triple IPAs and Beyond: Battling Against Nature \(Craft Beer & Brewing\)](#)



*Above: Ricky Molitor (MS student, on step stool) and Cade Jobe (UG Research Assistant) pelletize hops in the FST pilot plant as part of industry-funded research on hop kilning and hop terroir.*

*Left: Wolf picker picking/cleaning hops at Elk Mountain Farm's pilot picking/kilning facility, Bonners Ferry, ID.*

# Congratulations FST Graduates



## MS and PhD

Fall 2021



**Rebecca Bland, MS**

[Genetic Diversity and Antimicrobial Resistance of \*Listeria monocytogenes\* within Produce Handling and Processing Environments](#)

Fall term 2021



**Roxana Navarro, MS**

Prevalence of Volatile Phenols in Kombucha and Evaluation of Factors that Influence their Formation

*(please contact christopher.curtin@oregonstate.edu for a copy of Ms. Navarro's thesis)*

Fall term 2021



**Kritika Kartik, MS**

[Approaches to The Optimization of Honey-Based Fermentations](#)

Fall term 2021



**Kim Phan, PhD**

[Lipid Profile in Pinot Noir Wine: Contributions to Taste and Mouthfeel Perception, Impacts of Winemaking Techniques, and Potential Use As Markers for Identifying Wine Origin](#)

Fall term 2021



**David Kemp, MS**

[Anti-inflammatory and Antioxidant Potential of Alaska Pollock Milt and Roe Hydrolysates](#)

Fall term 2021

*"Education is the passport to the future, for tomorrow belongs to those who prepare for it today."*

– MALCOLM X



# Block 15 Introduces Alumni Club Collaboration Series featuring Other Half Brewing

Corvallis, OR — Block 15 Brewing announces the release of Alumni Club, an annual collaborative beer release that highlights some of the brightest graduates of Oregon State University's Fermentation Science Department. The inaugural "Brooklyn Chapter" edition features Sam Richardson, OSU alumni and co-founder of New York's Other Half Brewing.

In addition to pairing university alumni to create the recipe for this New England-style IPA, locally-sourced hops were chosen from nearby Coleman Agriculture in the Willamette Valley. Citra and Strata hop varieties were chosen by Block 15, with Simcoe hops selected by Other Half.

**"Oregon State University and the Fermentation Science Department have played central roles for a large part of my life and career." said Matt Williams, Block 15 Brewery Operations Manager and OSU alumnus.**

"The opportunity to integrate them into a program that allows me to connect with other alumni with similar experiences, and to forge an even closer bond with the University, is an exciting prospect for me personally. I can't think of a better way of showcasing the best that the OSU Fermentation Science program has to offer, and bringing some of our great alumni back to Corvallis to share some great beers with everyone."

"It's exciting to be back in Corvallis at the school that started it all for me." said Sam Richardson, Other Half Co-founder/Brewmaster "OSU's teaching and research is such

a big contribution to the brewing community. Being able to connect with other alumni through collaborative brewing is also exciting, it shows the kind of community building that beer and brewing should be about."

"Watching our former students like Sam succeed in the brewing industry is tremendously satisfying," said Thomas Shellhammer, Nor'Wester Professor of Fermentation Science at Oregon State University. "I am happy for them and the positive impact our Fermentation Science program has on the nation's brewing industry. The collaboration between Other Half Brewing and Block 15 is a fun way to recognize and celebrate our alumni's success with beer that can be shared locally here in Corvallis."

"This alumni collaboration series is yet another example of the great relationship between OSU's brewing program and Block 15"

Partnering with the Oregon State Alumni Association and Fermentation Science Department, future Alumni Club partners will be paired with Block 15 to showcase regional styles, ingredients and innovative brewing techniques that exemplifies the craft that was honed at the university and flourished in the industry.

Alumni Club, Brooklyn Chapter released Friday, September 10th at both Corvallis Block 15 locations, with distribution to bottle shops and taprooms throughout the Pacific Northwest to follow shortly after.



# Alumni Spotlight

## Matt Andrews and Mary Porter

On September 29, 2021, Matt Andrews and Mary Porter visited FST. Here is the story of their careers and friendship that started in Wiegand Hall during graduate school.

Matt Andrews and Mary Porter graduated with MS degrees in FST in 1977 with Mary studying nitrosamines and Matt studying dairy flavor chemistry.

Both used their diverse food science training to establish distinguished careers. Matt as a business owner on the west coast and Mary as a patent lawyer on the east coast.



*FST Alumni Matt Andrews*

In 1978 Matt and his wife Alayne Boyko (FST PhD in 1977) opened MICRO-CHEM Laboratories, Inc in Seattle providing chemical and microbial testing services.

At first all of their clients were Producer/Distributor dairies such as Smith Brothers, Sno King (later DeJong Dairy), Norman Brook Dairy, Auburn Dairy, Christofersen Dairy,

Shamrock Dairy, Edalene Dairy, Turner and Pease Butter Company, among others.

Later, MICRO-CHEM contracted to do all of the lab work for Carnation Dairy. With weekly in-plant inspections and lab work, they kept a lot of small dairies on the straight and narrow.

In the 1990's Matt provided food/dairy plant consulting for Hershey Chocolate Company. He audited dairies which made Hershey Chocolate Milk, and lots of commodity suppliers, all over the U.S.

Matt and Alayne worked together at MICRO-CHEM from 1978 until Alayne's death in June of 2014. Matt established an FST scholarship in honor of Dr. Alayne Boyko.

The key pivot in Mary's professional career came when she left her work as a food scientist and went to law school. She chose law with the expectation she could integrate science and law. She fulfilled her expectation



*FST Alumni Mary Porter*

by working in patents and intellectual property law, and spending her days with creative scientists and engineers from around the world - a wonderful privilege.

An unexpected benefit of patent work has been a lifetime of learning across a wide range of technical subject areas, including food ingredients, chemicals, process technology, mechanics, polymers, metals, ceramics, nanotechnology and high temperature materials.

For Mary to be effective in her work she came to value and rely heavily on scientific fundamentals (experimental design, analytical methods, statistics: Thank You OSU!), particularly when she lacked substantive knowledge in a new technical area (often the case!).

Matt, his late wife Alayne Boyko, and Mary became close friends during their grad student days in Food Science at OSU, a really important formative time in their lives.

Geographical separation – west coast, east coast – coupled by the demands of starting careers, left little opportunity or time for connecting.

Alayne's death and the OSU scholarship fund Matt created in her memory, brought Matt and Mary back into communication. They picked up where they left off decades ago, as if no time had passed, linked by history, a shared sense of curiosity, high energy levels and parallel paths over the decades.

Visits to our respective coasts followed, starting with Mary's 2016 west coast trip with her nephew Joe Porter, then a PhD candidate in Biochemistry at OSU, and most recently, a visit to the Wallowa Mountains and their September visit to Corvallis.

# Fun with Food and Spirits

Recipes by: [Michael Adams](#), Food Scientist

[Jason Ball](#), Research Chef/Sr. Faculty Research Assistant 1  
FIC Product Development Team

Guest contributor: Sabrina Carter, FIC Fellow

Fall is here and the holiday season is quickly ramping up! With parties to plan and appearances to make, it's hard sometimes to keep your family and friends guessing with the menu.

Forget turning up the heat on your thermostat this season... Let's turn it up at the social gatherings.

Our dinner recipe is inspired by Papaya Salad, but incorporates Fall squash and late season green beans in place of green papaya and long beans. We like it spicy, but you can tone it down if you'd prefer.

The Thai Collins is the perfect cocktail to pair with our featured dish, and for the holidays. Both recipes are easy to make, and even easier to eat and drink.

## Spicy Squash & Green Bean Salad

- 1 Butternut Squash (or pumpkin of choice)
- ½ lb Green Beans
- ½ lb Cherry Tomato (cut in half)
- 1 cup Hazelnuts (toasted & crushed)
- ¼ cup Thai Basil (torn up)
- ¼ cup Cilantro (STEMS INCLUDED, torn up)
- 1 small Serrano Pepper (sliced thinly)
- 1 bu Scallion (tops only, cut into segments)

## Dressing

- ½ cup Fish Sauce
- ½ cup Lime Juice
- ¼ cup Brown Sugar
- 6 cloves Garlic

## Method - Spicy Squash & Green Bean Salad

1. Blend all dressing ingredients and place dressing in a bowl large enough to dress the salad.
2. Bake the whole, unpeeled squash on a foil lined sheet tray at 400F for 40-60 minutes or until tender, but not overcooked.
3. While the squash is baking, wash and peel the stem end off of the green beans. Heat up a pan over high heat with some cooking oil and 'sear' the green beans so that they have a little bit of char, but are not burnt, add the scallions and cover for 2 mins. Transfer to the salad bowl with the dressing, cherry tomatoes, and hazelnuts.
4. When the squash is cooked – remove from the oven and carefully cut or 'scoop' portions out and add to the salad bowl while still warm – toss the salad ingredients together to ensure that everything is well dressed. At this point, You can plate the salad. Garnish with lime wedges, extra dressing and the fresh herbs. This pairs well with chicken or pork if you're in the mood for more protein.



# Fun with Food and Spirits *(con't)*

## **The Thai Collins of Choice** *(makes one cocktail)*

### **Ingredients - Simple Syrup:**

- 1 cup Lemongrass (finely chopped)
- 1 tablespoon Lime zest
- ¼ cup of Thai Basil (roughly sliced)
- 3 Dried chilies (crushed)
- 1 ½ cup sugar
- 1 ½ cup water

### **Cocktail:**

- 1 oz of Thai simple syrup
- 1.5 oz of Vodka (can substitute Gin)
- Seltzer water to taste
- Garnish with Lime and Thai basil

### **Method:**

1. Simple Syrup - Combine all ingredients in a saucepan and bring to a boil. After water comes to a boil turn down the heat and let simmer for 10-15 minutes. Remove from heat, let sit for 10 minutes, or until cool to touch. Strain the simple syrup into a container.
2. In a shaker with ice add 1oz of Thai syrup, and 1.5oz of vodka. Shake well then pour ice while pouring the seltzer water and enjoy! This drink is sure to let your guest know the meaning of “sugar and spice makes everything nice.”

This beverage pairs while with curries dishes, roasted butternut squash and of course, Thai cuisine.



**FEATURED COCKTAIL:  
THE THAI COLLINS OF CHOICE**

# Help Transform FST

## An invitation from Dr. Goddik to invest in the future of FST



Thank you for catching up with us through our September 2021 newsletter. We believe that the work we do in FST has a positive impact on our students, stakeholders and the earth. **We are crafting the future of food!**

If you want to help us advance more effectively, there are several ways to help:

### 1. Endowment supporting Sustainable Food Program

This endowment will help us expand our sustainable food program and attract the best and brightest students and faculty, including the Sustainable Food Processing Specialist position we hope to launch. Multiple contributions can be made towards endowments that begin at \$50,000. We have the goal of raising \$250,000 to directly support a new Food Processing Specialist.

### 2. Annual FST Sustainable Food Manufacturing Forum

The first annual conference is scheduled at OSU in September 2021. This conference will showcase state-of-the-art sustainable food manufacturing research from OSU and beyond and will provide opportunities for food and beverage manufacturers to explore new progressive technologies. All beginnings can be hard, and we need help to get this conference established and welcome donations as well as sponsorships. We hope to collect \$30,000 to support the conference for each of the first two years.

### 3. Taste of Research

This is our industry outreach event that showcases FST faculty and graduate student research. We would like to invite an alum back each year to present their current research. Bringing alumni researchers back to FST helps inspire current graduate students and demonstrate impact of our graduate program. We need \$4,000 to make this happen.

### 4. The Alumni Scholarship

This scholarship supports FST students with great financial needs. Alumni helped fundraise to establish the scholarship endowment and each year we select a recipient who otherwise might drop out of FST due to financial hardship. Help us grow this endowment to provide help to multiple students. It is our goal to raise \$15,000 each year to continuously grow the endowment. To make a donation to this scholarship, please go to: [Invest in the Alumni Scholarship Endowment.](#)

### With your help, we can continue to make FST better.

Private donations are behind many of the great changes in FST such as the dairy and brewing pilot plants, our professorships, and our scholarship endowments. You can make a difference by supporting the 4 priorities above, or other initiatives.

Please reach out to me for further discussions:

[Lisbeth.goddik@oregonstate.edu](mailto:Lisbeth.goddik@oregonstate.edu)

There are many ways to support the Department of Food Science and Technology, including the initiatives above.

You can [click here](#) to make a gift online, send a check to the OSU Foundation, or talk to someone on our team about other creative ways to give including appreciated assets, beneficiary designation, IRA charitable transfer, and many more.

Please contact Alexis Eichler for more information: [alexis.eichler@osufoundation.org](mailto:alexis.eichler@osufoundation.org), or 541-517-6778

