Dear Alumni, Stakeholders, and Friends

Welcome to the fall edition of the FST newsletter.

The FST community is busy as we prepare to welcome FST undergraduate students back to Wiegand Hall after 18 months of remote learning.

We do so with mandatory vaccinations, mask requirements, and added sanitation. In food safety language, that means three hurdles to keep everyone safe.

As you can imagine, we’ve got some work to do to bring good old Wiegand Hall back to life. It’s just like Sleeping Beauty’s castle where time stood still for 100 years.

Although our research program has continued through the pandemic, the offices have remained mostly empty, wall posters have faded, and event announcements are outdated.

Therefore, faculty, students, and our in-house designer, Debby Yacas, are busy updating and improving the corridors.

Here are some of Debby’s Welcome Back posters.

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**Message from FST Department Head**

Dr. Lisbeth Goddik

In this newsletter, you’ll read about the amazing work members of our Advisory Board have done to develop a Creative Brief for FST that will provide the foundation for elevating the visibility FST.

“Inspiring, Collaborating, Innovating to Advance Safe and Sustainable Food for a Healthier World”

In addition, you’ll learn about smoke funding from the Oregon legislature and other news.

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Dr. Lisbeth Goddik, Department Head
Paul & Sandy Arbuthnot Professor
Jacobs-Root Professor
Lisbeth.Goddik@oregonstate.edu
Why Food Science and Technology?

By: Craig Ostbo & Julianne Wood-Rethwill

If this story were told in reverse, it would begin with this statement:

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

Why? Because as Simon Sinek, best-selling author and inspirational speaker, reminded us in May of 2010, “People don’t buy what you do, they buy why you do it.” And why OSU’s Food Science and Technology program exists can be summed up in the above statement.

**Back to the beginning . . .**

In January 2020, at a meeting of the Food Science and Technology (FST) Advisory Board, it was determined that as we envisioned the future: a sustainable, healthier food, healthier planet future, the department needed to re-brand and re-position the program to accommodate this vision. The first step in this long and involved process would be to develop a Creative Brief.

A **Creative Brief, at its core, can be summed up in the answer to four basic questions:**

- What do they think?
- Why do they think that?
- What do we want them to think?
- Why should they think that?

Of course, there is much more to the process. But basically, the brief attempts to answer those four questions, regardless of how many other questions you ask to eventually arrive at the answer to these four.

Additionally, “they/them” is your target audience. These are the people/groups you are trying to reach, trying to speak to, trying to tell FST’s story. This provided an additional challenge for the FST program as “they” constituted a multitude of distinctly different groups:

- Current students
- Potential students
- Alumni, both FST & all OSU alumni
- Current Faculty
- Potential Faculty
- Food Industry Stakeholders
- Research/Grant Institutions
- Current Donors
- Potential Donors
- Staff, Leadership, the College of Agriculture Science...

So began a 14-month interview and research project that involved the participation of the OSU FST Advisory Board, FST Faculty and Leadership, OSU’s Center for Marketing and Consumer Insights in the College of Business, and stakeholders as well as interviewees from:

- The Food and Beverage Industry
- FST alumni
- Current FST students
- Current FST Faculty
- A national representation
- A national representation of over 400 potential OSU FST students
- Staff and Leadership at the College of Ag Sciences
- As well as 9 other Universities with Food Science programs

14 months and 15 revisions later we arrived at the new positioning statement for the Department of Food Science & Technology:

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

This new positioning statement for FST will be used in the website, social media, printed and verbal communications.

OSU’s Food Science and Technology program inspires tomorrow’s food science and technology leaders to collaborate globally as they develop safe, sustainable, and healthy products that will feed our growing world.

More than a story told in reverse, we believe innovative and sustainably focused food science and technology can reverse many of the negative impacts of the challenges we currently face in our evolving world.
Department Highlights

Updates from the OSU Creamery

Announcing *Beep Beep* the Beaver Classic Food Truck

FST has finalized the purchase of a food truck for the Beaver Classic Program.

While awaiting the arrival of the truck, Robin Frojen is working with the CAS Communications Team to find ways to decorate the truck allowing us to advertise for FST/CAS/OSU wherever we go!

The arrival of the truck will coincide with our move into ice cream, which will be easier to produce during the Withycombe renovation.

Stay tuned! More information will follow in the December 2021 newsletter.

Let's Learn About Cheesemaking

with OSU Creamery Manager - Robin Frojen
Department Highlights
FST Farm 2 Fork Webinar Series

Better Than Ever in 2021!
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.

OCTOBER 15, 2021
Grape Smoke Exposure Impacts to Wine Quality
Speaker:
Dr. Elizabeth Tomasino
Associate Professor and Sensory Analyst
OSU Department of Food Science and Technology

NOVEMBER 19, 2021
Brewing Beer Sustainably - Opportunities from the Farm to the Consumer
Speakers:
Dr. Tom Shellhammer, Professor
Lindsey Rubottom, Graduate Student
OSU Department of Food Science and Technology

DECEMBER 17, 2021
Eco-Friendly Packaging to Reduce Impact on Environment and Provide Convenience to Consumers
Speaker:
Dr. Yanyun Zhao, Professor
OSU Department of Food Science and Technology
FST Faculty in the News

Chris Curtin
OSU Researchers Begin to Unravel the Mysteries of Kombucha Fermentation
KTVZ News Sources | July 15, 2021
Oregon State University scientists are beginning to unravel the key microorganisms that contribute to the fermentation of kombucha, research that is already aiding large-scale kombucha producers in the fast-growing industry. Curtin and Keisha Harrison, a doctoral student in Curtin’s lab, recently published a paper in the journal Microorganisms about their kombucha microorganism research. READ FULL STORY

Jason Ball
Food for People Who Can’t Swallow is the Ultimate Culinary Challenge
Bloomberg Businessweek | July 12, 2021
Maureen O’Hagan
What do you get when a dentist, a chef, and people with dysphagia walk into a lab? Savorease, a self-dissolving cracker that may help millions of people enjoy solid food again.
Meeting these goals, Ball says, was as much about recipe development as it was about food science. READ FULL STORY

Sheri Cole
Sustainability Enters the Dairy Supply Chain Spotlight
Dairy Foods| Richad Mitchell
July 8, 2021
“Consumers are exerting pressure on dairy companies to embrace sustainability in their values, product offerings, and practices,” says Sheri Cole, assistant professor of practice — dairy extension and sustainable food manufacturing at Oregon State University in Corvallis. “Those who do this authentically and well gain revenue growth and consumer loyalty.” READ FULL STORY
Dr. Tom Shellhammer  
*Recipient of the 2021 Master Brewers Association of the Americas Award of Merit*

This Award of Merit may be given annually to an individual (or individuals if they have worked as a team) who, in the opinion of the Executive Committee, has made an outstanding contribution to the brewing industry. Dr. Shellhammer is only the 4th recipient of this prestigious award over the past 10 years.

Dr. Yanyun Zhao  
*Recipient of the 2021 Chinese American Food Society (CAFS) Professional Achievement Award*

This award recognizes a professional member for outstanding contributions to the field of food science and engineering, as it relates to teaching, research, extension, administration, or leadership in the food industry, academia or government. CAFS is an American-based organization founded in 1974 to develop relationships among Chinese-born food scientists in academia, government, and industry. The CAFS is partnered with the IFT and its International division.

Sue Queisser  
*Recipient of the OSU 2021 Exemplary Employee Award for Professional Faculty*

Sue receives the OSU 2021 Exemplary Employee Award for Professional Faculty by demonstrating work performance and level of service of the highest caliber, and considered above and beyond standard expectations.

Sue receives this award for numerous reasons, such as turning the campus sensory program around during the beginning of the COVID pandemic, being a fabulous mentor to FST students, and helping out at numerous levels throughout the department, just to name a few.
Oregon Legislature Approves 2.68M in Funding for State-of-the-Art Smoke Lab

In June of 2021, Oregon Legislators approved funding for a new smoke lab in Wiegand Hall.

The $2.68M project will renovate rooms 15 and 8b in Wiegand Hall to create an advanced analytical lab. The lab will feature state of the art analytical equipment to measure both free and bound smoke compounds, at high sample throughput.

The equipment also has the capabilities to discover presently unknown compounds that cause smoke taint. The new smoke lab will house a GC-MS/MS, LC-MS/MS, GC/Q-TOF and LC/Q-TOF.

The funding follows a tough wildfire season in 2020, where smoke covered large areas of Oregon just as grapes were maturing. FST faculty stepped in to help grape growers and wine makers determine the level of smoke impact.

After the smoke cleared, the grape and wine industry and FST smoke researchers met to discuss how to partner in the future to provide real time data for vineyard management decisions and conduct research to both identify smoke effect and mitigate smoke taint in wine made from exposed grapes.

The smoke lab project arose from this discussion, and we thank Oregon Wine Board, Oregon Wine Growers and Oregon Wine Council for help moving this from concept to reality.

The analytical capabilities in the new smoke laboratory will be available in 2022 to support Oregon’s wine industry along with multiple Oregon Wine Research Institute (OWRI) research projects.

In addition, we expect to support research on other Oregon agricultural commodities that may be impacted by smoke exposure in the future.

The smoke lab is an outstanding example of private industry, academia, and state legislators working together to address challenges brought on by climate change.
Food Science and Technology received feedback from OSU on our recent undergraduate assessment plan and report.

Not only did the report and FST’s work in assessments receive “Exemplary” in ALL categories, but parts of our report will be shared to help other units do a better job on assessments.

Assessments are never fun, but due to all teaching faculty sharing the reporting duties, we have kept the work load manageable and the results outstanding.

As Department Head, I would like to thank every one of you for contributing to FST conducting EXEMPLARY assessments. It truly takes a village!

Also a special thank you to the undergraduate committee, and most importantly – a heartfelt thank you to Dan Smith for keeping us all on track and for writing the report.

Food Science and Technology...

One department, three locations
Congratulations FST MS Graduates

Spring and Summer 2021

Casey Rush, MS
Rework Practices in the Dairy Industry and Their Potential Contribution to Microbial Spoilage
Spring term 2021

Megan Ooi, MS
The Preparation of Common Prebiotic Oligosaccharides with Defined Degree of Polymerization
Summer term 2021

Daria Van De Grift, MS
An Investigation of Seasonal Microbiome Changes in Raw Milk from Organic and Conventional Dairy Farms in Oregon
(please contact sihongpark@oregonstate.edu for a copy of Ms. Van De Grift’s thesis)
Spring term 2021

Congratulations Student Winners at IFT

Clara Lang, MS Student
Dr. Zhao’s Lab
Clara received 1st place in the IFT Food Packaging Division poster competition.
The title of her winning poster is “Investigation of Eco-Friendly Chemical Treatments of Apple Pomace for Producing High-Quality Molded Pulp Packaging”

Angelica Iobbi, MS Student
Dr. Tomasino’s Lab
Angelica received 3rd place at the IFT Sensory and Consumer Sciences Division Graduate Student Oral Presentation Competition.
The title of her winning poster is “The role of esters and thiols on tropical fruit aromas in wine.”
Update from the Kovacevic Research Lab

Awards and Recognition
Graduate Student Stephanie Alvarado received three major awards/scholarships:

1) Oregon’s Achievement Rewards for College Scientists (ARCS) Scholar
The ARCS Foundation advances science and technology in the United States by providing financial awards to academically outstanding U.S. citizens studying to complete degrees in science, engineering and medical research.

2) OSU Foundation Fellowship (associated with the Grant and Alice Schoenhard Faculty Excellence Fund)
Stephanie Alvarado was awarded the OSU Foundation Fellowship associated with the Grant and Alice Schoenhard Faculty Excellence Award awarded to her advisor, Jovana Kovacevic.

3) Consumer Food Safety Education Conference Student Scholarship
Stephanie Alvarado was awarded a scholarship to attend the Consumer Food Safety Education Virtual Conference (CFSEC), March 9-12, 2021. CFSEC is hosted by the Partnership for Food Safety Education and is the only conference in the U.S. that focuses on consumer food safety education.

Research and Extension Highlights
This year, the Kovacevic Food Safety Outreach and Research Program and the Western Regional Center to Enhance Food Safety had a strong showing at this year’s hybrid IAFP meeting.

In total, four posters and two technical presentations were given:

- Dairy Whole Genome Sequencing (technical and poster)
- Cross-resistance development between commercial sanitizers and antibiotics in Listeria monocytogenes isolated from fresh produce environments (poster)
- Cleaning and Sanitizing in Produce Facilities: Training Gaps, Opportunities and Industry Preferences (technical)
- WRCEFS Evaluations (poster)
- WRCEFS Analytics (poster)

Stephanie Brown was also an organizer and moderator for the “Don’t You Forget about Me! Educating Underrepresented Growers on Produce Safety” roundtable session.

All projects are currently being prepared for publication.

Kovacevic Food Safety Outreach and Research Program Hosts High School Interns through the Saturday Academy Program
This summer, the Kovacevic lab virtually hosted 3 high school student interns through Portland University’s Saturday Academy program.

The interns did an amazing job working on food safety workshop evaluation and microbial genetics projects this summer and presenting on their project outcomes at the Saturday Academy conference held in August.
**Whiskey on the Rocks**

Why add water to whiskey and how much should be added?

As whiskey drinkers know, there is much discussion on how water can alter the whiskey experience.

Addition of water changes the aroma of whiskey by altering the chemico-physical properties of the whiskey compounds. This means that some compounds that may not have been able to move to the air to be smelled all of a sudden can and vice versa.

The Tomasino lab is collaborating with WSU to determine how much water it takes to alter the aromatic of different whiskies.

Our first whiskey aroma panel was completed this summer and included a training on aromas normally found in scotch and bourbons (see picture below).

As part of the project, we used black Glenlivet whiskey glasses and had regular whiskey consumers evaluate the aroma of whiskies at different dilutions.

What did we find? The research reveals that not all dilutions of whiskey alter the aroma. Dilution differences depend on the type of whiskey as well.
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](mailto:invest@oregonstate.edu).

**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

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

You can [click here](mailto:invest@oregonstate.edu) 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, or 541-517-6778
Fun with Food and Spirits

Recipes by: Michael Adams, Food Scientist
Jason Ball, Research Chef/Sr. Faculty Research Ass’t.
FIC Product Development Team

Guest contributor: Joel Miller, Facilities and Operations Manager

It’s Fall and we’re highlighting locally caught lingcod with a recipe from our Facilities and Operations Manager, Joel Miller. Joel is a former professional fisherman with a passion for sustainable food and helping others.

Lingcod is a sustainable Oregon-caught fish, pick some up straight from the Dory Fleet at Cape Kiwanda and grab some Pelican beer.

Fall Lingcod and Broccolini

• Fresh Local Lingcod Fillets, roughly 6 oz. per person (but you’ll probably want more…)
• 1 Tablespoon Miso per lb. of fish
• 1 Tablespoon Soy Sauce or Tamari per lb. of fish
• 1 Tablespoon Sesame Oil per lb. of fish
• 1 Bunch Broccolini
• 2 Tablespoons Hazelnut Oil (or neutral oil)
• Lemon Juice, Sea Salt, and Pepper to taste

Method - Fall Lingcod

• Preheat oven to 350F
• Make a paste of the Miso, Soy Sauce (or Tamari), and Sesame Oil
• Spread paste evenly over both sides of the Lingcod Filets
• Bake about 10 minutes per pound, be mindful not to overcook (especially tail piece). If white protein starts to ooze out of the filet, you may have overcooked.

Method - Broccolini

• Sauté Broccolini in oil on medium high heat until it starts to soften, about 5 minutes.
• Season with a small squeeze of lemon juice and sea salt and fresh ground black pepper to taste.

Featured Cocktail: Beaver's Tail
(makes one cocktail)

Ingredients:
• 2 oz. Bourbon (I like Freeland)
• ½ oz. Allspice Dram
• ½ oz. Unfiltered Apple Cider Vinegar (Bragg’s or similar)
• ½ oz. Simple Syrup
• ½ Teaspoon fresh grated ginger
• 2 dashes Hazelnut Bitters
• Apple Slice, for garnish

Method:

• Peel and grate fresh ginger with a grater or microplane.
• Add all ingredients to a cocktail shaker, fill with ice.
• Shake until chilled.
• Strain with BOTH a Hawthorne Strainer and a mesh strainer (to catch chunky bits of ginger) into a martini or coupe glass.
• Garnish with apple slice.

FEATURED COCKTAIL: BEAVER’S TAIL