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Dear alumni, stakeholders and friends:

On June 1st, members of the Beaver Classic cheesemaking crew started their day at 5:30 a.m. as they picked up milk at the OSU dairy farm. Over the next six hours, they converted the milk into cheddar. The 10 loaves of cheddar are the last to be produced until 2024, when we start back up in the new, improved and much larger dairy plant. It’s a bittersweet moment because we have so many lovely memories associated with the original Arbuthnot Dairy Center.

The Arbuthnot Dairy Center was established after a generous donation in 2010 by Paul and Sandy Arbuthnot. The photo on the cover was taken shortly afterward for use in the Oregon Stater alumni magazine. Since then, our beautiful artisan cheese plant has served students and industry well for over a decade. Countless students have discovered a passion for cheesemaking and gone on to fulfilling careers within the dairy industry.

Many dairy entrepreneurs have started production in our plant and either gone on to success or decided that cheesemaking was not for them. Oregon’s cheesemakers congregated on an annual basis for training in specialty cheesemaking and found inspiration to develop and market new and exciting cheeses. The dairy center gave us the infrastructure to launch Beaver Classic, which has grown from one student-produced cheese to 17 types of cheese and ice cream. The brand has expanded to include other products produced by College of Agricultural Sciences students, such as honey from entomology students and jerky from animal sciences students.

Now it’s time to elevate the Arbuthnot Dairy Center to yet another level. Over the next 20 months, we’ll all move out of Withycombe, the facility will be entirely renovated and we’ll rebuild a new creamery within the space that’s currently occupied by a theater.

We are excited to move into our new home in 2024 and extend a sincere thanks to our generous donors, especially our lead donor, Tillamook Creamery, along with Oregon Dairy and Nutrition Council, Northwest Farm Credit Services, Rogue Creamery, Umpqua Dairy, Eberhard’s Dairy, Lochmead Dairy, Springfield Creamery, EverFresh Fruit Co, Ingredient Resource, Quality Chekd, First Interstate Bank, Forbes Chocolate, Hiland Dairy Foods, Oregon Dairy Industries and Oregon Dairy Farmers Association.

We are fortunate to have such wonderful partners who are helping us expand and advance our program.
Hall of Fame QB turns to OSU

Eight, Troy Aikman's light lager, contains a healthy amount of Beaver science

The saga of how a football great’s innovative brewing company and Oregon State beer experts worked together to create a head-turning beer, as told by Jeff Clawson, OSU FST Pilot Brewery manager:

The Brewing Lab was contacted by an investment-development team in early October of 2020 to produce beer trials creating a low calorie, low alcohol and low carbohydrate lager beer with a pleasant, citrusy hop note. The goal was a very drinkable beer with great taste (with low calories) for a retired professional athlete whom was concerned about his health but loved drinking beer.

The team we worked with consisted of Phil Leinhart, brewery consultant (formally from Anheuser Busch), Doug Campbell, previously President of Brewery Ommegang, Ruchi Desai, a business and operations leader, Jake Duneier, an entrepreneur and brand strategist and a retired professional athlete. Tom and I did not know who the athlete was until we organized the first tasting of the initial trials. The mystery athlete on the team would turn out to be Troy Aikman, former quarterback for the Dallas Cowboys and the UCLA Bruins, who played wearing an 8 on his jersey.

The project was conducted in two distinct phases. Phase one compared two lager yeast strains in two malt beer bases (all-malt and 30% rice with malt). The four samples were shipped to the team (located around the country) and we hopped on a Zoom call to taste and decide the direction of phase two. The group decided to pursue the all-malt base and a specific lager yeast strain. Phase two was evaluating four different hop varieties in the beer matrix and refining the brewing process to get the calorie and carbohydrate level within specifications. We had a clear winner for a hop varietal and hit our target specifications for the beer at 4% alcohol by volume and less than 95 calories.

The entire team descended on Corvallis in July of 2021 and we spent two days filming in the barley and hop fields and the Pilot Research Brewery in Wiegand Hall. Lots of work went into the brewing trials and beer analysis, we were also on a tight schedule.

Eight Elite Light Lager is a fantastic beer and we’re hoping we can drink it in Oregon someday soon!

The beer is now being sold throughout Texas. It's brewed using 100% organic grain and Hallertau Taurus hops creating a beer with only 90 calories and 2.6g carbohydrates. For more, visit:

https://eightbeer.com/pages/our-beer

https://www.dmagazine.com/sports/2022/01/troy-aikman-is-placing-his-eight-beer-alongside-the-industrys-titans/

FST welcomes Dean Staci Simonich

In a move celebrated by FST head Lisbeth Goddik and countless others in the OSU and agriculture communities, Staci Simonich, a nationally recognized researcher and faculty member who has held numerous leadership positions at OSU, in March became dean of the College of Agricultural Sciences and director of the Oregon Agricultural Experiment Station.

Simonich, who replaced Alan Sams, had served as acting dean and was executive associate dean for nearly two years.

“As soon as we heard that the dean was leaving, (the other department heads and I) all got together and wrote a letter to support Dr. Simonich not just to step in as acting dean, but as permanent dean,” Goddik told The Daily Barometer.

Simonich said the spontaneous support might have surprised Edward Feser, OSU’s provost and executive vice president. Goddik agreed.

“It’s really unheard of,” Goddik said. “Department heads normally have unique opinions and strong opinions. But to have every single department head within the College of Agricultural Sciences say we want Staci as dean, that’s a pretty strong statement to how capable she is.”

Goddik said Simonich cares deeply about the mission of the College of Agricultural Sciences.

“She’s very interested in us working with the stakeholders throughout the state of Oregon,” Goddik said. “Stakeholders include farmers, food industries, consumers and everybody who’s touched by food and agriculture in one way or another.”

From 2018 to 2020, Simonich served as associate vice president for OSU research operations and integrity.

“The College of Agricultural Sciences, Oregon’s farmers, ranchers and stakeholders, and our state, nation and world will be very well served by Staci as dean,” Feser said. “Staci has been instrumental in overseeing the day-to-day operations of the college.

“She has been tireless in cultivating faculty, staff, and stakeholder relationships across the state; visiting and engaging with all of OSU’s experiment stations and stakeholders, and advancing diversity, equity and inclusion goals.”

“I’m very humbled to be in this position,” Simonich told The Daily Barometer. “When I was a first-generation student, growing up in Green Bay, Wis., never did I think that all these years later, I would be sitting in the chair I’m sitting in right now.”

She oversees a college with more than 3,000 students, 290 tenure-track faculty and more than $90 million in annual research expenditures, and that has been ranked among the top agricultural programs in the world. The college has 13 academic departments and more than 40 undergraduate and graduate degree programs. The college leads research at agricultural experiment stations at 14 locations throughout the state and its teaching, research and community engagement programs provide impact throughout the world.

“[I] am both humbled and excited to lead OSU’s inaugural college,” Simonich said. “Now more than ever, we must be out there working collaboratively with Oregon’s densely diverse agricultural and natural resource industries and communities to advance scientific discovery, create economic opportunity, develop future leaders, and strive each day to make tomorrow better.”
FST faculty recognized with awards

SI HONG PARK
OUTSTANDING SCHOLARLY ACHIEVEMENT AWARD, KOREAN SOCIETY OF FOOD SCIENCE AND TECHNOLOGY

Dr. Park received an Outstanding Scholarly Achievement Award from the Korean Society of Food Science and Technology (KoSFoST) at the annual meeting in July 2022. KoSFoST is the first food science professional society in the Republic of Korea, established in 1968 to contribute to the development of food science by professionals in academia, food industry and government. This prestigious award recognized one scientist annually who contributed to food science research fields. Dr. Park’s research is focusing on the human gut and fermented food microbiome to enhance host health and food safety/quality.

TOM SHELLHAMMER
2022 DISTINGUISHED FACULTY AWARD, CAS AGRICULTURAL RESEARCH FOUNDATION

This well-deserved award recognizes and honors the careers of truly distinguished faculty within the College of Agricultural Sciences at OSU. Please join us in congratulating Tom.

ELIZABETH TOMASINO
2022 CAS SAVERY OUTSTANDING YOUNG FACULTY AWARD

This award recognizes outstanding contributions through teaching, research, international and/or extended education activities of a young faculty member in the College of Agricultural Sciences at OSU. Nominations were evaluated based on mastery of the subject, ability to communicate and motivate with lectures, programs or publications; contributions leading to the improvement of agricultural production, processing, conservation of natural resources, or the development of human potential; and/or the improvement of the quality of life. Please join us in congratulating Elizabeth.
New faculty members join FST

JOOYEOUN JUNG
ASSISTANT PROFESSOR, SENIOR RESEARCH
I obtained my Ph.D. from Food Science and Technology of Oregon State University. After that I had worked at University of Nebraska-Lincoln as Assistant Professor of Practice with the major responsibility, teaching for about 3 years. On January 2022, I started working at OSU as Assistant Professor (Sr. Researcher) and mainly focus on research about sustainable processing and packaging for food supply chain, such as development of edible and active packaging, radiofrequency processing, nanocellulose-based packaging, utilizations of agricultural processing biowastes, polymeric analysis and micro and macrostructures for food. My research philosophy is multidisciplinary, immediate and resilient. Specific goals for current and future research are 1) repurposing of agro-food waste and processing byproducts into biomaterials and packaging development, 2) edible and active packaging for food and 3) innovative processing and packaging impact on micro- and macrostructures, sensory properties, quality and shelf-life of food. The ultimate goal is to develop the circular economy for sustainable food processing and packaging chains. I am so excited to be back to Corvallis and hope to bring positive impacts to the program and develop collaborative research and external funding programs with faculties, local or nationwide food companies and staff members in OSU. Go Beavs!

COLE CERRATO
ASSISTANT PROFESSOR, SENIOR RESEARCH
In 2019 I graduated from University of South Florida in Tampa, FL where I earned a Ph.D. in chemistry studying with Dr. Li-June Ming. I studied the chemistry of diseases around copper-bound peptides and how their chemistry can be altered using chemicals found in the environment or food. The most exciting research was measuring how oxidative stress caused by a molecule implicated in Alzheimer's disease, a Cu2+-bound amyloid protein, can be inhibited using a chemical compound found predominantly in beets, betanin!

I am beyond excited about my new role in the FST department, as assistant professor, senior research, running a lab that will support researchers and industry leaders using state of the art technology. A primary service of the lab will be providing data to winemakers and grape growers regarding smoke compounds in smoke affected grapes and wine. I will also be performing independent research particularly toward smoke-affected wines. The new advanced lab will provide many avenues to serve not only the wine community but also Oregon food industries, measuring a variety of compounds involved with flavor, aroma and health.
An important element of FST’s sustainability mission is acting as a hub and convener within the food and beverage ecosystem to create inclusive spaces for shared learning, decision making and defining productive action toward common goals. One such convening is the OSU Sustainable Food Manufacturing Forum, an event which will be hosted annually where the focus will evolve based on stakeholder feedback and elevating strategic topics expected to impact food systems in the state and beyond.

The inaugural SFM Forum was held April 27, 2022, at the OSU CH2M Hill Alumni Center on the Corvallis campus.

The topic was food innovation hubs and subtopics included why a vigorous, sustainable and equitable food and beverage industry in Oregon matters, and how identifying common ground where we work together can activate our collectively vision. Objectives were to 1) enable stakeholder input that will impact OSU’s strategic intentions to catalyze more sustainable food systems in Oregon and beyond; 2) expand attendees’ knowledge about the role of legislation in advancing the industry’s agenda and how they can be more directly involved; 3) learn about existing enabling resources in the state and region to start and grow their businesses; 4) expand relationships in our F&B community to create a sustained coalition for positive change.

Over 70 small and medium sized companies and organizations who support them came together to learn more about Sustainability as a priority at OSU and what work is happening in presentations by Dr. Staci Simonich, newly appointed Dean of the College of Agricultural Sciences and Sheri Cole, Director of OSU’s Sustainable Food Manufacturing Forum.

Legislative experts Bill Perry, Jon Eames and Craig Smith spoke about how the Legislative process functions in the state and productive means of engagement to influence priorities and policy, particularly for smaller processors; a panel of experts who support Food Innovation Hubs or run them spoke about resources and best practices in the state to leverage including Micah Elconin of Eugene’s Table, Hannah Kullberg of Community Co-Pack, Kristen Penner, coastal Food Systems Strategist, Paul Evers of Riff, Katie Bray of Oregon Cheese Guild, Amy Gilroy of Oregon Department of Agriculture, Lauren Gwin, OSU Center for Small Farms and Community Food Systems and Dave Stone, OSU Food Innovation Center in Portland.

When surveyed, an overwhelming number of attendees said the event was of value (79% good or excellent) and that it should happen annually (95%). They valued the variety of small-scale food producers convened present, connecting in breakout sessions to share best practices and surface collaborative ideas and the general “energy in the room.”
Professor Neil Shay is retiring from OSU and the FST department this summer; he has been with us at OSU since the fall of 2010. He served two years as director of the Oregon Wine Research Institute and since 2012 has been a research and teaching professor in the FST department.

During the past 10 years, he has led an internationally recognized program in molecular nutrition and functional foods. His research is focused on how the bioactive compounds in foods – things like polyphenols, fiber and heart-healthy omega-3 fats – may favorably influence body metabolism, especially when an unhealthy ‘Western-style diet’ (high in saturated fat, cholesterol and sugar) is consumed. This work has relevance to combating diabetes, obesity and fatty liver disease.

Of interest to the Pacific Northwest, Shay’s research has investigated the impact of red raspberry polyphenols; fiber and other phytochemicals in Watermelon; and heart-health omega-3 fats in walnuts.

In the classroom, Dr. Shay has been an instructor for the protein and lipids sections of Food Chemistry, Food Product Development and an Ecampus course, Food Science and Technology in Western Culture, a course that provides an overview of the history of food technology from the beginning of humankind to today’s food world. Additionally, he has volunteered to teach lectures in the graduate program in nutrition at OSU. Shay has also served on numerous departmental and college committees and has served voluntarily to advise numerous student product development teams for competitions sponsored by the Institute of Food Technologists and other companies and organizations. Dr. Shay has been an active member of the American Society for Nutrition for over thirty years and has served on the editorial board of their journals for about 20 years. In addition to several teaching awards, Neil has received several national and international awards recognizing his research program.

In the OSU FST Department, one of the strengths of Dr. Shay’s research program has been the diversity of trainees to come through the lab since 2012: he has supervised and graduated MS and PhD students, supervised postdocs and visiting faculty and numerous undergraduates. He plans to continue teaching via OSU Ecampus.

Outside of our academic world, Neil has provided service to groups including the Lions Club, Salvation Army and The First Tee. He and his wife Sue are members of a United Way committee supporting projects that improve the educational experience for preschoolers and young students rural south Benton County, where they live.
Professor Juyun Lim reports on progress in her lab:
The epidemics of obesity and type 2 diabetes are major crises in modern society. Considering the important contribution of sugars and starches to these health disorders, it is critical to gain deeper insight into how such carbohydrates are detected in the oral cavity and how the sensory input they generate impacts ingestion and metabolism.

At mealtime, a little bit of insulin is secreted from pancreatic beta cells even as you taste the food. This process, called cephalic phase insulin release (CPIR), is elicited by stimulation of sensory systems and occurs within minutes of oral stimulation (aka. tasting foods). This gets your body ready to receive the glucose load from the meal. The hypothesized function of CPIR is to limit the size and duration of the postprandial surge in blood sugar. In the past a few years, our research group has started a new research line investigating sensory mechanisms underlying CPIR and sources of individual differences in CPIR.

Recognizing the large variability of CPIR expression and magnitude across studies, our research team, as a first step, developed a novel procedure for eliciting and capturing robust CPIR in humans. This was a critical step because the lack of procedural standardization has been a significant barrier investigating the underlying sensory mechanisms.

Funded by a European food ingredient company, the team is currently investigating the impact of salivary α-amylase activity on CPIR to maltodextrin as well as oral sensory mechanisms underlying CPIR to maltodextrin.

Below, a member of the research team draws blood samples from a study participant in the new phlebotomy lab in Wiegand Hall, approved by OSU as an official Clinical Collection Laboratory. Blood samples are drawn right before and after tasting a Jello-like sample with a target tastant.

Based on the findings thus far, Dr. Lim has recently submitted a NIH grant proposal titled “Oral glucose sensing in humans and mice: mechanisms and functions.” If funded, this project will expand our understanding of gustatory sensing of glucose and its functional consequences.
Taste of Research back after 3-year break

On June 2\textsuperscript{nd}, FST hosted our 3\textsuperscript{rd} Taste of Research event and the first after 3 years pandemic shutdown. Taste of Research is the event where we showcase our graduate students and their research.

Fifteen graduate students and postdoc scholars delivered speed talks, introducing their research covering diverse topics such as sustainable food packaging, listeria resistance, seafood byproducts, hazelnut skins, harvest dates for hops, whey spirits, impact of red blotch disease, fructans and gliadins in fermented dough, and much more.

In addition, all graduate students shared research posters. Over 50 stakeholders joined us in Wiegand Hall and the day ended with a social in the pilot plant.
Help Transform FST
An invitation from Dr. Goddik to invest in the future of FST

Thank you for catching up with us through our July 2022 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 toward endowments that begin at $50,000. We have the goal of raising $250,000 to directly support a new Sustainable Food Processing Specialist.

2. **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 demonstrates the impact of our graduate program. We need $4,000 to make this happen.

3. **Fruit and Vegetable pilot plant upgrades**
   With the current upgrades to the winery and creamery, we now shift our focus to upgrading the fruit and vegetable pilot plant. We need to install better drains, better exhaust systems and upgrade the electricity. $125,000 will make this happen.

4. **High school students in FST**
   Help strengthen the pathway from high school to careers in food science. By hosting high school students during summer, we help ignite excitement for careers in food and beverage. Our goal is to host 10 high school students each summer, which will cost $25,000.

5. **The Alumni Scholarship**
   This scholarship supports FST students with great financial needs. Alumni helped fund-raise 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.

**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 five priorities above, or other initiatives.

There are many ways to support the Department of Food Science and Technology, including the initiatives above. Please reach out to me for further discussions: Lisbeth.Goddik@oregonstate.edu

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 or 541-517-6778.

Food Science and Technology
100 Wiegand Hall
Oregon State University
Corvallis, OR 97331
Don’t miss OSU FST at the IFT meeting in Chicago

An invitation from Dr. Lisbeth Goddik:

Dear FST alumni, friends of FST, and members of OSIFT,

The national IFT meeting is rapidly approaching. I’m pleased to welcome you to a joint OSU FST and OSIFT social at the Marriott Marquis Chicago by McCormick Place (2121 South Prairie Avenue, Chicago, IL) on Monday, July 11, between 5-7 p.m. Come meet old friends from Wiegand Hall.

And to all OSIFT members: This is your home away from home! Come and learn more about plans for our new creamery and winery. See what is happening in Wiegand Hall. Hear how FST is now offering a new degree in Food Science & Sustainable Technologies, our rapid ascent in program rankings, our tripling in research funding, and then there is the food truck! Much is happening in FST.

Stop by our event – no registration needed.

As FST pauses dairy products production and looks forward to new, showcase facilities in a renovated Withycombe Hall in a couple of years, we take you back 70 years as Oregon State College President August Strand (right) joins others for some proud and ceremonial milk sipping at the 1952 dedication of shiny, new Withycombe and its then-state-of-the-art dairy products facilities. (Photo courtesy OSU Special Collections and Archives Research Center)
Exciting opportunity presents itself

With support, “vine to wine” approach has space to grow

A vital component of the OSU Enology and Viticulture “vine to wine” research approach is the ability to conduct many controlled, research-scale fermentations. While the current research winery has served us admirably in the past, it is undersized and under-equipped to meet current and future needs. This hinders our ability to conduct research to address current and emerging industry priorities and to recruit and train the next generation of winemakers and viticulturists.

An exciting opportunity to expand and update the winery has recently presented itself. The building the research winery is currently housed in, Withycombe Hall, will soon undergo a $50 million, fully funded renovation, increasing the space available for the winery from approximately 800 square feet to over 2,000 square feet.

Now we need to fill that space with the equipment essential for next-generation enology research and teaching. This will include the addition of many small-capacity research fermenters and appropriately scaled processing equipment, as well as a winery laboratory equipped for essential grape and wine analysis.

The Erath Family Foundation generously kicked off our $531,000 fundraising campaign with a gift of $100,000 and a promise to fund another $100,000 if the remaining $331,000 is raised by December 2022. Sam Tannahill and Cheryl Francis also committed to a $100,000 gift while a recent $231,000 donation from Northwest Farm Credit Services has helped us reach our initial fundraising goals. We are continuing to raise money for the project to ensure we can purchase all the equipment needed for the winery and winery laboratory.

In addition, larger-scale equipment for teaching purposes will strengthen training of current students along with providing improved work force training for those currently in industry.

There are opportunities at many different levels to support this project, including the “Name that Tank” initiative (see back page).

If you are interested in finding out more about the winery renovation and how you can partner with us on this project, contact James Osborne (james.osborne@oregonstate.edu) or call 541-737-6494.

Investment in the new winemaking facility will provide the OSU Enology and Viticulture program with a state-of-the-art winery with outstanding capabilities comparable to our peers at other universities and appropriate for a program located in one of the world’s great winemaking regions.
NAME THAT TANK

Donate $10,000 to the OSU Research and Teaching Winery and you’ll be able to put your name or your company’s name on one of the research fermentation tanks. Contact amy.crumley@osufoundation.org.