

New brewhouse to bolster beer research at Oregon State

Training students for emerging jobs

By **GEORGE PLAVEN**
Capital Press

As the number of craft breweries skyrockets across the U.S., Oregon State University is continuing to grow its fermentation science program, offering students hands-on training in the art of making beer.

The latest equipment to arrive at Wiegand Hall on campus, a sparkling new brewhouse, is nearly commissioned and ready to start producing batches of experimental ale, pilsner, lager or any other beer style, for that matter.

Specially made by the German company Esau & Hueber, the Oregon State brewhouse combines rows of sleek metallic tanks with a computer interface that controls the flow of liquid from mashing to fermentation.

Tom Shellhammer, Nor'Wester professor of fermentation science at the university, said the high-tech system is not only what students can expect to find at modern breweries, but should allow greater efficiency and reproduction of beers for research.

"It is going to have a transformative effect on our program here," Shellhammer said.

Oregon State purchased the brewhouse thanks to a \$1



Tom Shellhammer, Nor'Wester professor of fermentation science, looks up at the new brewhouse at Wiegand Hall on the Oregon State campus in Corvallis.

million donation from Carlos Alvarez, chairman and CEO of The Gambrinus Co. in San Antonio, Texas, which owns several high-profile breweries across the country — including BridgePort Brewing Co. in Portland.

The brewmaster at BridgePort, Jeff Edgerton, is an Oregon State alum, and the brewery maintains a close working relationship with the college, Shellhammer said. Edgerton occasionally does lectures on brewing, and BridgePort has used the fermentation program's facilities in the past to

develop new products.

"Our students would often be working with them," Shellhammer said.

Meanwhile, the number of American breweries has increased from 1,460 in 2006 to 5,301 in 2016, according to figures from the Brewers Association. That's a 263 percent increase over the last decade, driven mostly by smaller microbreweries and brewpubs.

Shellhammer said the industry growth is opening plenty of job opportunities, and Oregon State is one of just a handful of universities that

offers studies in fermentation science. The program, which started in 1996, is now attracting students from across the country, he said.

"Craft brewing has been taking off," Shellhammer said. "The whole thing has grown tremendously."

From an industry perspective, Shellhammer said the new brewhouse will continue to set Oregon State apart from other fermentation science programs. The equipment was delivered from Germany in February, and could be commissioned within a matter of days.



George Plaven/Capital Press
The new brewhouse at Oregon State University was designed and built by Esau & Hueber, a German company, which delivered the equipment in February.

Shellhammer explained how the process works, beginning with the combination of malted barley and water into each of two large mash cookers, and enzymes in the barley get to work chewing up starch into simple sugars.

From there, the solution — known as wort — goes into a vessel that separates the barley husks from the liquid. It is then pumped into a boiling kettle which sterilizes the wort, while brewers add hops for flavor and bitterness.

The hops are filtered out in a whirlpool separator, and the wort is cooled and left to ferment in tanks with yeast. The brewhouse is computer-controlled and capable of making up to six kegs of beer per batch.

On Wednesday, the fermentation tanks contained four different beer varieties, including Triumph IPA (made with the university's newest hop variety), two types of German-style Helles lager and a pilsner.

"I imagine next month we'll be doing a lot of playing around with a lot of beer," Shellhammer said.

The program does intend to keep its old brewhouse, which Shellhammer said is more evocative of smaller brewpubs. But the new technology means students will be that much more job-ready when they start work in a modern brewery, he said.

"I feel like we're in front of the pack," Shellhammer said.



REGIONAL WEATHER
Shown is tomorrow's weather. Temperatures are tonight's lows and tomorrow's highs.

City	Hi	Lo	City	Hi	Lo
Astoria	34	58	Portland	35	61
Tillamook	36	59	The Dalles	31	59
Seaside	35	58	Pendleton	30	56
Medford	38	62	La Grande	27	52
Eugene	33	58	Baker	22	51
Brookings	43	59	John Day	30	54
Coos Bay	41	59	Burns	24	52
Roseburg	41	62	Ontario	29	57
Medford	38	62	Brookings	43	59
Klamath Falls	29	52	Asland	40	62
Lakeview	24	49			

UNDER THE SKY
Tonight's Sky: Saturday at dawn, the waning crescent moon and Saturn will make a close approach, passing within 213 feet of each other.

TOMORROW'S TIDES
Astoria / Port Docks

Time	High	Low
7:06 a.m.	7.6 ft.	3.6 ft.
9:09 p.m.	6.4 ft.	1.5 ft.

NATIONAL CITIES

City	Today	Sat.	W	Lo	W
Atlanta	59	44	c	65	52
Boston	41	31	pc	44	31
Chicago	39	24	pc	43	29
Denver	65	35	pc	50	20
Des Moines	42	25	pc	48	31
Detroit	37	24	sf	39	25
El Paso	78	54	pc	79	54
Fairbanks	26	14	c	30	4
Honolulu	78	66	pc	79	66
Indianapolis	42	26	pc	47	27
Kansas City	57	30	pc	54	34
Las Vegas	77	56	pc	72	59
Los Angeles	73	57	pc	65	58
Memphis	66	51	pc	62	48
Miami	72	60	s	78	70
Nashville	59	45	pc	58	46
New Orleans	71	58	s	78	66
New York	42	30	sf	43	31
Oklahoma City	70	49	pc	66	40
Philadelphia	43	27	sf	45	28
St. Louis	49	35	c	52	34
Salt Lake City	58	39	pc	55	37
San Francisco	63	50	c	61	54
Seattle	50	35	c	57	40
Washington, DC	46	32	pc	52	32

TOMORROW'S NATIONAL WEATHER
Shown are noon positions of weather systems and precipitation. Temperature bands are highs for the day.

Local science, technology hubs receive career education grants

The Daily Astorian

The Oregon Community Foundation has awarded the Northwest Science, Technology, Engineering and Mathematics Partnership \$74,510 a year for the next three years to help coordinate internship programs.

"This money is for career-connected learning," said Myronda Schiding, a coordinator for the partnership covering Clatsop, Columbia

and Tillamook counties.

The partnership has been helping establish Clatsop Works, a new internship linking Clatsop County high schoolers with local industry. The grant will help pay for coordinating internships, taking classes on tours of local industry and providing teachers and counselors professional development to guide students toward careers, Schiding said.

The Oregon Community

Foundation donated \$459,308 to seven hubs around the state. The funds are matched by local industry, foundations and government grants.

The grant funding comes from a \$100 million settlement the state reached in 2016 with Oracle Corp. over the failed \$300 million Cover Oregon online health care exchange. The settlement included a \$10 million fund to support science, technology, engineering and mathematics programs.

Washington Legislature adjourns 60-day session

By **RACHEL LA CORTE**
Associated Press

OLYMPIA, Wash. — The Washington Legislature adjourned its 60-day legislative session Thursday night after sending Gov. Jay Inslee a supplemental state budget that puts more money toward teacher salaries, a final step in

a multiyear process to bring Washington into compliance with a state Supreme Court mandate on education.

The state Senate passed the plan with a 25-24 vote after the House passed it on a 54-44 vote.

"This Legislature didn't accomplish everything that we set out to do this year, but

we did accomplish our budget goals," said Democratic state Sen. Christine Rolfes, the chamber's main budget writer. "We are investing not only in the well-being of us, the current generation, and the well-being of our communities, but we're investing in the future of the younger generations."

ON THE RECORD

DUI
• At 7:10 p.m. Thursday, Jonathon Justin Postlewaite, 37, was arrested by Oregon State Police on U.S. Highway 101 near Glenwood Village

Road and charged with driving under the influence of intoxicants and reckless driving. A car he was driving crashed into a power pole and came to rest on its side near the entrance

to Glenwood Village. Postlewaite was taken to Columbia Memorial Hospital, treated and then taken to the Clatsop County Jail. His blood alcohol content was 0.08 percent.

DEATH

March 4, 2018
NEWELL, Andrew Benjamin, 27, of Clatskanie, died in Clatskanie. Groulx Family Mortuary in Rainier is in charge of the arrangements.

PUBLIC MEETINGS

- MONDAY**
Youngs River Lewis & Clark Water District Board, 6 p.m., 34583 U.S. Highway 101 Business.
Cannon Beach Rural Fire Protection District Board, 6 p.m., Fire-Rescue Main Station, 188 Sunset Ave.
Seaside City Council, 7 p.m., City Hall, 989 Broadway.

LOTTERIES

- OREGON**
Thursday's Pick 4:
1 p.m.: 3-3-9-7
4 p.m.: 6-9-9-0
7 p.m.: 0-2-3-5
10 p.m.: 4-2-8-3
- WASHINGTON**
Thursday's Lucky Lines: 03-07-12-14-19-21-26-32
 Estimated jackpot: \$18,000
- 3-3-1**
Thursday's Keno: 02-03-07-08-11-13-15-20-24-26-42-51-53-55-60-62-65-70-71-78
- Thursday's Match 4:** 02-10-12-17

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