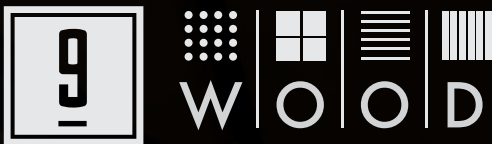


CASE STUDY

# FULL-ON GEOMETRY



*PHIL AND PENNY KNIGHT CAMPUS FOR  
ACCELERATING SCIENTIFIC IMPACT  
EUGENE, ORE.*



DIVISION 9 ENGINEERED-TO-ORDER WOOD CEILINGS

*The seminar room at the Phil and Penny Knight Campus for Accelerating Scientific Impact, Eugene, Ore., showcases one of many complex ceilings found on this research campus. The wood grille "barrel" ceilings from 9Wood Inc., made with locally harvested western hemlock, simulate cascading water.*



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## “The ceiling’s undulating shape references the biophilic theme of water echoed throughout the project.”

The Phil and Penny Knight Campus for Accelerating Scientific Impact at the University of Oregon, Eugene, Ore., features laboratories, classrooms and a seminar room featuring wavy wood grille ceilings.

“The folded and curved wood ceilings are inspired by the movement of water,” says design architect Jarrett Pelletier, associate principal at Ennead Architects, New York, N.Y. “[It’s] the confluence of ideas, many minds coming together to improve the human condition,” Pelletier adds.

The Knight Campus project features 20,662 SF of lay-in wood grille ceilings and wood cross piece wave grille ceilings from 9Wood, Inc., Springfield, Ore. — some curving along tight radii and others forming folded triangular planes.

“It took a lot of planning and organization upfront,” says Tyler Skaggs, senior project engineer and assistant project manager at PCI, Portland, Ore., the ceiling subcontractor for the project.

**Wood waves.** The approximately 52’ by 48’ seminar room narrows from back to front and features a 1,100 SF wavy wood grille ceiling cascading downward from back to front.

“The ceiling’s undulating shape references the biophilic theme of water echoed throughout the project,” says Leina Naverse, AIA, LEED AP, with Bora Architecture & Interiors, Portland, Ore., the architect of record.

The key to this ceiling’s suspension was 3D CAD technology. PCI worked with a third-party firm to design the barrel framing. One barrel has a radius of 3’ 3½”. The center barrel has a radius of 1’ 9”. The third, closest to the podium, has a radius of 1’ 7½”.

“The ceiling looks like three waves rolling from the back seating down to the podium,” says Skaggs.

The third-party firm prefabricated the barrel frames, but PCI installed them, infilling metal studs



“The tricky part of the seminar room ceilings was the radii,” says Ben Chase, project manager at 9Wood Inc. “These are flexi-backer panels, but we still had to turn them tightly.”



## *PROJECT*

The Phil and Penny Knight Campus for  
Accelerating Scientific Impact  
Eugene, Ore.

## *DESIGN ARCHITECT*

Ennead Architects  
New York, N.Y.

## *ARCHITECT OF RECORD*

Bora Architecture & Interiors  
Portland, Ore.

## *GENERAL CONTRACTOR*

Hoffman Construction  
Portland, Ore.

## *CEILING SUBCONTACTOR*

PCI  
Portland, Ore.

## *SYSTEMS*

Custom engineered  
wood ceilings from 9Wood,  
Springfield, Ore.

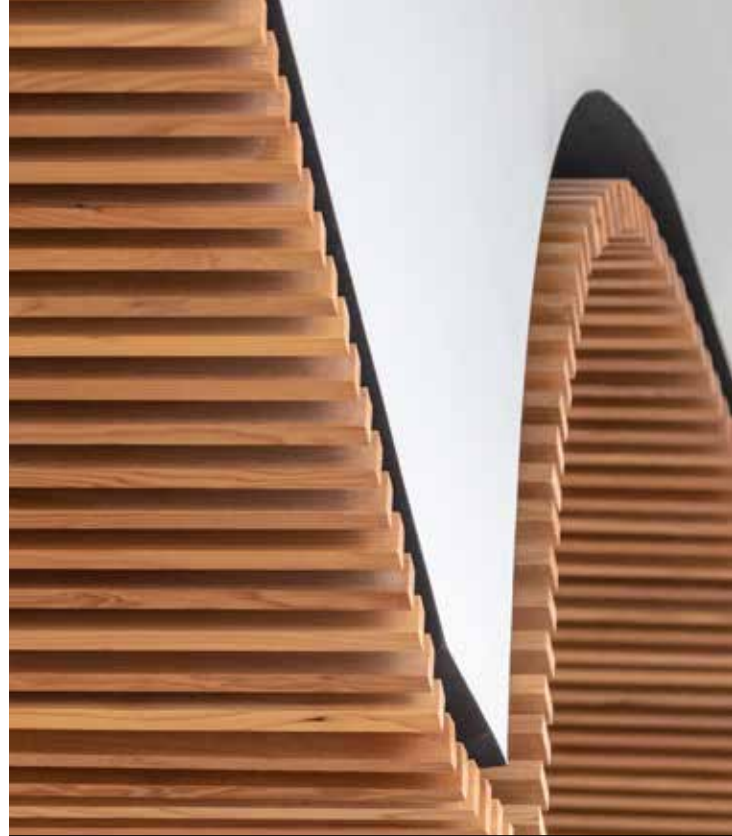
between them to support the entire suspension.

"We did a lot of prep work to make it go smoothly," Skaggs says.

**Triangular bays.** In the classrooms, which are formed using retractable partitions, the iconic architecture called for wood grille ceilings spanning long distances in a series of triangular folded planes or bays.

"These bays have four angles, and they curve between the angles," says Ben Chase, project manager at 9Wood. "All of the bays are driven to

“ WE HAD A LOT OF BIM MEETINGS TO MAKE SURE EVERYTHING WOULD FIT



The seminar room features a dramatic serpentine form — a cross piece wave grille ceiling system with  $\frac{5}{8}$ " x  $1\frac{3}{8}$ " solid western hemlock wood members.



"The interior spaces, sequences and material palette reinforce connections to the region's landscape and environment," says Jarrett Pelletier, associate principal at Ennead Architects.





points at the front of the classrooms."

Three bays have retractable lifts that hold projectors. The lifts were custom-built by PCI's crew members, who attached wood grilles to the lifts so they closed flush at the same slope of the wood grille ceiling.

It was a challenge to integrate the folded plane ceilings with the linear lighting.

"The triangles run along multiple planes, so we had to choose where to align the light fixtures," says Skaggs. "We chose to install the lights where the bays start to curve."

Skaggs says PCI got together regularly with the electricians, plumbers and HVAC mechanics to work out the details of the triangular ceilings at least a year before construction began.

"We had a lot of BIM meetings," Skaggs says, "to make sure everything would fit."

The installations of both the barrel wood grille ceilings and the triangular folded plane ceilings were completed in two months.

"We had skilled workers who made the vision of the design team and owner come to life," Skaggs says.



*In the classrooms, 9Wood wood grille ceilings run on different planes, integrate with light fixtures and meet here at the front of the space.*



*"The use of this warm and natural material is shown to support the cognitive functions necessary for scientific research and discovery," says Leina Naverse of Bora Architecture.*



*"These large classroom ceilings are triangle sections that angle at different pitches, and then they meet," says Tyler Skaggs of PCI. "They had to be perfectly level."*



DIVISION 9 ENGINEERED-TO-ORDER WOOD CEILINGS

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