



Letter from the President

Office of the President, president@uidaho.edu

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Dear Vandals,

Graduate-level training in robotics was far from Robert Carne's mind eight years ago when he began building houses in his hometown of Sandpoint. Now a University of Idaho doctoral student, he's one of the first recipients of the new robotics engineering certificate and his training is helping him revolutionize the construction industry.

Carne built a 3D printer that uses wood waste to print houses as part of the National Science Foundation-funded PrinTimber project that includes 40 faculty members and students from the U of I and Auburn University.

That background in construction and passion for design led principal investigator and Professor Michael Maughn to approach Carne three years ago to see if he might be interested the challenge.

"It's kind of funny how life works," Carne said. "I worked in construction for a few years and now I'm working on a new forefront for construction. I was in the right place at the right time and it worked out to jump on this project. This lines up perfectly with my interests."

By using wood waste as the construction material, [PrinTimber](#) can greatly reduce building material costs. In addition, Carne's 3D printer includes robotic arms and other elements that reduce the labor needed to produce the material. His specialized training helped him figure out how to build out the nine-axis robot that produces the building material. The project presents endless engineering challenges, including how to bind the porous material without heat.

"Getting the wood composite to actually print and then figuring out how to get one layer to stick to the next layer were challenges," Carne said. "And then we had all sorts of process improvements to be made. It was definitely a lot of trial and error."

The PrinTimber team is more than halfway through the four-year project that has transformed from a novel concept to a real machine that aims to set a new standard for sustainable construction.

"I 100% think this will be viable for industry," Carne said. "It's a new take on construction and it makes a lot of sense, it's just never been done before."

The U of I offers more than 55 certificates in fields ranging from agricultural commodity risk management to virtual technologies. They allow students to gain specialized training and skills that employers covet so that graduates enter the workforce equipped to contribute — even if they're on the cutting edge of construction technology.

Go Vandals!

C. Scott Green
President

