



OU's newest creative center has spaces for tinkerers and entrepreneurs to work together on ideas, including those that may add to **Oklahoma's future**.

By CHIP MINTY
PHOTOS BY TRAVIS CAPERTON

Innovation Hub Program Assistant Corbin Greer and OU journalism major Erica Aveard walk through a hallway illuminated by artistic LED lights, whose changing colors span the spectrum.

IDEAS ABOUND AT INNOVATION HUB

Did you ever want to create a coffee cup with a 3-D printer, build an autonomous robot or use a laser to transform mahogany into art? Did you ever think you could peer into the heart of an alcohol atom as though you were holding one in your hands?

Through technology, all those things are possible, but usually they're in the domain of scientists and engineers. Hands-on experiences in advanced manufacturing, robotics and virtual reality are beyond the reach of most people. But a new center at the University of Oklahoma has opened the door to anyone with a dream, a vision or just curiosity.

Students, faculty and members of the public who have an idea they want to explore are welcome at an entrepreneurial incubation center called the Innovation Hub. Creators describe the center as a "maker space," but it seems more like a modern-day, multidisciplinary Frankenstein's Castle, capable of turning imagination into reality.

The center contains everything from a high-tech sewing machine and fully equipped woodworking shop to a computer-controlled milling machine, a laser cutter and a 3-D printer. The Innovation Hub's "Data Visualization Zone" allows users to enter the world of virtual reality to experience things that don't yet exist or that are too small to hold.

It is a conduit for transforming ideas, concepts and designs into real objects that could someday become products used to launch businesses that create jobs and wealth for Oklahoma's economy.

The Innovation Hub is a place where people collaborate and where ideas collide — the latest in the university's continuing effort to nurture a culture of entrepreneurialism. At 3 Partners Place in the heart of the burgeoning OU Research Park, the hub is embedded with two other innovation programs, OU's Center for Entrepreneurship and the Ronnie K. Irani Center for the Creation of Economic Wealth.

Maker spaces, or project labs, are not new to OU and other universities across the country, but the Innovation Hub is

unique. While typical spaces are created to serve specific student groups working on a narrow range of projects, the hub has a very large welcome mat and is designed for diversity.

Its sewing machine is set up next to the electronics assembly and diagnostics station. That way, a student programming a microchip for her robot might be exposed to another student designing haute couture.

"There is value in diversity," says Brandt Smith, director of the Innovation Hub's fabrication lab. "We want to broaden the perspective of people by putting them together."

Daniel Pullin, dean of OU's Price College of Business, calls the Innovation Hub an idea incubator.

"We expect students to use it as a 21st-century coffee shop," he says.

Remember the welcome mat? Faculty and members of the community are wanted, not only for their ideas, but for the value they can bring to students.

"There is an important opportunity for people in the community to come inside and mentor students," Pullin says. "Opening the door to the community is a dimension of the culture we provide our students every day."

World-class higher education is changing to meet the needs of students looking for avenues of engagement that go beyond books and lectures, he says.

To help launch the program, OU hired Thomas Wavering, an electrical engineer with executive experience in technology development from conception to commercialization. His broad business background includes mobile health, cyber security, big data, biotechnology, sensors and nanomaterials.

Through his career in business, Wavering has defined market potential and outlined business strategies. He has built partnerships, secured capital and protected intellectual property.

As the founding executive director of the Innovation Hub, Wavering is on a mission to grow an innovation ecosystem that will tap the potential of students, faculty and people beyond the campus.

continued



Technical Project Managers Brandt Smith (second from left) and Mike Thompson (center) discuss laser-cut gearing for a clock assembly with OU sophomore engineering major Bryan Sandoval (left), junior journalism major Erica Aveard and freshman education major Zach McManaman.



Trying out one of the hub's new group study spaces are sophomore engineering major Bryan Sandoval (left), senior engineering major Sean English and freshman education major Zach McManaman.

Wavering envisions a range of future programs, including classes on how to use equipment, as well as workshops and design competitions. There will be beginner and advanced training programs on virtual reality to demonstrate how it can be used to develop ideas and concepts into tangible designs.

Wavering plans to seek partnerships with state and federal agencies to form business incubation programs that help start-ups raise capital and obtain equipment necessary to make products and launch businesses.

"Lots of universities are struggling to figure out how to convert all of this intellectual potential into entrepreneurialism," Wavering says. "Lots of schools have maker spaces, but they are confined to specific areas. This one is not confined."

That is an important distinction, says Erin Wolfe, OU's executive director of strategic initiatives.

Wolfe has spent the past two years partnering on the project with academic disciplines ranging from engineering and information technology to business, library sciences and research. Much of the hub's funding came from private dollars, she says.

"The interdisciplinary focus makes it more engaging and applicable to a variety of enterprises," she says. "It's not just for engineering and business. We call it a hub because it has many spokes."

Wolfe says the hub was established with broad support from across campus and can become a networking source for students and others needing experts from a wide range of fields.

The hub is for students, faculty and others covering a spectrum of backgrounds and experiences, pursuing any number of ideas. Diversity is the underlying theme.

"Students with varying backgrounds can bring value to everyone in here," says Smith, the fabrication lab director.

The idea is to get people together. An engineering student may not be as concerned about form as long as his design works, but an art student sitting next to him might share a helpful perspective, says Smith, whose role is to sow the seeds of collaboration.

That brings us back to the girl programming her microchip sitting next to a student creating high-end fashion.

With any luck, Smith says, the result could be a nicely dressed robot, and that's a product that just might sell.

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