



WRIGHT BROTHERS INSTITUTE

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AFRL INTRODUCES THE MAKER HUB AT WBI

BY EMILY FEHRMAN CORY : AFRL RESEARCHER

The Air Force Research Laboratory has unveiled a new project that will introduce Wright-Patterson employees to the innovative prototyping community known as the Maker Movement.

The Maker Hub, a one-year pilot project in partnership with the Wright Brothers Institute, was conceived and spearheaded by AFRL Materials and Manufacturing Directorate researcher Dr. Emily Fehrman Cory. This makerspace will give AFRL personnel of all technical skill levels the opportunity to conceive their own ideas and bring them to life, as well as share tricks and tips with fellow AFRL builders.

The Maker Hub is located at the Wright Brothers Institute Tec[^]Edge facility and is open Monday through Friday, 9 a.m. to 5 p.m. Open hours, during which interested individuals can use and explore the equipment or ask questions about the Maker Hub, are held every Thursday from 10:30 a.m. to 1:30 p.m., with additional open times to be announced. Interested “early adopters” of the Makerspace are encouraged to bring their lunch or visit one of the on-site food trucks during open hours while they explore ideas for projects with fellow Makers.

Fehrman Cory says the Maker Hub is a natural fit for the Wright-Patterson community. “Many people think of the Maker Movement in terms of hobbyists, from hand crafters, to electronics enthusiasts, to 3-D designers. Many work here at the base. But what the Maker Movement is really about is problem-solving by doing, in a collaborative environment where people of different skill sets and backgrounds work together to create real-world solutions,” she says.

When fully-equipped, the space will contain entry-level, desktop versions of advanced manufacturing equipment, including a variety of 3-D printers, Computer Numerical Control (CNC) mills, a laser cutter, sewing machine, printed circuit board prototyping tool, and a full electronics workstation for projects using microcontrollers and processors like the Raspberry Pi and Arduino.

The Maker Hub also focuses on open source design software and software evaluation. AFRL researcher Matt Jacobsen will be deploying the Integrated Collaborative Environment (ICE) platform at the Maker Hub, allowing for a modern, fully-integrated equipment, data, and workflow management capability, a unique feature not usually seen in other Makerspaces. (continued on page 2)

AFRL MAKER HUB (CONTINUED)

Fehrman Cory says she expects Maker Hub visitors to begin their experience by making small prototypes, but she hopes users will then begin exploring new limits and bigger projects, and even offer suggestions for additional equipment to aid in the creation of advanced products.

“It will be a relaxed environment where people can pursue those good ideas that maybe have been on the back burner for too long,” says Fehrman Cory. “In fact, I encourage anyone with a good idea—but who maybe just hasn’t had the time or the right skill set to take it to fruition—to submit it for one of our Wingman Challenges.”

These upcoming Maker Hub Wingman Challenges are short design and prototyping challenges centered on issues of importance to AFRL and the warfighter. The first of these challenges will be announced later this fall, and will involve using an open-source brain control interface to create a low-cost assistive technology for people with developmental or traumatic brain injuries impacting mobility and speech. A second challenge will involve building a Satellite Networked Open Ground Station (SatNOGS) to autonomously collect satellite and CubeSat data with open-source software and hardware as part of the worldwide SatNOGS project.

For Fehrman Cory, the Maker Hub is a labor of love, originating from a youthful spirit of creativity. She says that as a child, she would use whatever materials she had to make something for a purpose, and that same drive later fueled her interest in the Maker Movement.

“I became interested in the Maker Movement because up until a few years ago there wasn’t really a name for what I was or for people like me, people who see the value in learning new skills and making something for a purpose, whether that’s a garden that produces vegetables for your family or a piece of code that automates your thermostat,” she says.

Fehrman Cory says expanding the Maker concept to the Wright-Patterson community seemed to be the next logical step. “Here in AFRL, we are already involved in researching new ways to design and create functional products for air platforms and for the warfighter in general. We are all Makers, but sometimes we need the tools and encouragement to take the next step, so we wanted to make that available to everyone within the Wright-Patt community,” she says.

For more information, or to network and share ideas, interested Makers can also visit Twitter at [@AFRLMakerHub](https://twitter.com/AFRLMakerHub), Facebook at www.facebook.com/afrlmakerhub/, or the Maker Hub website at www.afrlmakerhub.com.

EMPLOYEE SPOTLIGHT: ARTHUR ROGERS

BY ARTHUR ROGERS : WBI IDEA LAB



Arthur Rogers is WBI's new Managing Director of the IDEA Lab. He has 20 years of experience as a consultant, entrepreneur, and innovation executive from industries across healthcare, high technology, building construction and academia. Most recently, Arthur established the corporate innovation program at the second largest homebuilder in the US. He supervised innovation strategy and started a large innovation center identifying cutting-edge collaboration technologies to assist in expiding innovation and change across geographies. Additionally, he created the employee development platform for elevating the innovation skills of all employees so that each individual could contrib-

ute meaningfully to innovation. Arthur has significant experience working with universities such as Cornell, Harvard, MIT and Stanford on employee development, wellness, innovation and entrepreneurship.

Arthur is a veteran of the US Army and is currently serving in the Air National Guard.

Through WBI's IDEA Lab, Arthur is focused on driving innovation and collaboration for the benefit of AFRL, WBI and the Dayton community.

For more information on how the IDEA Lab can assist your organization, please contact Arthur Rogers at Arthur.Rogers@wbi-icc.com or 937-424-8664.