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FSU Innovation Hub builds face shields to protect local health care workers in COVID-19 fight

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Richard Ensor, sculpture lab manager with the FSU Department of Art, performs finishing refinements on the face shield brackets after they are printed at the Innovation Hub. (FSU Photography Services)

During a normal spring semester, the Innovation Hub at Florida State University would be buzzing with students studying design, dreaming up various projects and building prototypes with the facility's laser cutter and many 3-D printers.

This is not a normal time.

Instead, the Innovation Hub has become the center of an effort to help outfit health care workers battling COVID-19. Instead of student projects, the printers are cranking out face shields that project organizers are donating to local medical facilities.

"The Hub slogan — 'empathize, ideate, build' — is a handy one here," said Emily Pritchard, a research faculty member with the College of Medicine and one of the organizers of the project. "We first empathize with the doctors and the patients and find out what they need and how we can better do that. Then, we ideate. How do we use the supplies we have, the tools we have and the people we have to build a solution that will make an impact in our community?"

When the COVID-19 pandemic hit, the "maker community" around the world began looking for homemade solutions for medical workers. Faculty and staff at the Innovation Hub decided to focus their efforts on face shields.

The face shields consist of a 3D-printed visor made according to a design that has been reviewed by the National Institutes of Health. A transparent plastic sheet attaches to the front of the visor, and a rubber band holds the headgear in place on the wearer. The shields can protect a health care worker's face from coughs or splashes from potentially infected patients.

The project organizers are donating to Southern Medical Group, Tallahassee Memorial HealthCare and other health care facilities around Tallahassee. They have been asked to make about 2,000 shields total, and they are on their way to meeting all those requests, said Ken Baldauf, the Innovation Hub's director. When those requests are filled, they plan to see if more are needed.

Help is coming several departments on campus and the local community, as well. The Learning Systems Institute and FAMU-FSU College of Engineering contributed the use of their 3-D printers, and Master Craftsman Studio employees, who typically create custom art for the campus, cut transparent sheets to attach to the visors. Faculty and staff from the School of Information, the Department of Art and The Graduate School stepped up to help as well with everything from making the shields to administrative tasks. Working together with the local makerspace, "Making Awesome," FSU Facilities and Master Craftsman Studio secured a donation of plastic from Coca-Cola which previously would have been used in bottle manufacturing. This material is also being made available to others in North Florida who are creating donated supplies.

"There is a concern that there could be additional shortages in the future, but we're doing as much as we can now to help our local community," Pritchard said. "It's a story of the community and campus coming together."

The pandemic response is resulting in the Innovation Hub being used in an unanticipated way, Baldauf said. Although the facility sometimes sees large requests from various departments, it's mostly used to build prototypes conceived by students. With students mostly gone from campus, the project is putting its resources to good use to help save lives.

"Our hope is that the traditional supply chain will step up eventually to be able to react to the needs of the professionals," Baldauf said. "We are a stop-gap measure. We're here just to step in and bridge the gap until supplies can get back to filling the need."

"It's been extremely helpful," said Dr. John Katopodis, an interventional cardiologist with Southern Medical Group in Tallahassee. His organization has picked up about 100 face shields from the project.

"It was an incredible gesture and action by Florida State," he said. "I visited the Innovation Hub, and it was impressive to me how quickly they could make a safe and effective headpiece and shield. There's this determination to help health care professionals. Their call came out of the blue and it was more than welcomed."

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