



# Hawai'i STEM Community Care is here to help.

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## **Hawaii Island STEM Organizations Support Hospitals and First Responders During Pandemic**

Hilo, Hawaii – Hawaii Island’s leading STEM (Science, Technology, Engineering and Math) experts have combined efforts to support local hospitals and first responders during the COVID-19 crisis. The coalition – **Hawaii STEM Community Care** -- responds to needs raised by healthcare workers and fire/emergency response crews. The coalition is supported by staff and volunteers from across the Big Island spanning the business, high tech, and educational sectors.

“Working as a first responder, I know the critical need for PPE in our community,” said Christian Wong, Big Island firefighter and executive director of Hawaii Science and Technology Museum. “Connecting the needs of our first responders with our Big Island STEM community allows Hawaii STEM Community Care to design and produce PPE that fits the specific needs of our health care community.”

The Hawaii STEM Community Care team has committees working simultaneously on four projects specifically requested by the local medical community: face shields, mask sterilizers, mask tension relief bands, and door openers. Each committee is working with members of the medical community to ensure these developed products meet the needs of the Big Island health care community.

“I appreciate the speed of these efforts,” said Dr. Craig Burger, a consultant for the group. “Iterating directly with local PPE designers and manufacturers allows us to meet an ever-changing need. Any reduction in anxiety or an increase in comfort we can provide, is so crucial for the physical health and mental well-being of our frontline providers.”

All the donations thus far have been designed and produced on the Big Island. The face shields were designed to allow for rapid production, enabling the team to construct close to 50 shields per hour. Three hundred mask tension relief bands that were delivered to Hilo Medical center combined efforts in East and West Hawaii, rallying 3D printer owners island wide including local schools. The first prototype mask sterilizer is undergoing testing at the University of Hawaii at Hilo's biology department with plans to build units for local fire departments to extend the life of their current N95 masks if needed. The door opener design is the result of a request from the local medical community for a simple device that minimizes the need for health care professionals to touch door handles in a hospital. A prototype just completed testing and is now beginning larger production for local healthcare facilities and first responders.

The group is dedicated to creating 'learning moments' – opportunities for Hawaii Island students to contribute directly or indirectly to the solution design efforts. Local students brainstormed the design of the face masks and helped print the mask tension relief bands.

"We plan to share stories of how the team arrived at solutions with our NexTech students as a real world example of problem solving as well as the importance of giving back to our community in times of crisis," said Gail Takaki, NexTech Hawaii. "All our efforts are possible through the generous volunteer organizations and donors providing all items free of charge."

Hawaii STEM Care is represented by leaders from a growing number of local organizations including Hawaii Science and Technology Museum, NexTech Hawaii, Canada-France-Hawaii Telescope, Big Island Community Coronavirus Response Initiative, and the Pacific International Space Center for Exploration Systems (PISCES). Hawaii STEM Community Care recently received a \$5,000 grant from Hawaii Community Foundation to continue producing and distributing their PPE donations.

"There are a lot of people who are passionate about the problem," said Kean Wong, co-coordinator of Big Island Community Coronavirus Response Initiative. "We're finding as we're able to coordinate with people and provide them resources they may not have, we're able to help out and have a larger impact than any single individual can."

**For more information about Hawaii STEM Community Care and to obtain plans for some of the above items, visit [histemcare.org](http://histemcare.org).** Healthcare providers and first responders who would like more information about these items, or have a need for PPE, should email [histemcare@gmail.com](mailto:histemcare@gmail.com).

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**About Hawaii STEM Community Care:** Hawai'i STEM Community Care is a coalition of local organizations, students, and supporters in the Science Technology Engineering and Math arena. We are dedicated to providing innovative solutions to urgent problems on Hawaii Island as a public service. This team was formed in response to the COVID-19 crisis, specifically the shortage of PPE (personal protection equipment) in our healthcare system

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