Press Release

ASHRAE GRANITE STATE
For Immediate Release

Four New England Students Win National Engineering Design Challenge

Project proposes solutions for power generation, water and wastewater treatment, waste disposal and agricultural production in response to devastating hurricane damage in Puerto Rico.

Concord, New Hampshire, August 27, 2019 -- Four local engineering students from the University of New Hampshire (UNH) College of Engineering and Physical Science have won first place in the applied engineering category for the 2019 Design Challenge held by the American Society of Heating, Refrigeration and Air Conditioning Engineering (ASHRAE). ASHRAE is an international association whose members include professionals dedicated to advancing the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world, and its local chapter, Granite State ASHRAE, supported the winning team.

Student team members are: Samuel Bean of Beckett, MA; Jacob Scarpino of Hampton, NH; Sarah Mayer of Durham, NH and Alexander Sparks of Campton, NH. (Photos attached.) The students will have the opportunity to attend the 2020 ASHRAE Winter Conference in February in Orlando to present their report and receive their trophy.

The design challenge focused on responses to the devastating damaged sustained by Puerto Rico from Hurricane Maria in September of 2017, the worst hurricane to hit this part of the world in 80 years. Students were tasked with planning and designing a new community on the island of Vieques. The project required that a self-sustained community, able to accommodate a population of 5,000 people, be developed within a five square mile area of the island. The project’s scope included: power generation; water and wastewater treatment; waste disposal, and agricultural production.

After a year’s work on the project, the team recommended that:

- electric power be a combination of solar and wind with battery back-up;
- fresh water be a combination of rain collection with desalination back-up;
- recyclable waste be composted and disinfected;
- non-recyclable waste be put in a landfill, and
- agriculture be a combination of traditional field crops, livestock and aquaculture.
The student team was mentored by ASHRAE Granite State Chapter Member Nils Carlson, and UNH Professors Anthony Puntin, Civil Engineering, Martin Wosnik, Mechanical Engineering, and Christopher White, Mechanical Engineering. According to Professor Puntin, the team’s success was due in large part to their excellent co-operation and teamwork approach to identifying and addressing the project’s challenges. Local ASHRAE members in New Hampshire are delighted by news of a “home team” win.

The four New Hampshire students will each receive a cash award plus free transportation and lodging to attend the upcoming ASHRAE 2020 Winter Conference in Orlando, FL from February 1-5, 2019. They will be recognized at the Conference’s Student Welcome and Plenary on February 1, and are invited to display a poster of their project during the Student Program.

About Granite State ASHRAE

Granite State ASHRAE is the New Hampshire local chapter of ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) whose members include professionals dedicated to advancing the arts and sciences of heating, ventilation, air conditioning and refrigeration (HVAC) to serve humanity and promote a sustainable world. The local chapter supports members and students with educational and networking programs, usually held the second Thursday of the month around the state. To learn more, visit https://www.nhashrae.org.

Contact

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Photos attached –
Student Photos and Photo of Vieques, Puerto Rico, subject of the team’s project
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Samuel Bean
Becket, Mass

Jacob Scarpino
Hampton, NH

Sarah Mayer
Durham, NH

Alexander Sparks
Campion, NH