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Patent Pending

University of Dayton

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Wednesday August 16, 2017

Patent Pending

At the turn of the decade, they were preparing to head to college. Today, they're on the verge of being named on a patent with international food services company Hobart, a subsidiary of ITW Food Equipment Group LLC.

"No," said Prasanna Murlidharan, a current University of Dayton renewable and clean energy graduate student, when asked if he thought something like this was possible when he came to the University as an undergrad. "This is pretty exciting and interesting."

Seven University of Dayton students from the School of Engineering's Innovation Center, including Murlidharan, will be listed on a Hobart non-provisional patent filing for an innovation that assists in trapping heat in industrial dishwashers often found in cafeterias and restaurants.

The non-provisional patent filing will be published on the U.S. Patent and Trademark Office's website in early 2018. Then the innovation will undergo a two- to three-year process to determine whether it "meets certain standards of inventiveness" for a patent, according to the group's mentor and Hobart engineering manager Alexander Anim-Mensah.

When the dishwasher hood opens, a plume of hot, moist air escapes and creates an uncomfortable user experience plus heat loss from the machine. The dishwasher must do more work to re-heat the machine for the next cycle. This invention will protect the operator from the blast of heat, improve drying and reduce energy costs needed to continually re-heat the dishwasher.

The team estimates the invention will improve the energy efficiency of an Energy Star machine by at least 5 percent and the drying efficiency by at least 25 percent.

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"That is huge for an already energy-efficient machine. In an age where energy is getting expensive and standards keep rising, every bit counts," Anim-Mensah said. "Given the average life of these machines is more than seven years, operators will enjoy the cost-saving benefits from the invention."

Anim-Mensah said work on this project started with four University of Dayton students in 2015, who created a solid barrier to block the dishwasher's opening. Another trio, which includes Murlidharan, picked up the project a year later and made modifications that provided easier access to the dishwasher.

"This project has helped me apply concepts learned in class," said Murlidharan, who hails from India. "I would tell anyone looking to do something like this to be open to exploring new ideas and concepts. That's how we've been successful."

University of Dayton students in the School of Engineering's Innovation Center have a proven track record of success: In the center's two decades, students have worked on more than 1,000 projects with more than 200 industry partners, meeting or exceeding client expectations more than 85 percent of the time.

"Hobart has been a strong supporter of our Innovation Center and assisting our students with experiential learning opportunities for more than 15 years," said Becky Blust, Innovation Center director. "The opportunity Hobart has given our students to be part of this patent process is one not many get as an undergraduate."

For more information, contact Shawn Robinson, associate director of news and communications, at 937-229-3391 or srobinson@udayton.edu.

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