

Monday, Mar 12, 2018

OU senior to receive ACS inorganic chemistry award, present at national meeting

Oakland University senior Katherine McAuliffe and Professor Evan Trivedi have been selected by the American Chemical Society to receive the 2017 ACS Division of Inorganic Chemistry Award for Undergraduate Research for their research into synthetic drugs designed to make it easier to detect cancer in humans.

"We're interested in what's called fluorescence imaging," said Trivedi, an assistant professor of inorganic chemistry in the Department of Chemistry at OU. "Our goal is to make the cancer cells glow. It's a different way to approach cancer. We're not designing drugs to kill cancer, we're designing drugs to find it."

The student/mentor team of McAuliffe and Trivedi will travel to New Orleans on Saturday, March 17 to attend the 2018 ACS National Meeting & Expo, where they will receive the ACS Division of Inorganic Chemistry Award for Undergraduate Research, which recognizes the collaborative research of an undergraduate student/preceptor team in inorganic chemistry and encourages further study in the field.

"It's very exciting," McAuliffe said.

To be nominated for the award, students must have demonstrated excellence in inorganic chemistry at the undergraduate level based on any combination of research, coursework and/or motivation/interest/dedication as defined by their nominating institution and should have future plans that include a career in chemistry.

"Katherine has had a unique research experience at OU because she started in our department when she was a freshman," Trivedi said. "She's been working in research labs and has been involved with the department for almost four years now, which is unique. Most students don't start to get really involved in the department until at least their sophomore year. The benefit of that is that it's allowed Katherine to get a lot of work done and be really productive and learn outside the classroom because she's been working in the lab."

According to Trivedi, McAuliffe has participated in the highly competitive Summer Undergraduate at OU for three years in a row and this past year was awarded the Dershwitz Summer Research Fellowship.

She was nominated for the ACS Division of Inorganic Chemistry Undergraduate Award by a professor from Northwestern University who was impressed by a poster she presented last year at the ACS National Meetings in San Francisco.

"A number of my students went; most of them were seniors and she was the only junior," Trivedi said. "She got to meet a lot of people, including faculty members from all over the country. One of them — a professor from Northwestern University — approached me about nominating Katherine for the award. He was very impressed by her and wrote a really nice letter to nominate her, and she won."

Student awardees receive a certificate and letter of commendation from the chair of the Division of Inorganic Chemistry. McAuliffe will also receive \$1,000 and a plaque while Trivedi, a preceptor, will receive a plaque for permanent display in the Department of Chemistry at OU.

"This is the best part of the job," Trivedi said. "I like teaching in the classroom and working in the lab with our students, but when they receive big national awards like this, or internal awards from OU, it makes me very proud. When they start working here, they're usually right out of high school and they might be interested in science but they really don't know what it means yet. We have the opportunity to mentor them and teach them what it means to be a real scientist in the real world, and when they can take what we teach them and be recognized for it with awards like this, it's extremely rewarding."



OU senior Katherine McAuliffe and Chemistry Professor Evan Trivedi have been selected by the American Chemical Society to receive the 2017 ACS Division of Inorganic Chemistry Award for Undergraduate Research for their research into synthetic drugs designed to make it easier to detect cancer in humans.

In addition to the award, McAuliffe and Trivedi have been invited to attend a special dinner with the ACS Division of Inorganic Chemistry Executive Committee on March 17. McAuliffe will also give a talk during the INOR-sponsored "Frontiers in Undergraduate Research" symposium on March 18.

"It's a great opportunity for her because undergraduates don't typically go to these conferences, and if they do, they rarely have an opportunity to speak in an oral presentation," Trivedi said. "It's not only good for her professional development and career, but also for OU in terms of exposure."

During the oral presentation, McAuliffe will be discussing her research, "Mixed Fluorinated Subphthalocyanines and Subnaphthalocyanines: Tuning Fluorescence by Synthetic Design," and what it means for molecules as biological imaging probes.

"Our work is to try to make molecules that you can image cancer cells with," she said. "To do that, we have a specific range of light that we want to reach and by changing different properties of the molecules we can change where that light is emitted. We're trying to get it closer to the optimal range with this work, and we're almost there."

According to Trivedi, the research, while still in its very early stages, could have applications in various areas, including the medical field.

"The molecules that Katherine is working with are designed to glow," he said. "So if they go into a cancer cell or a tumor, they would light it up and you'd be able to see it, either with your eyes or some kind of instrument. Not only could you find it quicker, but if a surgeon was removing a tumor and it's glowing, they would know exactly where it was. That's one application that the medical field is very excited about."