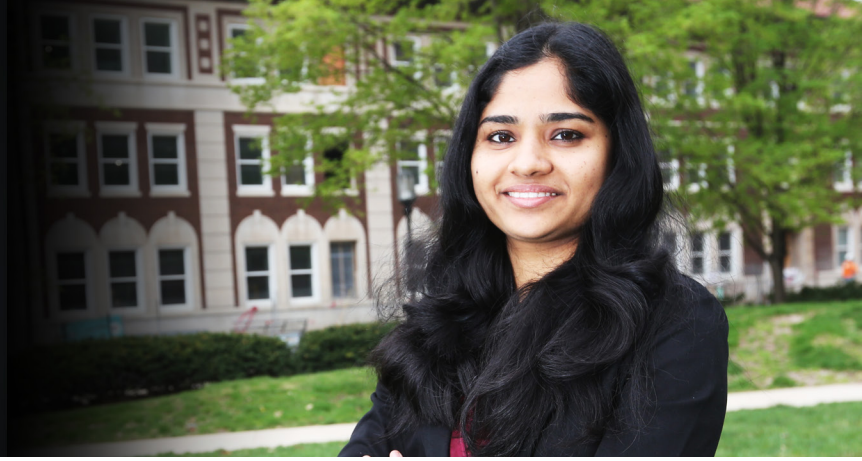
GRADUATE
AG RESEARCH
SPOTLIGHT



Femeena Pandara Valappil

"I was a person who thought I had to have direct impact on society. Through my studies, I realized that the research that goes on behind those things is also important."
—Femeena Pandara Valappil, PhD student, Agricultural and Biological Engineering

THE STUDENT: Femeena Valappil's home state of Kerala in southern India is well-known for its rich culture, beauty and natural resources. Valappil was working toward a bachelor's degree in civil engineering at Kerala University when a course in one such resource — water —caught her attention. While earning a master of technology degree in hydraulics and water resources engineering at the Indian Institute of Technology, Madras, she came to Purdue in 2013 for a three-month exchange program. Indrajeet Chaubey, her Purdue advisor and then a professor of ecohydrology in Agricultural and Biological Engineering, extended an open-ended invitation for Valappil to return to Purdue for doctoral work with him. In 2014 she was named one of 25 recipients of the Green Talents Award sponsored by the German Federal Ministry of Education and Research Ministry for potential in sustainable development research. This took her to Kiel University in Germany for a short-term research project. "That was a turning point in my life when I grew that passion for sustainable solutions," she says. She had met her husband during her exchange program at Purdue, and his own PhD and postdoc under Chaubey's supervision brought Femeena back to Indiana. She credits her husband and academic mentors for encouraging her to pursue her studies at higher levels than she envisioned for herself. She took advantage of Chaubey's earlier offer and began her doctoral work in fall 2015.

THE RESEARCH: Valappil's research focuses on water quality modeling in streams and rivers that can predict transport of nutrients. She examined some of the many existing water quality models to develop one with broader application. "Some are good for small scale, some for large scale. We wanted to develop a model that included all the key processes and that is applicable for all kinds of studies," she explains. The result of her research is a modeling framework with enhanced representation of in-stream solute transport processes that can improve water quality predictions. "I want to end up contributing to sustainable development," Valappil says. "The model has a big role to play in helping decision makers know about impacts of water quality."

HUMAN RESOURCES: Chaubey encouraged Valappil to present at national and international conferences, where she made valuable networking connections. She calls the members of her PhD committee, which includes the professor she worked with in Germany, her most important resource. The College of Engineering Research Office recently named Valappil its Outstanding Graduate Student.

FUTURE PLANS: Valappil will complete her PhD this spring. "I know that research is where my passion lies," she says. "Looking at the bigger picture, that's what I see myself doing." In her spare time, she travels to State College, Pennsylvania, where her husband joined the Penn State faculty. She also loves to dance and has been active in the Dance 2XS hip-hop and Indian Dance clubs at Purdue.