

Inspiring the next environmental scientists

Segue • SIUE

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This week on Segue on WSIE 88.7 FM, Greg Budzban, PhD, dean of the Southern Illinois University Edwardsville College of Arts and Sciences (CAS), sits down with two professors from the College of Arts and Sciences to discuss their exciting new project engaging East St. Louis students in environmental research in their own community.

Danielle Lee, PhD, visiting assistant professor in biological sciences, and Ben Greenfield, PhD, assistant professor in environmental sciences, spotlight their proposed project for a targeted funding initiative that would engage students within the TRIO Upward Bound programs in SIUE's East St. Louis Center in environmental research within their own community.

Through her research, Lee seeks to discover how ecology and evolutionary components contribute to the behavior of animals. While studying the African giant pouch rat, Lee became fascinated with techniques used to engage people informally in science education. She worked with the Department of Conservation within Missouri's state parks and soon enough, she began sharing her love for urban ecology with the public.

As an environmental health scientist whose work has taken him across the country to study various environmental factors including soil analysis, drinking water quality and air pollution, Greenfield is intrigued by how the environment that people encounter affects their health.

"Environmental education is an exciting way to learn about educating people while they are outside," Greenfield says. "The world out there has all kinds of phenomena. You look in the soil and see different bugs or look at the ponds and see fish or other little critters. All kinds of things are out there, and it is a very interesting template in which people can learn both about science and about the environment."

“It provides an amount of engagement and motivation, because it becomes real to students,” Budzban says. “It affects you personally. There is a powerful impact to students when they see that it can affect both themselves and their community.”

Getting students interested and involved in environmental sciences can lead to a world of fantastic opportunities, Greenfield believes.

“Jobs as environmental outreach coordinators, land use managers and conservation biologists have a lot of benefits,” he says.

In the duo’s project, the researchers will engage students from the East St. Louis area in environmental investigations in their own backyard.

“These students are already amazing observers,” Lee says. “They are experts of the ecosystem in their neighborhood. We will start by empowering them with that information and encourage them to start jotting down their observations, questions and what they plan to do.”

Lee hopes that with her own insight into mammology, the students could perhaps research and capture small animals to record what species live in their neighborhood. Depending on how many they catch, they plan to observe their behavior.

“More than anything,” Lee says, “this is an opportunity for the students to truly see science come alive. Too many students in classrooms are used to sitting down and hearing the history of other people’s discoveries. This is their opportunity to make their own discoveries.”

Urban developments are commonly misconstrued as ecological deserts when it comes to studying wildlife. Lee and Greenfield aim to dispel and dismantle that myth, and actively engage students in their own native environments.

“East St. Louis has a long history in terms of various types of economic change and environmental justice concerns,” Greenfield says. “From an ecosystem perspective, this might represent a benefit. We might find some very interesting and exciting surprises.”

“There’s a tradition in environmental health research called community-based participatory research. This is the idea that the community members are actually the most knowledgeable about what is relevant and important to study in their particular area based on their own concerns. These students have spent most of their lives in East St. Louis, and probably have ideas about what matters to them in their environment and what their concerns are.”

The team hopes to introduce the students to various methods of environmental testing during their project, including water-testing kits, soil testing instruments and more. From their research, they hope to be able to create a standardized template that will encourage other citizen scientists to get out in their own community and do some environmental science projects of their own, ultimately with a goal of sharing their data with others.

Catch this episode of Segue at 9 a.m. this Sunday by tuning in to WSIE 88.7 FM.

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