

Biological sciences using nature preserve



David Duvernell.

Posted: Friday, May 13, 2016 12:01 pm

Segue/Logan Cameron | On this week's segment of Segue, College of Arts and Sciences (CAS) Dean Greg Budzban, PhD, hosts David Duvernell, PhD, chair of the SIUE Department of Biological Sciences.

A St. Louis native, Duvernell received his undergraduate education from Drury University, his master's from Saint Louis University and his PhD from Virginia Tech. After working in labs at Virginia Tech and Stony Brook University in New York, he returned home in 2000 to join the SIUE faculty. Duvernell recently finished his third year as department chair. Alongside his duties as chair, he

continues his work as an instructor and a researcher, citing that he draws great passion and energy from his interactions with students in the classroom and his lab.

They primarily discuss Duvernell's ongoing research project, other research currently being done within the department, the richness of resources available on campus to engage in field research and the recent appointment of a committee to adjust the pedagogical techniques, which are utilized within the College.

Duvernell and collaborators are currently funded by the National Science Foundation to research the ecological and evolutionary impacts of zones where species of topminnows interbreed to produce hybrids. Through this project, Duvernell is improving our understanding of evolutionary processes that drive genetic isolation and gene flow among diverging populations and foster the emergence of new biological species. This project is particularly interesting because it has blossomed from its roots as an undergraduate research project, an educational experience that SIUE takes great pride in providing to its students. Through these distinguished educational opportunities, SIUE provides students formative career credentials through rich experiential learning activities.

Other research currently being performed in the Department of Biological Sciences includes a collaboration with NASA to study the effects of the lack of gravity on plants, a collaboration with the Missouri Botanical Garden to study reproductive biology on an endangered species of orchids which are found in Illinois, studies to monitor the Illinois chorus frog – an endangered species of amphibian that can be found on SIUE's campus, work with the campus deer population, studies of local birds, and the study of nerve cell communications and chemical reactions occurring in fruit flies.

The scholars discuss the nature preserve located on the SIUE campus – a feature that is extremely advantageous to scientific field research. "It's an incredible expanse of land for field research," explains Duvernell. Referring to the campus as a whole, Duvernell states, "There are several thousand acres here which feature a restored prairie habitat, a natural sand prairie habitat, a forest habitat and a large lake.

"There are a lot of natural environments on this campus, and our professors take advantage of that. It's a truly unique situation and a benefit for our classes. Most campuses must travel considerable distances to do field studies, so we have a real advantage, because all of these great fields to study are within walking distance on campus."

Boasting 19 departments and over 50 different programs, CAS takes pride in the vast array of educational options and opportunities available to its students. Budzban shares, “Both inside the classroom and in the fields of research, we are able to provide students with the full gamut.”

Duvernell has been selected to chair a committee for instructional innovation, which Budzban constructed this year. It has undertaken the daunting task of informing the CAS community of the pedagogical options which are available and have shown great effectiveness.

“There’s such a wide range of departments and programs in the College that categorizing instructional techniques is difficult to do,” says Duvernell. “With all of the ways instruction is approached, it’s difficult to have a good understanding of what other programs are doing as well. “So, we are wrapping our heads around how different programs engage students inside and outside of the classroom. How that is accomplished is difficult, and it’s important, but we can share ideas and find new ways of doing things that may be different or better than what we’ve been doing previously.”

Budzban further reflects, “When dealing with programs from the fine and performing arts to the social sciences and humanities, and everything in between, it’s difficult to wrap your head around that instructional variety. This inventory of techniques is going to be important, because we’re trying to give students the support they need to be successful.

“Until we understand the range of instructional delivery that is available to us, we can’t do that – nor can we identify students needing extra help. Until you look across the College to see the variety of instruction, there’s no way to make refinements to get students the support that they need.”

While expanding pedagogical methods such as peer-led, team learning are among the goals of the College, the colleagues each share that the future is bright for the Department of Biological Sciences and CAS, as a whole.

Budzban concludes by stating, “All of these components we’ve discussed combine to make that support system that students are looking for, which is a special characteristic of this campus.”

Tune in to WSIE 88.7 FM every Sunday at 9 a.m. as weekly guests discuss issues on SIUE’s campus.

By Logan Cameron, SIUE Marketing and Communications