

SIUE's DiSalvo Recognized with Vaughnie Lindsay New Investigator Award

April 23 2020 10:55 AM



EDWARDSVILLE - Southern Illinois University Edwardsville's Susanne DiSalvo, PhD, has been honored with the Graduate School's 2020-21 Vaughnie Lindsay New Investigator Award for her outstanding research contributions and exemplary dedication to educating student researchers.

DiSalvo is an assistant professor in the College of Arts and Sciences' (CAS) Department of Biological Sciences. Her research focuses on the process of symbiosis, an interaction of two different organisms living together in which relationships can be neutral, positive or negative. By studying these relationships, she hopes to further the understanding of this symbiotic spectrum by studying the intimate interactions between amoeba hosts and their bacterial symbionts.

"I am thrilled to receive the Vaughnie Lindsay New Investigator Award," said DiSalvo. "It will provide me with the resources to propel my research forward, generate preliminary data to apply for competitive grants, and help me train and fund phenomenal SIUE student researchers in the lab."

The award supports DiSalvo's research project, Connecting Unique Outcomes with Dynamic Infection Processes in an Emerging Microbial Symbiosis System, which studies an emerging Burkholderia bacteria-amoebae host system, to investigate the mechanisms and outcomes of bacterial colonization. She will receive a combined \$12,500 from the SIUE Graduate School and the CAS to be used in a one-year period.

"Dr. DiSalvo's fundamental research in microbial symbiotic relationship will lead to new knowledge and understanding of infection processes and, more importantly, new treatments for infections," said Jerry Weinberg, PhD, associate provost for research and dean of the SIUE Graduate School, "Our current situation clearly shows how important her work is to our future."

"My lab works to highlight the diverse consequences that bacterial symbionts impart to their hosts and how environmental context modifies these consequences," said DiSalvo. "Currently, we have made good headway on describing these interactions. The work enabled by receiving this award will begin us on our trajectory of dissecting the molecular mechanisms that mediate the infection process."

After joining the SIUE faculty in 2016, DiSalvo set up her lab in record speed, and three of her students had presented results of their work at a statewide meeting within her first year. Since then, she has submitted three proposals to the National Institutes of Health (NIH), given numerous oral presentations at regional and national meetings, and co-authored several presentations with her students.

“This is an impressive amount of productivity for a new faculty member, especially for one who is also a star in the classroom and dedicates much time to innovative teaching,” said Vance McCracken, PhD, chair of the Department of Biological Sciences. “As demonstrated by her preliminary data, which was generated at SIUE, and her publication record, she has years of expertise with the techniques to be used in this study.”

DiSalvo’s lab studies natural bacterial symbionts that infect and live inside *Dictyostelium discoideum*, a model soil amoeba that has a unique life cycle as it transitions from single cellular to multicellular life stages. As the amoeba engulfs and digests bacteria as a food source, the bacteria often evolve, surviving within the amoeba and causing long-term infections. DiSalvo and her students characterize these bacterial infections and analyze them to better understand the mechanistic underpinnings within these interactions.

Award funding will allow DiSalvo to work closely with hired lab students, providing them with proper training and support to independently assist with essential project components while confidently serving as student mentors within the lab.

“Being able to do hands-on inquiry research with talented and hard-working students is a delight,” said DiSalvo. “It has been particularly exciting to see students go on to succeed in new career or educational opportunities after graduating.

“SIUE has been a wonderful place to teach and conduct research. My colleagues are supportive and enthusiastic, and the students continually impress me with their dedication and positivity.”

Stephen Hansen, PhD, faculty emeritus, established the Lindsay Research Professorship Endowment that funds the award in honor of Lindsay, who served as graduate dean from 1973-1986. Lindsay was responsible for creating much of the infrastructure that supports faculty research and scholarly activity at SIUE. Faculty and emeriti faculty at the time of the award’s conception donated the funds to endow the award.

Those wishing to help support new investigators through the award may donate to the Graduate School section of the endowment at siue.edu/give/.

Southern Illinois University Edwardsville provides students with a high quality, affordable education that prepares them for successful careers and lives of purpose to shape a changing world. Built on the foundation of a broad-based liberal education, and enhanced by hands-on research and real-world experiences, the academic preparation SIUE students receive equips them to thrive in the global marketplace and make our

communities better places to live. Situated on 2,660 acres of beautiful woodland atop the bluffs overlooking the natural beauty of the Mississippi River's rich bottomland and only a short drive from downtown St. Louis, the SIUE campus is home to a diverse student body of more than 13,000.