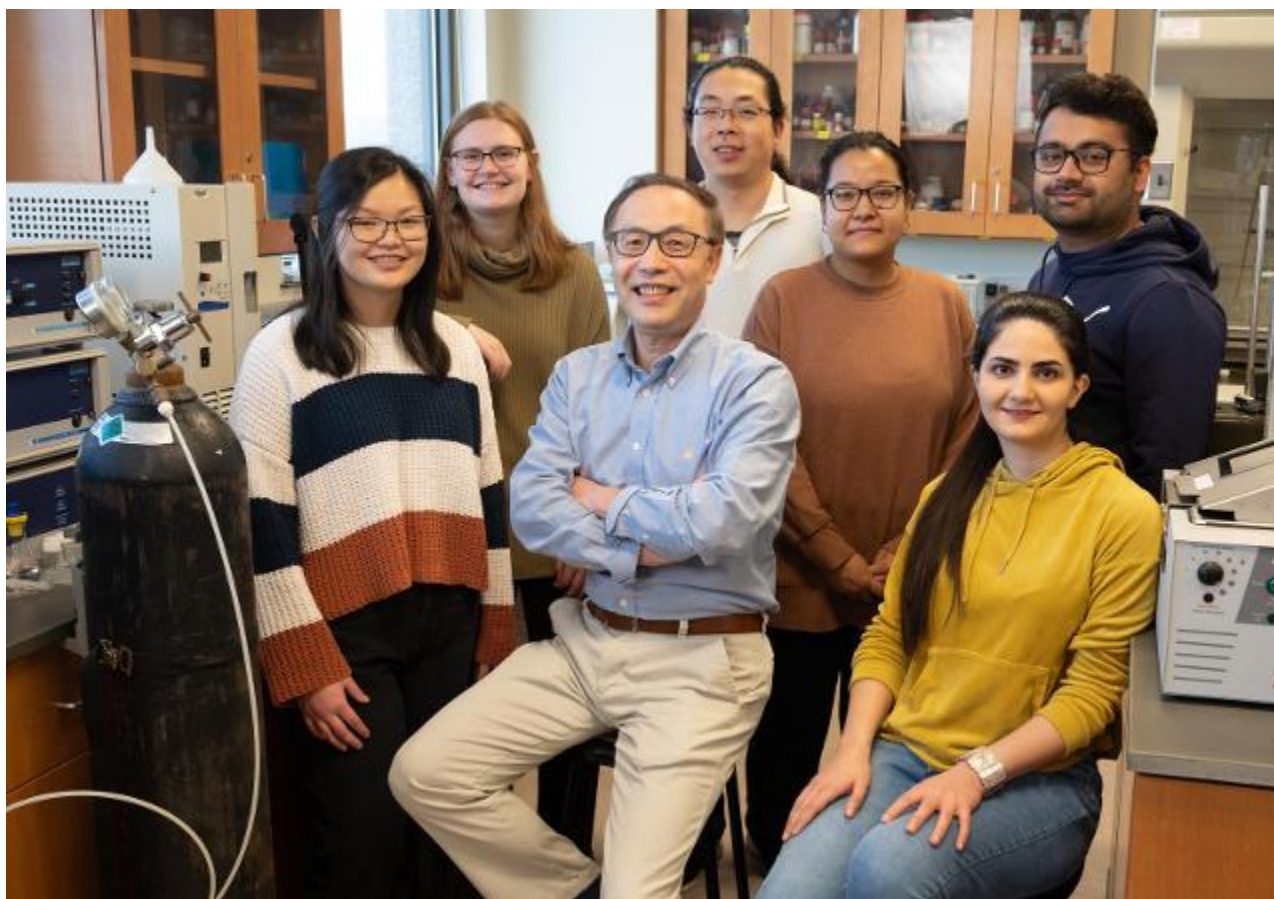


SIUE's Lu Receives \$433,000 National Institutes of Health Grant

by Kalli Collins
January 17 2023 10:39 AM



EDWARDSVILLE – Southern Illinois University Edwardsville's Yun Lu, PhD, professor in the Department of Chemistry in the College of Arts and Sciences, has recently been awarded a \$433,000 grant from the National Institutes of Health (NIH) for his biomolecular reaction mechanism study project entitled, "Temperature Dependence of Hydride Kinetic Isotope Effects in Solution to Test the Proposed Role of Protein Dynamics in Enzyme Catalysis".

"The search for the origin of the enormous catalytic power of enzymes has a long history and has led to many proposals," said Lu. "In this project, we will design enzyme model reactions and use the same methodologies that enzymologists recently use to replicate the observations in enzymes in an attempt to provide insight into the questionable physical origin of enzyme catalysis. Our results are expected to help develop theories for enzyme catalysis that can guide future efforts at design of efficient drugs and biocatalysts."

Lu will lead a team of undergraduate and graduate students through the research project, providing the students with research experience that will build their skills for entering a variety of fields following graduation.

"The students will be trained to make chemical compounds, study the chemical properties, operate chemical instruments, collect, analyze and discuss scientific data," Lu explained. "With these experiences, the students are prepared to be problem-solvers for chemical and pharmaceutical companies, teachers, as well as to enter the health-related professional schools or PhD programs."

"We are the first and the only group to use these methodologies to systematically study the enzyme model reactions," Lu added. "In addition to supporting our students' research, the grant will also help improve the lab facilities to form solid infrastructure for our future research as well."

"Lu's research is a significant contribution to our understanding of the mechanisms of important biochemical processes," said Eric Voss, PhD, chair of the Department of Chemistry. "His excellent work with undergraduate and graduate student collaborators is a prime example of the effectiveness of the teacher-scholar model that is embraced at SIUE."

Central to SIUE's exceptional and comprehensive education, the [College of Arts and Sciences](#) offers degree programs in the natural sciences, humanities, arts, social sciences and communications. The College touches the lives of all SIUE students, helping them explore diverse ideas and experiences, while learning to think and live as fulfilled, productive members of the global community. Study abroad, service-learning, internships and other experiential learning opportunities better prepare SIUE students not only to succeed in our region's workplaces, but also to become valuable leaders who make important contributions to our communities.