

Academic Resources

Library Affairs

Morris Library is named after the late Delyte W. Morris, University President from 1948 to 1970. Students, faculty, and staff of the University benefit from unlimited access to millions of dollars of research materials carefully selected and maintained by professional library faculty and staff through <http://lib.siu.edu>. The catalog, I-Share@Morris Library (available via <http://www.lib.siu.edu>), is the gateway to identify and request items held in Morris Library, as well as from over 100 other academic libraries in Illinois. Items requested from other libraries arrive within a few days through I-Share or Interlibrary Loan. Online resources include academic journals, e-books (now over 235,000 in number), full-text databases, and freely-available resources. The building houses nearly three and a half million volumes, three and a half million microforms, and 53,500 currently-received periodicals and serials. The physical collections also include government documents, maps, films, DVDs, and sound recordings. Morris Library is a selective U.S. Federal Depository Library and an Illinois State Depository. With the exception of materials in the Special Collections Research Center, library materials are arranged on open shelves for convenient browsing.

Nearly 400 computers distributed throughout the building provide access to the catalog and to all of the online resources while patrons are in the Morris Library building. Throughout the building, patrons find wireless access, study tables with integrated power outlets, comfortable seating, and group study rooms of various sizes and configurations. Students may reserve group study rooms online. The basement, 4th and 5th floors are reserved for silent study. Other frequently-used services available in the building include copiers, scanners, printers, Debit Dawg machine, fax machine, vending machines, and free electronic device charging stations.

Morris Library has been transformed into a spectacular center of academic, social and aesthetic activity for the University and local community during the last decade. In addition to abundant natural light, a variety of seating arrangements cater to every patron's study preference. Visitors enjoy intellectual, historical, cultural, and artistic events in the 200-seat Guyon Auditorium, Hall of Presidents and Chancellors, and two Rotundas. Events are also scheduled in meeting rooms, classrooms, and computer labs/classrooms. Art and exhibits adorn many areas of the building with receptions and lectures announced frequently.

Delyte's Cafe serves Seattle's Best Coffee and other beverages as well as yogurt, soup, sandwiches, salads, baked goods, and snacks from early morning into the evening. Delyte's is located in the lobby on the north side of the building. During the academic year, the building is open to all, Sundays from 11 a.m. - Midnight, Mondays - Thursdays 7:30 a.m. - Midnight, Fridays 7:30 a.m. - 9 p.m. and Saturday 10 a.m. - 6 p.m.

Library services provided in Morris Library include:

- The Information Desk invites patrons to ask questions, obtain assistance with academic, professional, and personal research, and get technology help (Saluki Tech). The Information Desk and the "Ask a Librarian" service ([http://](http://libguides.lib.siu.edu/askalibrarian)

libguides.lib.siu.edu/askalibrarian) are staffed by library faculty and staff who are eager to help students, faculty, staff, and others in fulfilling their research needs. Consultations, instructional sessions, online tutorials, videos, and guides are provided free of charge on a continuous basis.

- Disability Support Services features software, hardware, and assistance for those who need adaptive technologies.
- Circulation Services checks out library materials, course reserves, interlibrary loan items, room keys, laptops, adaptors, and other devices.
- Instructional Materials Center (IMC) contains a collection of PreK-12 materials designed to provide students, teachers, and school administrators both on-campus and in southern Illinois with sample teaching materials that can be used in the classroom or in evaluating curricular materials.
- Geospatial Resources includes the Map Library and Geographic Information Services (GIS). The Map Library houses more than a quarter of a million maps and nearly 100,000 aerial photographs. GIS assists patrons in locating existing digital maps or in creating customized maps.

The Special Collections Research Center (SCRC) is located off the Hall of Presidents and Chancellors. SCRC houses unique materials such as rare books, manuscript collections, and the University archives. It contains significant research collections in American Philosophy, First Amendment Freedoms, American and British twentieth century literature and theatre, a Political Papers archive, and the history of southern Illinois.

In addition to comprehensive library services, the Morris Library building is home to Math Central (classrooms and lab), Learning Support Services (Tutoring Center, Testing Services), Center for Teaching Excellence, the University Honors Program, the Writing Center, the Speaker's Center, and Saluki Tech (walk-up technology support and personal device configuration).

Information Technology

The Department of Information Technology assists students, faculty, and staff in the achievement of instruction, research, service administrative goals and objectives of the University. SIU's campus area network provides network-based information resources as well as Internet2 connectivity to all main campus buildings. Campus wireless service and five Computer Learning Centers with computer classrooms and general access areas are available. SIU's network is connected through three independent Internet Service Provider (ICN).

Information Technology provides a wide range of technology services to include; campus telephone services; records management services; administrative information systems; student information systems; network infrastructure; electronic mail; network ID services; computer, telephone, e-mail, instant messaging and walk-in support via the campus helpdesk; ethernet access in the student residence halls; campus wireless access; student printing services in computer labs and libraries; site license software distribution; UNIX computational accounts and a high performance computer cluster.

Students have access to the student information resource

“SalukiNet” salukinet.siu.edu. SalukiNet provides access for students to their SIU personal records, including admissions, housing, financial aid, grades, transcripts, account information, student payroll and much more.

Computer services are available on-line to the University academic, research and administrative communities 24 hours per day, seven days a week.

Research and Service Centers

Advanced Coal and Energy Research Center

The Advanced Coal and Energy Research Center (ACERC) assists faculty, students and others in the campus research community in engaging in advanced coal and energy-related research and service opportunities. Established in 1974 as the Coal Research Center and expanding its focus in 2014 to include the broad array of energy research occurring across campus, ACERC is the hub for access to resources and information regarding advanced coal and energy research for SIU and the regional community. Research has been conducted ranging from mine reclamation, coal processing, and gasification to energy policy, biofuels and renewables. Ever at the forefront of efforts for safer, cleaner and more efficient energy, SIU researchers are making discoveries in areas such as carbon dioxide utilization, chemical looping combustion, microalgal fermentation and advanced materials for fuel cells. Faculty and students from such diverse fields as engineering and technology, science, business, education, law and agriculture have contributed to the University’s international reputation in advanced coal and energy research. In addition to the various graduate degree and research opportunities in colleges across campus related to energy topics, ACERC supports SIU’s Professional Science Masters in Advanced Energy and Fuels Management program, which affirms an impressive post-graduation employment percentage.

Since 1990 ACERC has managed the Illinois Energy Development Park (IEDP) at SIU’s Carterville Campus. Efforts at the IEDP have targeted technologies that promise near-term commercial application. The IEDP has housed numerous technology projects including federal, state, and privately funded projects exploring advanced mining and coal utilization technologies. It houses one of only two Longwall Dust Control Facilities in the nation, laboratories and equipment, administrative space as well as a high bay building for large demonstration pilot projects.

In addition, the Advanced Coal and Energy Research Center facilitates the activities of Clean Coal Review Board which assists in the development of commercial applications related to coal, fuels, and energy.

More information can be found by exploring www.acerc.siu.edu, emailing acerc@siu.edu or by calling (618) 536-5521.

Center for Alzheimer’s Disease and Related Disorders

The School of Medicine’s center in Springfield has research projects that cover a wide range of basic science and clinical studies relating to normal aging, memory impairment, Alzheimer’s disease, Parkinson disease, tremor and functional MRI. The Center also maintains a brain bank of human brain tissue. The web address is: <http://www.siumed.edu/alz>.

Center for Archaeological Investigations

The Center for Archaeological Investigations engages in research in the American Midwest and Southeast, and Mexico. Funding is provided by state and federal agencies, and private institutions. The Center also conducts archaeological research for firms and government agencies that are required to comply with environmental and antiquities laws. The Center supports an annual field school with the Department of Anthropology and provides thesis/dissertation data and research opportunities for students. It also curates large collections of archaeological materials, representing more than 60 years of research in the American Midwest and Southwest. The web address for the Center for Archaeological Investigations is <http://cai.siu.edu/>.

Center for Autism Spectrum Disorders

The Center for Autism Spectrum Disorder (CASD) is a service program within the Rehabilitation Institute and a partner in the Illinois Autism Program. The CASD provides interdisciplinary training for students enrolled in various programs at SIU, including Communication Disorders and Sciences, Behavior Analysis and Therapy, and Psychology. The CASD also collaborates with several area service providers, such as local special education districts, Early Intervention, and state agencies, in providing best practice treatment. Diagnostic and treatment planning assessments are conducted to determine the presence of ASD and functional objectives in therapy. Research on areas related to ASD, such as intervention methods, staff training, and early identification, is also a focus. The web address is <http://www/casd.siu.edu/>.

Center for Delta Studies

The Center for Delta Studies builds linkages among scholars in the SIU system, universities in the region encompassed by the Delta Regional Authority, and between researchers and the larger publics. Its mission is to promote groundbreaking research that will contribute innovative solutions to the endearing problems of poverty and associated human and ecological endemic to the Delta region. The web address for the Center for Delta Studies is www.deltastudies.siu.edu.

Center for Dewey Studies

The Center for Dewey Studies was established in 1961 as the “Dewey Project.” In the course of collecting and editing the works of John Dewey (1859–1952), the Center has amassed a wealth of source materials for the study of America’s quintessential philosopher-educator. By virtue of its publications and research, the Center has become the international focal point for research on Dewey’s life and work. The Center has been instrumental in establishing Dewey Centers in China, Japan, Germany, Italy, Poland, Hungary, Turkey, Argentina, Spain, and Brazil.

In 1990, the staff of the Center completed work on the monumental thirty-seven-volume edition of Dewey’s complete writings, *The Collected Works of John Dewey, 1882–1953*, published by the Southern Illinois University Press. Support for this project was provided by the National Endowment for the Humanities, an independent federal agency, as well as the John Dewey Foundation and individual donors. In 1996, the Center in cooperation with the IntelLex Corporation, published an electronic edition of *The Collected Works*.

In 2005, the Center, in cooperation with the InteLex Corporation, published the third volume of *The Correspondence of John Dewey, 1871-1952*. This electronic edition, funded by the National Endowment for the Humanities, the John Dewey Foundation, and individual donors, makes available more than 25,000 items of John Dewey's correspondence in an easily searchable database. The Center is now at work on an edition of Dewey's class lectures. The Center also compiles and edits the standard bibliography of secondary works about Dewey, *Works About Dewey*. Additional information about activities of the Center can be found at its website, <http://deweycenter.siu.edu/>.

Center for Ecology

The purpose of the Center for Ecology is to provide an umbrella for ecological research, teaching, and training at SIU. More than 50 faculty members and numerous students and staff from several departments in the Colleges of Agricultural Sciences, Engineering, Science, and Liberal Arts participate in this interdisciplinary program. Independent, cooperative, and collaborative research conducted by Center faculty takes advantage of the exceptional range of natural resources of the region across a variety of ecosystems in Illinois, throughout the United States, and around the world. The Center offers a variety of resources and opportunities for graduate and undergraduate students at SIU and beyond, including internships, a state of the art analytical laboratory, and the 1,400 acre Middle Mississippi River Wetland Field Station. Doctoral students pursuing ecological studies at SIU can earn a Specialization in Ecology, which appears on the transcript, through the Center. Learn more about the Center for Ecology at <http://www.ecology.siu.edu/>.

Center for Environmental Health and Safety

This center is responsible for the facilitating and monitoring of campus-wide compliance to policies, guidelines, and regulations of the University, state agencies, Environmental Protection Agency, Illinois Emergency Management Agency-Division of Nuclear Safety Agency, Occupational Safety and Health Administration, National Institutes of Health, and the Office of the Illinois State Fire Marshal with respect to campus health and safety. The center's web address is <http://www.cehs.siu.edu/>.

Illinois Soybean Center

Established in 1997, the Illinois Soybean Center focuses on developing information and technologies that enhance soybean production in Illinois and the North Central region, increase soybean utilization by the global community, contribute to the base of scientific knowledge, and educate human capital in the various attributes and applications of soybean. SIU faculty members in the College of Agricultural Sciences collaborate with those in the College of Science and the School of Medicine, along with university colleagues throughout the nation, to implement interdisciplinary research, education, and outreach programs on soybeans. The Center addresses issues related to all aspects of soybean production, utilization and policy, including breeding and genetics, biotechnology, crop protection, human nutrition and food, animal nutrition, marketing, and consumer acceptance. For more information see the website at <http://coas.siu.edu/research/illinois-soybean-center/index.html>.

Center for Rural Health and Social Service Development

The Center for Rural Health and Social Service Development enables faculty, staff, and students to work as partners with health and social service agencies to strengthen rural health infrastructure and to promote opportunities for health enhancement in rural communities of the region, the State, and the Nation. The center develops grants and projects, conducts cooperative research efforts, needs assessments, demonstration projects, and program evaluations; designs and implements training programs; tests new models of health care delivery; and develops policy recommendations to improve the health of rural populations. It has received grants from many public and private agencies concerned with health and social service issues, including the National Institutes of Health, Department of Health and Human Services, and the Centers for Disease Control and Prevention. Current priorities include rural health, transportation, childhood obesity, health and social service workforce, and health care access. For more information, visit the center's website: <http://crhssd.siu.edu/>.

The Center for Workforce Development

The Center for Workforce Development was established to create a research, education and training group that provides students and faculty with the opportunity to collaborate on research and development, education and training, and information and product dissemination. The objectives of the Center emphasize:

1. Research and Development—addressing the broad array of issues affecting the nature of the workforce and workplace settings.
2. Education and Training—addressing development and delivery of customized workforce education and training programs/courses in collaboration with agencies and organizations in the public and private sectors.
3. Information and Product Dissemination—addressing the need for dissemination of curriculum and instructional resources useful for promoting work-related education and training.

The Center for Workforce Development will serve as a broker in the exchange and sharing of information and higher education resources associated with the nature of the workplace and workforce. Further, the Center will act as a catalyst in bringing together leaders from business, research, education and government to interact and work together to formulate public policy associated with workforce development. For more information, visit the center's website: <http://ehs.siu.edu/WED/research/index.php>.

Center for Fisheries, Aquaculture, and Aquatic Sciences

Graduate research in fisheries, aquaculture, and aquatic ecology is conducted through the Center for Fisheries, Aquaculture, and Aquatic Sciences. Graduate study in fisheries, culminating in the Master of Science or Doctor of Philosophy degree, is offered in the Department of Zoology. In addition to a wide variety of support courses, ten fisheries courses are taught. Research activities include studies in fish management, fish genetics, aquatic toxicology, and aquaculture. Emphases include warm-water, coolwater, and coldwater fishes native to Illinois. There

are also opportunities to work with exotic species of fishes and shellfishes, both freshwater and marine, particularly through the international fisheries program. Some of the areas of research stressed are trophic ecology, water quality, large river ecology, pond culture, tank culture, polyculture, culture system development, nutrition, fish physiology, fish genetics, utilization of nursery areas, ecology of larval fishes, age and growth studies, introduction of hybrid fish species, utilization of power plant cooling lakes, population dynamics, and aquatic toxicology. Facilities in the Center for Fisheries, Aquaculture, and Aquatic Sciences include offices, well equipped laboratories, a computing faculty, aquarium rooms, culture ponds, a greenhouse for hydroponic and recirculating water system studies and an 8,300 square-foot wet-laboratory building and a 90-pond research/demonstration facility. The web address for the Center for Fisheries, Aquaculture, and Aquatic Sciences is <http://fisheries.siu.edu/>. Phone number: 618-536-7761.

Global Media Research Center

The Global Media Research Center serves as an intellectual hub for research on international, national and local media involving the College of Mass Communication and Media Arts and University faculty and in partnership with colleagues and institutions around the world. Center-sponsored research produces a body of knowledge that expands and extends the critical dialogue surrounding issues of importance in global media studies.

The phrase "global media" designates not only the long-established profession of foreign news reporting, and international sales of television programs and recorded music. It also denotes the global advertising and public relations industries, world cinema, business telecommunications, and other worldwide applications of the internet, including those of arts, environmentalist, religious and other civic groups. Research in this field may address global media activities, engage in comparative media studies, investigate media responsibility and ethics, or explore the interface between media arts and research.

The Center builds upon SIU's long tradition of international academic exchange and takes it a step further by conducting a strong and innovative research program directed to the dynamic, complex field of global media communication. The Center organizes seminar programs with outside speakers as well as campus presentations by faculty and graduate students, which help create a steady momentum and alertness to new and unfolding issues. The Center also hosts visiting scholars and artists, arranges exchange programs for faculty and students, and engages in grant-sponsored research initiatives. For more information visit the Center's website <http://mcma.siu.edu/research-creative/gmrc/index.html>

The Materials Technology Center

The Materials Technology Center was established in 1983 as a result of a high-technology thrust by the state of Illinois. Charged with stimulating materials-related research on the campus of SIU, the center accomplishes this mission through initiating interdisciplinary research in the Colleges of Engineering and Science, disseminating results to researchers in academia, industry, and national laboratories, and organizing Materials seminars and discussion groups. The center encourages research in new areas by administering a competitive grant program that funds start-up projects for faculty entering new areas of materi-

als research and provides technical, administrative and financial support to start-up and established research programs.

A historical strength of the center has been research in the area of carbon-carbon composites, but the center has expanded its leadership and expertise in carbon science to include studies in areas such as carbon nanotubes and development of carbon-material precursors. New areas of emphasis include Materials Design by Iterative Computation, Synthesis and Characterization, Sensors and Biosensors, and Energy Storage. Other research programs included catalysis, magnetic materials, materials for alternative and traditional energy, polymers, chemical vapor deposition and infiltration, and plasma induced deposition techniques. Under the guidance of established experts, students associated with MTC receive hands-on training and valuable experience. The total program of the center offers an opportunity for students at all levels of experience to train in the fields of Materials Science and Engineering. The web address for the Materials Technology Center is <http://mtc.siu.edu/>.

Meyers Institute for Interdisciplinary Research in Organic and Medicinal Chemistry

The Meyers Institute, founded in 2000 through an endowment provided by Dr. Cal Y. Meyers, Distinguished Professor Emeritus, advances knowledge in fundamental and applied organic and medicinal chemistry. Institute personnel include members of the College of Science, College of Agricultural Sciences, and School of Medicine, among others. In conjunction mainly with the Department of Chemistry, undergraduate and graduate students and postdoctoral fellows are afforded stipends to participate in advanced research projects. As part of its activities, the Institute hosts bi-annual symposia. The Institute's web address is <http://www.chem.siu.edu/research/meyers-institute/index.php>.

Center for Integrated Research in Cognitive & Neural Sciences (Neuroscience Research Center)

The mission of the Center for Integrated Research in Cognitive and Neural and Sciences (NRC) is to advance and disseminate knowledge in areas of Neuroscience and Cognitive Behavior. Our faculty affiliates are located on both the Carbondale and Springfield campuses. This diverse group conducts a wide variety of nationally recognized research activities on topics ranging from basic neural connectivity, to ion channel physiology, to studies of human behavior. A goal of the Center is to encourage the development of interdisciplinary research collaborations. Research opportunities for students are available at both graduate and undergraduate levels. For more information, visit the Center's website: nrc.siu.edu.

The Paul Simon Public Policy Institute

The Paul Simon Public Policy Institute (also called the Paul Simon Institute) is a resource for SIU students, the campus community, the region and the State of Illinois. The Institute's mission focuses on fostering ethical conduct in government, opportunity and fair treatment for people in America and throughout the world, and promoting responsible citizenship for all Americans--but particularly for young Americans.

The Institute executes its mission by: conducting nationally known public opinion polls (The Simon Institute Poll™ and The Southern Illinois Poll™) to inform decision makers and citizens; publishing analysis of public policy issues in its occa-

sional papers (The Simon Review); providing and supervising paid internships, graduate assistantships and fellowships for undergraduate and graduate students in Carbondale, Springfield and elsewhere; hosting noted leaders in public policy, politics, journalism and other fields to campus for speeches, conferences; and hosting leadership and civic education opportunities for high school students.

The Institute's popular "Pizza and Politics" programs are geared to both undergraduate and graduate students of all majors to interact with Institute guests. Other Institute undergraduate opportunities include the Vince Demuzio Internship program where juniors and seniors learn about public service during paid internships in local governmental offices. Undergraduate students can learn about public service while working paid internships in Springfield state government offices through the Gene Callahan Internship, the Alexander Lane Internship, and the Latino Heritage Legislative Internship. Undergraduate and graduate student studying Social Work can participate in the Social Work Internship program for course credit. Law students can receive public service externship course credit in the Law, Policy and Politics Externship. Other opportunities for graduate students include working at the Institute as a Celia M. Howard Fellow, submitting research questions in the semi-annual public opinion polls, and publishing in The Simon Review. The Institute has also sponsored learning opportunities for students in Washington D.C. and Pittsburgh, PA.

Students and parents can learn more at our website, www.paulsimoninstitute.org, and are encouraged to contact us at 618-453-4009 with questions, or stop by the Institute on campus at 1231 Lincoln Drive (the Forestry Building). You can also like us on Facebook at <https://www.facebook.com/paulsimoninstitute> or follow us on Twitter at www.twitter.com/psimoninstitute.

Paul Simon established the Public Policy Institute in 1997 upon his retirement from more than 40 years in elected office. Simon was a state Representative, state Senator and Illinois Lieutenant Governor before being elected to five terms in the U.S. House of Representatives beginning in 1974 and then serving two terms as U.S. Senator. Additionally, he was a candidate for the Democratic nomination for President of the United States in 1988 and a political mentor to many, including President Barack Obama. He remains one of Illinois' most revered political leaders and enjoyed broad bipartisan support from voters throughout his career.

After Senator Simon's passing in 2003, Mike Lawrence, who had been press secretary and senior adviser to Illinois Governor Jim Edgar in the 1990s and who served as the Institute's associate director since its inception, was named director. He retired in 2008. David Yepsen, a political columnist at the Des Moines Register for more than 30 years, was named director in 2009. Yepsen covered the Iowa caucuses dating back to the 1976 presidential race and has been a frequent guest on national news shows. Like his predecessors, Yepsen teaches courses in journalism.

Fermentation Science Institute

Established in 2014, the Fermentation Science Institute is a campus resource that provides an umbrella for the support and development of programs (educational, research and outreach)

and resources involving various aspects of fermentation processes. Topics include the production and analysis of alcoholic beverages and fermented foods, as well as the fermentation related production of energy, pharmaceuticals and biomaterials. As an interdisciplinary initiative involving various departments from multiple colleges, the Institute strives to catalyze and foster the development of new educational programs for the campus, collaborative research projects, and outreach programs providing advanced educational and training opportunities. The Institute is housed in newly renovated facilities in the McLafferty Annex that provide state of the art teaching and research facilities for fermentation science. The Institute also operates a fee for service laboratory providing analysis for the wine, beer and distilled spirits industries in the region. The Fermentation Science Institute's website address is <http://fermentation.siu.edu/>.

Safety Center

The Safety Center was established in 1960 and is affiliated with the Department of Health Education and Recreation. The Center's research activities, carried out by faculty, staff, and graduate students, focus on injury control and prevention as well as traffic safety. The Center also offers training programs in motorcycle rider safety, emergency/evasive driving/protective services, and child and occupant safety protection. It provides consulting services to businesses, agencies; and the general public. The Center hosts meetings, courses, seminars, and conferences on a wide range of injury prevention and health promotion topics. The Center's programming and research activity can be viewed at the Department's Website: <http://ehs.siu.edu/her/safety.php>.

STEM Education Research Center

With the approval of the Illinois Board of Higher Education, SIU and the College of Science have created a Research Center of Science, Technology, Engineering, and Mathematics (STEM) Education. The need for such a Center flows from critical issues that have emerged or are emerging in STEM education at the national, state, and local level.

At the national level, there is a clarion call for an increase in college graduates in STEM programs to address the critical need in the very industries that will be at the center of the continuing transformation of the world economy. National reports indicate the danger of the U.S. economy losing ground internationally unless our educational system becomes more effective at producing students interested in and capable of the rigors of the educational programs in the STEM disciplines. In addition, once these students enter university-level STEM programs, they must be greeted with effective state-of-the-art STEM content and pedagogy.

At the state and local level, one of the key components of an increase in the effectiveness of STEM education is the implementation of the Common Core State Standards (<http://www.corestandards.org/>) and the Next Generation Science Standards (NGSS; <http://www.nextgenscience.org/>) at the state level. While adopting these national standards is voluntary at the state level, Illinois has agreed to implement the Common Core and is an active lead state partner in the NGSS efforts. The implications of these decisions are just beginning to emerge and

will completely transform the content and pedagogy employed in K-12 classrooms across the state. In addition, new high-stakes assessments (PARCC) have been prepared that have replaced the Prairie State Exam at the high school level. As the state research University in the Southern Illinois region, SIU has an obligation to provide as much support as possible during this important transition period to our local school districts.

The structure and programs of the STEM Education Research Center will correspond to the primary areas of interest: K-12 STEM education, undergraduate STEM education, and graduate STEM education. As indicated above, K-12 STEM education is in a period of rapid transformation. One area of emphasis of the Center will be coordination of the existing programs already implemented at SIU, many of which reside in the College of Science.

STEM education at the undergraduate level is under increasing scrutiny. From finding ways to improve success rates in lower-level undergraduate STEM classes to identifying new and innovative ways to deliver undergraduate STEM content in our courses, our programs are undergoing rapid change. SIU must continue to ensure that the content and structure of undergraduate STEM courses provide the optimal preparation either for graduate school or for our students' chosen professions. In support of our undergraduates, the Center will be the natural leader in developing internship opportunities. One important collection of current programs that will be natural candidates for continued research will be the research experience for undergraduates (REU) programs that exist in the STEM disciplines.

Graduate STEM education must also stay current with the massive technological changes that are affecting our entire educational system. While the advisor-student mentorship which is at the heart of graduate education will almost certainly be preserved, the optimal uses of technology should be explored, and this will also be included under the umbrella of research programs at the STEM Education Research Center.

Cooperative Wildlife Research Laboratory

Since its founding in 1950, the Laboratory has achieved a distinguished record training graduate students in basic and applied principles of vertebrate ecology and wildlife biology. It is a comprehensive program that is recognized among the premier wildlife research units in the nation. Independent, cooperative, and collaborative research supported by industry, foundations, and state and federal agencies lead to better understanding and management of natural resources. Areas of acknowledged laboratory expertise include the biology and ecology of a variety of terrestrial wildlife species; land-use impact on wildlife resources; wildlife and environmental toxicology; waterfowl/wetland ecology; thermal ecology; and the epizootiology of zoonotic and other diseases in wildlife. The laboratory has pioneered in the reclamation and enhancement of mined lands for the benefit of various resources; and current efforts provide unique research and training opportunities. More than 30 projects directed by laboratory staff currently afford broad and varied research opportunities to graduate fellows and research assistants, as well as undergraduate students. These activities exceed \$1,000,000 each year in contracts and grants, resulting in significant contribution to academic needs of students and staff and requests

for service by state, federal, and private agencies. The web address for the Cooperative Wildlife Research Laboratory is <http://wildlife.siu.edu/>.

Research Support Facilities

The services of several centralized research support facilities are available to faculty, staff, and students at minimal cost. IMAGE (Integrated Microscopy and Graphics Expertise) provides training, technical service, and research in electron, atomic-force, and light microscopy (www.image.siu.edu). It also offers technical assistance to those in need of scientific photography or computer-graphics illustration as part of their research. The Mass Spectrometry Facility (housed within the Chemistry Department but available to researchers across campus) has a variety of instruments and offers qualitative and quantitative analysis services (www.mass-spec.siu.edu). The Laboratory Animal Program, a fully accredited facility, is directed by a veterinarian with specialty training in laboratory animal medicine to ensure proper and humane care of research animals (www.iacuc.siu.edu). The Central Research Shop designs and constructs laboratory equipment for special research requirements (<http://ospa.siu.edu/resources/central-research-shop.html>)

Office of Sponsored Projects Administration

The Office of Sponsored Projects Administration (OSPA) offers a number of services for faculty, staff, and students who wish to submit grant applications to funding agencies. Graduate students seeking funding for their research projects (dissertation support, research fellowships, travel grants, etc.) should start with OSPA's website <http://ospa.siu.edu/>, which offers access to searchable grants database (Grant Forward), links to funding agencies, and much other grant-related material. OSPA offers grant-writing workshops and can provide advice to graduate students seeking grants to support their scholarly activities. For this and other information specific to graduate students, visit <http://ospa.siu.edu/student-research/index.html>.

Many of the necessary forms and data required to complete grant proposals are easily available on the website. OSPA staff is available for assistance in proposal preparation. OSPA also works with faculty and student researchers in negotiating grant/contract award agreements, processing awards, and handling invention disclosures.

One of OSPA's responsibilities is to ensure that research conducted at SIU complies with all applicable federal and funding-agency regulations. Funded or unfunded research that will involve any of the following must have institutional approval before the research project begins: human subjects (including administering questionnaires, conducting interviews, or accessing confidential databases), research animals, radiological materials, hazardous biological materials, recombinant DNA, or hazardous waste. Students should contact OSPA (453-4533) or their graduate advisor for guidance. (See related information in section on Student Responsibility elsewhere in this chapter.)