



UNIVERSITY OF
SOUTH DAKOTA

OFFICE OF RESEARCH & SPONSORED PROGRAMS
FY23 ANNUAL REPORT





Always

MISSION STATEMENT

The University of South Dakota offers undergraduate, graduate and professional programs within the South Dakota System of Higher Education. As the oldest university in the state, the University of South Dakota serves as the flagship and the only public liberal arts university in the state.

TABLE OF CONTENTS

Office of Sponsored Programs.....	2
Institutional Review Board Office.....	4
Technology Transfer Office.....	6
Environmental, Health and Safety.....	8
Research Computing.....	9
FY23 Research Funding Highlights.....	10
Public Service Work	
CPCM Receives \$1 million Grant.....	11
Researching Impact and Solutions of Sex Trafficking.....	12
Humanities and Culture	
Missouri River Institute Faculty Receive Grant.....	13
Medicine and Health	
USD Receives \$3 Million Grant to Train Nurses.....	14
Dental Hygiene Receives \$50,000 Grant to Expand Dental Care.....	15
Innovation and Workforce Development	
DOD Announces Awards.....	16
Science & Technology	
Basic Biomedical Sciences Professor Awarded Half Million Dollar Grant.....	16
USD Receives Campus Cyberinfrastructure Grant.....	17
Learning and Leadership	
USD Received DOE Grant to Help Rural Students.....	18
School of Education Receives Grant to Address School Mental Health Provider Shortage.....	19
Awards.....	20
Undergraduate Research.....	26
Prentis Park Picnic.....	28

OFFICE OF SPONSORED PROGRAMS

The Office of Sponsored Programs (OSP) supports university researchers with proposals, contracts, and awards for federal grants, foundation grants, and incoming and outgoing subcontracts.

The Office of Sponsored Programs aims to increase the quality and amount of research dollars and to help develop our principal investigators and grant administration staff in proposal submission and award management. To further these goals, the Office of Sponsored Programs has developed several programs and processes to educate and assist our principal investigators in proposal submissions.

INTRODUCING THE PROPOSAL ASSISTANCE REQUEST SYSTEM (PARS) IN COYOTE ONE STOP

In the upcoming spring of 2024, we are excited to announce a significant improvement in our grant proposal submission process at USD. Instead of the conventional method of emailing your grants specialist when you're ready to submit a proposal, USD Researchers will now have the opportunity to streamline the process by submitting a request ticket for assistance. This new and efficient system will ensure that your proposal receives the attention and support it deserves.

The Proposal Assistance Request System (PARS) has been designed to empower USD researchers in their proposal submission journey. Here's how it works:

Submit a Request Ticket: When you are gearing up to submit a proposal, you can create a notification ticket within PARS, which will be routed directly to the Office of Sponsored Programs (OSP). This eliminates the need for lengthy email chains and ensures that your request reaches the right destination promptly.

Upload Essential Documents: PARS provides a convenient feature that allows you to upload essential documents and your budget via a dedicated link. This ensures that all the necessary materials are stored in one centralized location for easy access and reference.

Personalized Assistance: Once you've submitted your request through PARS, our expert grant staff members will promptly allocate your proposal to a specialized team member. This allocation ensures that you receive personalized assistance throughout the entire preparation and submission phases of your proposal.

In essence, PARS in Coyote One Stop is set to revolutionize the way USD researchers interact with the Office of Sponsored Programs, making the process more organized, efficient, and user-friendly. We look forward to providing you with the support you need for your research endeavors.

PIVOT-RP: REVOLUTIONIZING FUNDING DISCOVERY AND ACQUISITION FOR RESEARCHERS

Our researchers need a comprehensive platform that not only identifies new funding sources and potential collaborators but also offers valuable insights and shortcuts to help secure a larger share of the available funding.

With Pivot-RP, researchers have a comprehensive and efficient solution for accessing funding opportunities. This one-stop platform eliminates the need to scour multiple websites for grants. Researchers can create personalized searches, save them, and rely on Pivot to send them alerts about relevant opportunities. This centralized approach ensures that they won't miss any funding possibilities, whether they come from federal, state, private organizations, or nonprofits. By streamlining the search process, Pivot-RP empowers research organizations to bolster their funding acquisition efforts and easily share funding opportunities with potential candidates.

CAYUSE MODERNIZATION: EMPOWERING RESEARCH ADMINISTRATION WITH FUND MANAGER AND EFFORT CERTIFICATION

Cayuse is our primary system for managing external funding records in research administration. The platform offers integrated tools that help minimize risks, enhance efficiency, improve planning, and enable data analytics. Users can expect several advantages from the Cayuse Platform, including reduced administrative workload, increased proposal submissions, and time-saving benefits for proposal preparation.

The Office of Research is also expanding the platform by adding Fund Manager and Effort Certification to its offerings. Cayuse Fund Manager is a solution designed to help researchers gain better control and visibility over their funding and effectively manage their spending. Cayuse Fund Manager offers the following benefits:

Seamless Integrations: Cayuse Fund Manager seamlessly integrates with various systems, including Banner, enabling users to access detailed information ranging from a portfolio-level overview to specific activity-level details. It supports “what-if” scenarios for improved forecasting accuracy and generates reports for stakeholders.

Improved Budget Oversight: This tool enhances budget oversight for multi-year sponsored projects by providing easy-to-understand financial summaries, burn rate analysis, and profit and loss (P&L) statements. It aids in projecting future expenses and maintaining control over spending.

Enhancing Stewardship: Users can effectively become stewards of their funding by eliminating data entry errors, increasing transparency, and fostering accountability.

CELEBRATING EXCELLENCE: PROPOSAL AND AWARD RECOGNITION PROGRAM

Last year, we initiated a program to acknowledge individuals who submitted proposals and received awards. This year, we continued with our Proposal and Award Recognition Program, wherein we regularly recognize both proposal submitters and award recipients on a monthly basis. We recognize the substantial effort required to prepare and submit proposals and are thrilled to celebrate these dedicated individuals.

WE HAVE THREE NOTABLE RECOGNITIONS:



WILLIAM CHEN
Basic Biomedical Sciences:
Acknowledged for submitting the highest number of proposals.



HONGMIN WANG
Basic Biomedical Sciences:
Recognized for receiving the most awards.



JEANNIE CARAWAY
Department of Psychology:
Celebrated for being awarded for the first time.



INSTITUTIONAL REVIEW BOARD OFFICE

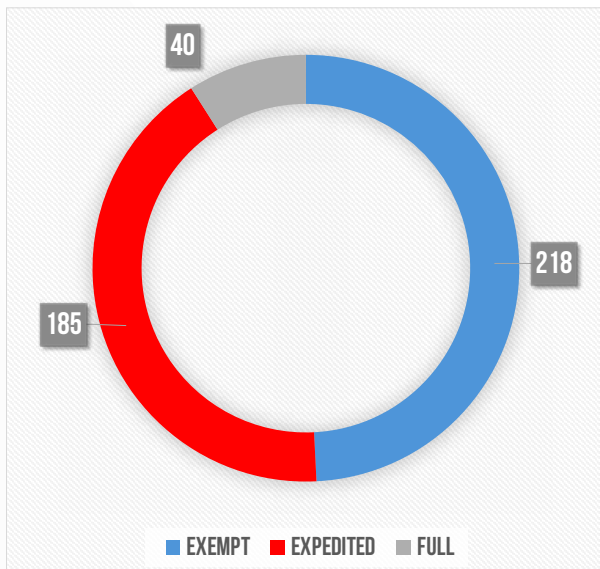
HUMAN SUBJECTS PROTECTION

The USD Institutional Review Board reviews all human subjects research studies taking place at USD or conducted by USD faculty to ensure projects are in compliance with federal and USD regulations and policies. The USD Office of Human Subjects Protection houses the IRB, and our staff works closely with faculty and student investigators throughout the year to ensure that any risks to the human participants in our research studies are as small as possible, and that research participants are properly informed about what enrolling in each study will involve.

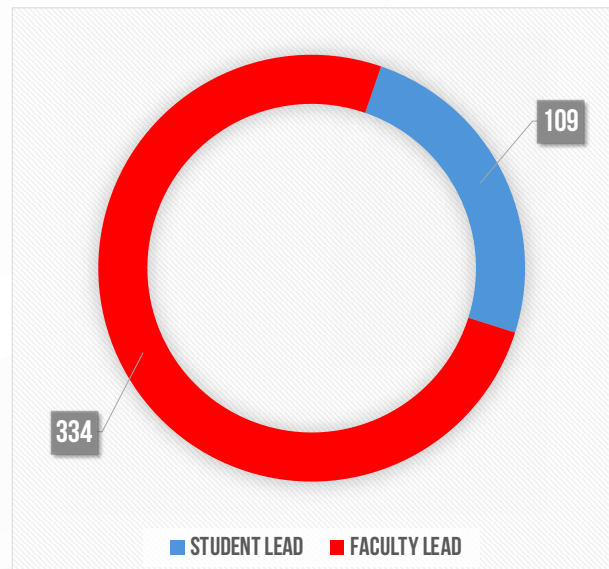
The USD IRB is a committee made up of faculty, staff, and community members, and includes members with specialized areas of expertise such as neuroscientists, a Native American representative, and researchers experienced in working with children. The USD IRB also reviews studies for the Sioux Falls Veterans Administration and the Fargo Veterans Administration, and reviews some studies conducted by researchers not affiliated with USD.

PROTOCOLS REVIEWED/APPROVED DURING FY 2022-2023

PROTOCOLS BY REVIEW TYPE



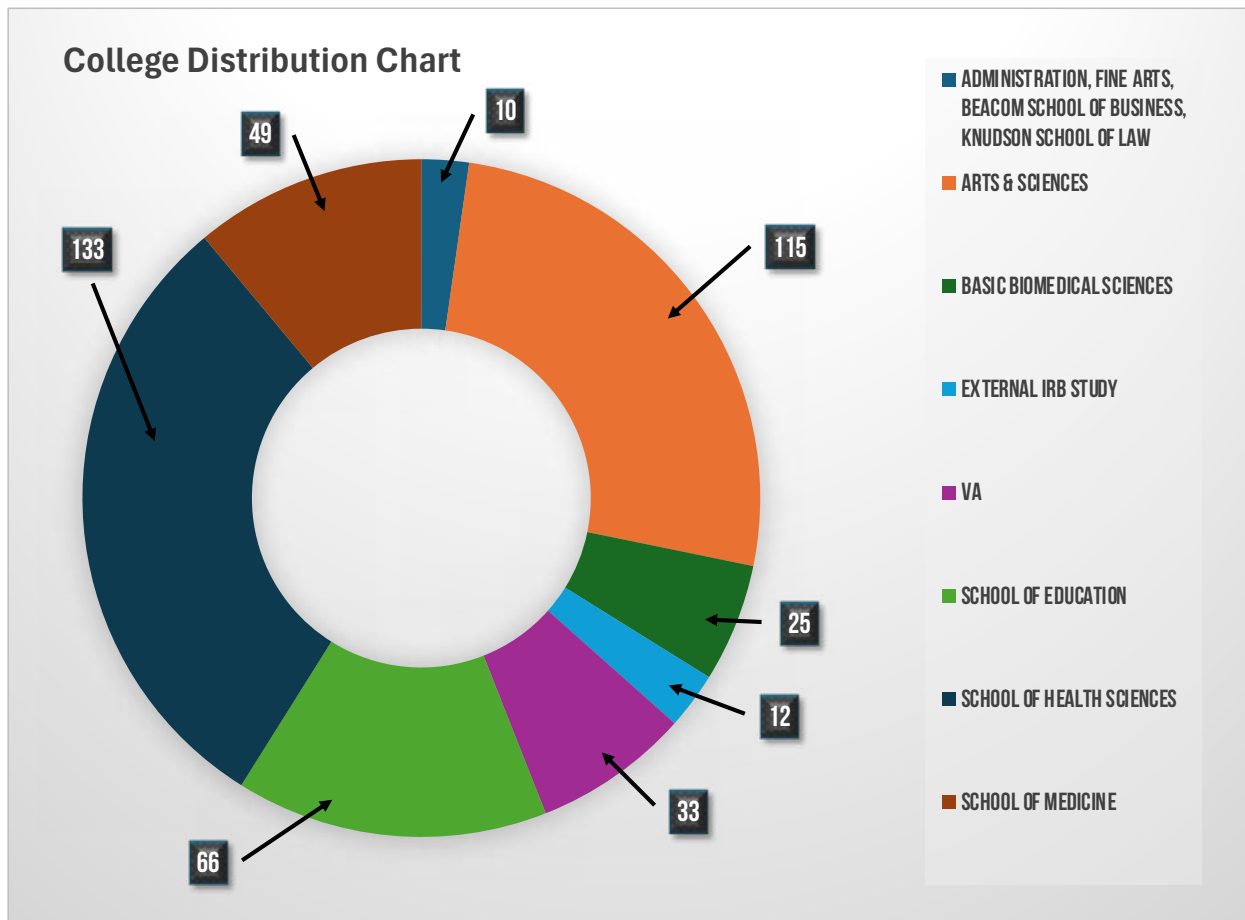
STUDENT & FACULTY-LED PROJECTS



TOTAL PROTOCOLS: 443

NEW PROTOCOLS: 196

PROTOCOLS REVIEWED/APPROVED DURING FY 2022-2023 BY COLLEGE



STUDENT & FACULTY INVOLVEMENT IN RESEARCH

Faculty and students from all over campus are engaged in human subjects research, and our office ensures that all of them are properly trained in interacting with participants and handling sensitive data. In FY 2022-2023 alone, 300 USD student researchers who had never before worked on IRB-approved projects registered with our office, assisting over 150 faculty and staff researchers working on projects from brain imaging to testing new educational interventions.



ACCREDITED SINCE 2005

The USD IRB is fully accredited by the Association for the Accreditation of Human Research Protection Programs (AAHRPP), the only IRB in the South Dakota Board of Regents system with this distinction, and one of only two accredited IRBs based in South Dakota. Accreditation is a signal to researchers, funding agencies, participants, and everyone else in the research community that USD is committed to protecting research participants and holds its researchers and research projects to the highest ethical standards.

TECHNOLOGY TRANSFER OFFICE

The USD Technology Transfer Office (TTO), housed in the Office of Research and Sponsored Programs, supports the commercialization of university inventions to maximize society's benefit. The TTO also aims to provide service to faculty, cultivate industry interactions, and increase economic development in South Dakota. In addition, the TTO supports several programs for students, faculty, and South Dakota inventors to promote innovation, entrepreneurship, and economic development in South Dakota.

A major function of the TTO is to manage university intellectual property (IP) and facilitate its commercialization. When a faculty inventor submits an invention disclosure, the TTO works with the inventors, students, and USD IP Committee to evaluate the patentability and commercialization potential of the invention. The TTO then facilitates filing patent applications for inventions that have reasonable potential to be licensed and developed into products that benefit society. The TTO also develops and maintains a network of industry connections to aid in commercializing USD technologies. This includes facilitating licensing negotiations between USD and external companies.

The TTO also provides educational outreach to faculty and students covering intellectual property, SBIR/STTR opportunities, technology development and entrepreneurial programming at USD, and other entrepreneurial and funding resources available in South Dakota. In addition, the TTO processes material transfer agreements, non-disclosure agreements, and other research agreements. Metrics valuable in evaluating the impact of the TTO in commercializing university technologies include the amount of research funding, number of invention disclosures, number of patent applications, number of patents issued, and number of licensing agreements.

TRAC PROGRAM

The Technology Readiness Acceleration Center (TRAC) launched in June 2020 to create a pipeline of entrepreneurs to increase innovation, economic, and workforce development in South Dakota. TRAC achieves this by providing students with knowledge, skills, and hands-on experience in technology development and commercialization.

Students in the TRAC program select technology from a pool of intellectual property to help assess and develop the market readiness of the technology while gaining valuable

laboratory skills. TRAC also connects students with companies such as Inanovate, Francis Medical, LifeScape, Synthetik Applied Technology, Pirenzia, and BlueDop Medical to work on collaborative R&D projects. Students also attend workshops to gain knowledge and skills in the following areas: business plan development, intellectual property strategy, pitch deck preparation for investors, customer discovery, and science communication. TRAC also provides students access to business consultants to provide additional support and guidance as students work to develop and commercialize their respective technologies. Twice per year, TRAC students meet with the advisory board of local business and technology development experts who provide students with valuable feedback and networking opportunities.

Currently, TRAC supports 20 students each year, providing more than 30 Graduate Assistantship stipends to students since the program began in 2020. TRAC has also provided nearly \$20,000 in travel funding to support students' professional development, allowing them to attend conferences to network and conduct customer discovery. Students have also won \$34,500 from the SD Biotech FAST Launch Program, \$75,000 from the South Dakota Governor's Office of Economic Development, and \$3,500 from the South Dakota Governor's Giant Vision Competition. TRAC's impact is also evident in the number of SBIR/STTR submissions from USD. From 2012-2020, USD was involved in 5 SBIR/STTR submissions; since TRAC's establishment in 2020, USD has participated in 15 SBIR/STTR submissions. Several students have also started businesses, including GreenLight Bionics, Human It, and Dangler Bio, further demonstrating the impact on economic development in South Dakota.

T2L PROGRAM

In May 2022, USD started the Tech2Launch (T2L) program through funding from the Small Business Association and Sanford Research to provide business support to South Dakota entrepreneurs. While inventors possess exceptional technical skills, they often lack the knowledge and support to launch and grow their businesses successfully. T2L addresses this issue by providing clients with strategy in business operations, commercialization pathways, support frameworks, legal counsel, and financial planning. This allows entrepreneurs to focus on innovation and developing their technology.

To date, the T2L program has supported 12 South Dakota entrepreneurs. Each client can receive up to \$6,900 in cost-reimbursable services, including business consulting, accounting, bookkeeping, and legal counsel. The program also serves as a focal point of contact between the South Dakota Small Business Development Center, South Dakota's Governor's Office for Economic Development, South Dakota Biotech, the Enterprise Institute, and the Graduate Education & Applied Research Center. In the last year, T2L clients have raised \$90,000 in non-dilutive funding and completed eight business incorporations.

NSF I-CORPS GREAT PLAINS REGION

NSF I-Corps is an immersive training program for undergraduate and graduate students, post-docs, researchers, and faculty members to explore the commercial viability of technology-based innovative ideas. Participants in the five-week program receive training and experience in business model development, customer discovery, and entrepreneurship. The program provides researchers with valuable market insight to inform the next steps in research and technology development, networking connections with industry experts and experienced entrepreneurs, and the tools

needed to start a successful business. Since joining the NSF I-Corps Plains Regional hub earlier this year, three USD teams have completed the program. One of those teams, consisting of faculty member Grigoriy Sereda, graduate student Sajith Wijewardhane, and business mentor Gregory Bertsch, was recently accepted into the national NSF I-Corps program, where they are eligible for a \$50,000 award.

NIH STARTUP CENTRAL

In the fall of 2023, USD will participate in the NIH Smart Tools to Accelerate Research Translation by Uplifting Participants for the Central IDeA State Region (STARTUP Central) pilot program. STARTUP Central aims to stimulate commercialization and innovation in the Central IDeA region, which includes South Dakota. STARTUP Central provides academic investigators with entrepreneurial education tools to efficiently translate scientific discoveries and technologies from research laboratories into commercial products to promote economic growth. In addition to completing a series of educational modules relating to entrepreneurship, commercialization, and technology development, participants in STARTUP Central may submit a proposal to be eligible for up to \$40,000 in Proof of Concept funds. At the end of the program, the goal is for participants to submit an NIH SBIR/STTR Phase I proposal.



Marc Niamba, Tung Nguyen, Shania Rehmudin, Alex Dangler, Blessing Ishola, David Cortes, Nisha Khatiwada, Chinene Izuegbunam, Ryan Rykhus, Roshan Sapkota, and Ben Onserio.

ENVIRONMENTAL, HEALTH AND SAFETY

The Environmental, Health and Safety (EHS) Office provides resources to help protect our campus community and prevent our work from causing harm to the environment. We are dedicated to the integration of safety and environmental compliance into our culture and our behavior. In addition, we offer personal services such as laboratory safety, radiation safety, industrial hygiene, biosafety, laser safety, hazardous waste disposal, and ergonomics advice to the 95 laboratories on campus.

LABORATORY DECOMMISSIONING

At some point, a research laboratory on campus will undergo closure due to factors like faculty retirement or departure from the university. In 2022, the Environmental Health and Safety (EHS) team successfully decommissioned four laboratories situated in the Lee Medical Building. EHS works diligently to ensure the appropriate decommissioning of labs that are no longer in use and minimizes any potential lingering safety hazards and ensures the compliant management of hazardous waste materials.

HAZARDOUS WASTE

In FY22, EHS personnel collected and processed 2,400lbs of hazardous chemical waste. This waste was consolidated by hazard class and shipped to EPA registered disposal facilities. In addition to hazardous chemicals, EHS staff collected, containerized, and disposed of electronic waste, radiological waste, and biological waste in a safe and environmentally responsible manner.

SHOWER/EYEWASH

USD's campus has 104 eyewash/safety shower stations (EW/SS). EW/SS are required to be located near all areas where persons work with hazardous materials. EHS staff perform monthly inspections on these units to confirm they can provide clean and temperate water to remove hazardous chemical contamination from individuals in the event of an emergency.

FUME HOODS

Fume hoods are a crucial piece of equipment for maintaining a safe and productive laboratory. Without them, lab workers would have limited protection from fires, explosions, poisonous gases and corrosive chemicals, making daily tasks dangerous or even impossible. EHS performed 103 fume hood inspections across Lee Medical, Patterson, Churchill-Haines, Pardee Labs and Akeley Science to verify proper operating airflows.





RESEARCH COMPUTING

USD’s Research Computing Group works closely with the Office of Research and Sponsored Programs, providing computing and data storage services to USD researchers and their collaborators. USD’s High-Performance Computing (HPC) cluster—*Lawrence*—has seen steady usage growth in recent years. *Lawrence* is available to all USD faculty, staff, and students free of charge. It accelerates USD and BRIN research applications in the fields of Chemistry, Physics, Biomedical Engineering, Computer Science, Neuroscience, Biology, Sustainability, and Psychology.

Lawrence is entirely externally funded (via a combination of National Science Foundation and South Dakota Board of Regents grants), and currently consists of 100+ computing nodes, including 9 Graphics Processing Units (GPUs) critical for Artificial Intelligence and Machine Learning applications spanning multiple scientific domains.

The Research Computing Group recently completed a \$140,000 expansion to *Lawrence*, funded by an SDBOR Research & Development Innovation award – *Building STEM Workforce Through Connections to Industry* – led by Dr. Dan Engebretson. This expansion added 8 general computing nodes and 2 GPU-enabled nodes, with all required matching funds provided by *Synthetic Applied Technologies*, a private company with whom USD has partnered with since 2020.

This expansion represents an approximate 10% increase in *Lawrence*’s computing capacity.

USD is committed to open science and the responsible stewardship of resources, and in 2023 began contributing to the Open Science Grid (OSG), a national platform for sharing unused compute cycles to enable distributed high-throughput computing. According to OSG’s *Contributing Institutions* dashboard, USD has run over 795,000 OSG jobs, impacting 31 research projects across 18 fields of science.

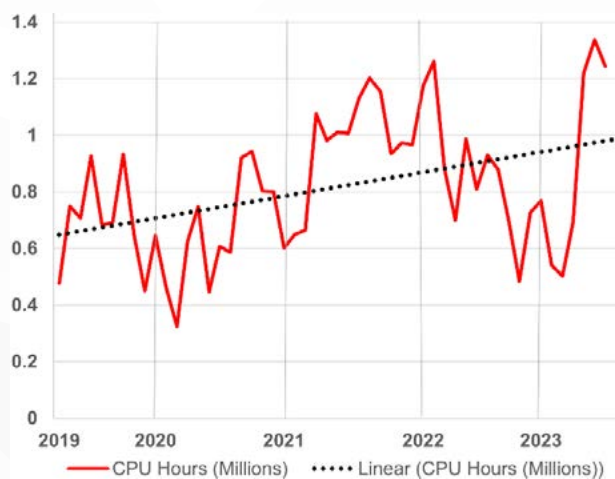
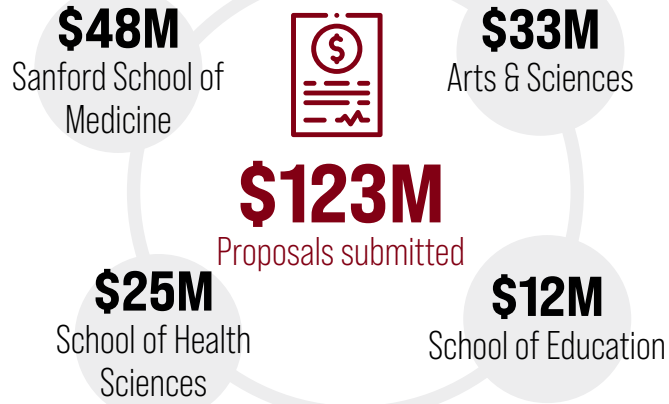


Figure 1 – Total Lawrence CPU Hours by Month

FY23 RESEARCH FUNDING HIGHLIGHTS

Top Proposals Submitted



Government Funding



\$32M
Federal Research
Funding

\$3.7M
State, Private & Other Funding

Top Federal Agencies



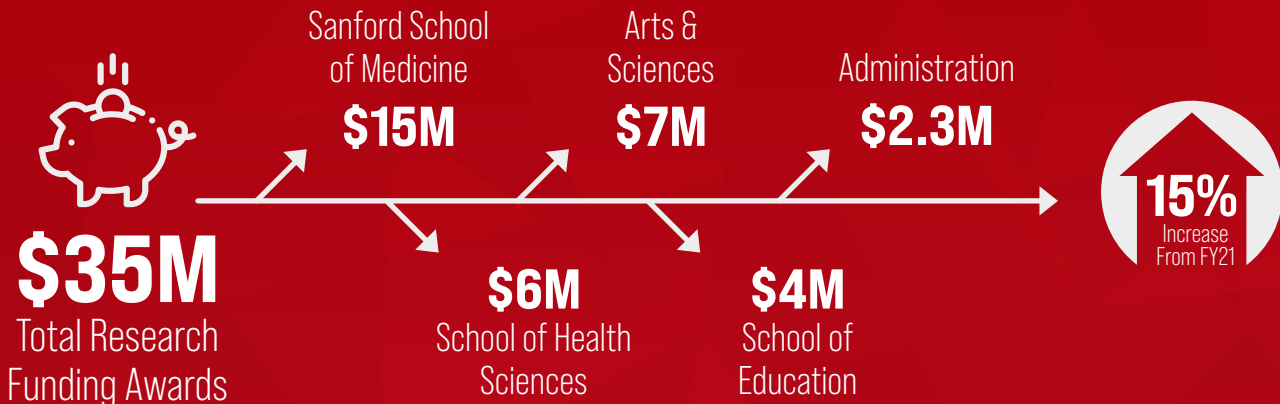
\$15M NIH



\$4.2M NSF



Top Research Funding Awards



CPCM RECEIVES \$1 MILLION GRANT TO REACH MORE FAMILIES THROUGH INNOVATIVE WIC OUTREACH EFFORTS

The Center for the Prevention of Child Maltreatment (CPCM), a center of the University of South Dakota, has been awarded a \$1 million grant to implement a WIC Community Innovation and Outreach Project (WIC CIAO).

By Hanna DeLange

WIC CIAO is supported by the U.S. Department of Agriculture (USDA) Food and Nutrition Service and aims to support efforts to develop, implement and evaluate innovative outreach strategies to increase awareness, participation and benefit redemption in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and reduce disparities in program delivery.

“Too many women and children in South Dakota are missing out on the nutrition they need in order to thrive,” said Darla Biel, interim director of the CPCM. “We are proud to be part of this critical initiative to identify new ways of connecting people to WIC. Overall, the WIC program aligns with several child abuse prevention strategies by providing support and education to parents, strengthening families, building social connections, screening for risk factors, and providing parenting support.”

The CPCM was selected through a highly competitive grant process. The Center will use the grant to partner with WIC to expand partnerships with community organizations and use community-level data to develop and test WIC outreach efforts. The grant will amplify the voice of parenting adults from underserved populations in South Dakota who are WIC-eligible and/or who are parenting WIC-eligible children.

In South Dakota, WIC provided healthy foods, nutrition education, breastfeeding counseling and referrals for 13,725 participants, including 1,647 pregnant and postpartum individuals, 3,020 infants up to 12 months, and 7,983 children up to age 5 every month, on average this fiscal year (10/2022-2/2023).

In 2020, only 50 percent of all eligible individuals nationwide participated in WIC, equating to a shortfall of almost 6 million individuals. The WIC CIAO Project aims to change that by expanding partnerships with community organizations and

using community-level data to develop and implement innovative WIC outreach efforts.

Reaching more families with WIC will have positive impacts on the community. WIC has been shown to provide wide-ranging benefits, including longer, safer pregnancies, with fewer premature births and infant deaths; improved dietary outcomes for infants and children; improved maternal health; and improved performance at school, among others. In addition to health benefits, WIC participants showed significant savings in health care costs when compared to non-participants.

In total, there are 36 WIC CIAO awardees made up of WIC state and local agencies, including tribal nations, and nonprofit entities and organizations.

WIC CIAO is administered through a USDA cooperative agreement with the Food Research & Action Center, in partnership with the Gretchen Swanson Center for Nutrition, the Native American Agriculture Fund and UnidosUS. WIC CIAO is part of USDA’s Food and Nutrition Service broader initiative to modernize WIC.

Visit hellowic.org to find out more about the WIC CIAO Project and awardees, and sign up for updates on WIC CIAO events and announcements.

ABOUT THE CENTER FOR THE PREVENTION OF CHILD MALTREATMENT

The Center for the Prevention of Child Maltreatment (CPCM), sdcpm.com, joins local, tribal, state and federal efforts in the fight against child sexual abuse and other forms of maltreatment in South Dakota. CPCM is designed to help South Dakotans know of, respond to and prevent child maltreatment, while supporting resilient families.

USD INVOLVED IN TWO STUDIES RESEARCHING IMPACT AND SOLUTIONS OF SEX TRAFFICKING OF NATIVE AMERICANS

Researchers in South Dakota, Colorado, and Nebraska are using two U.S. Department of Justice grants — one from the National Institute of Justice, the other from the Office on Violence Against Women — to examine the impacts of sex trafficking on Native American survivors and communities.

By Hanna DeLange

Although Native American women and girls experience disproportionately high rates of sex trafficking, little is known about the impact that sex trafficking has specifically on Native survivors, or what Native survivors need to heal and achieve safety and justice. By collaborating with Native American organizations to better understand what survivors need to cope, heal and achieve safety and justice, the researchers hope to determine how cultural differences and social inequalities shape available help for sex trafficking survivors.

Both projects are led by Indigenous leaders and experts in interpersonal violence across the region. “We are honored to be a part of this grant because it will give us the opportunity to address this long-standing public health crisis, raise awareness and provide answers and proactive solutions for our Indigenous communities in the Great Plains,” said Great Plains Action Society’s Trica Etringer (HoChunk/Pima/Meskawaki/Ojibwe).

Partners like Great Plains Action Society are the central voices of this project. They direct the research team on all parts of the research process. This research team includes:

Bridget Diamond-Welch, director of research and innovation, School of Health Sciences, University of South Dakota; Katie Edwards, director of the Interpersonal Violence Research Laboratory and associate professor, CYFS and educational psychology, University of Nebraska-Lincoln; Anna Kosloski, associate professor at the University of Colorado Colorado Springs; and Colette Yellow Robe, Native American Studies affiliate professor and academic retention specialist.

One project is Isnala Snee/I Am Not Alone, a community-based, Indigenous-led study that gathers data from 75 Native survivors of sex trafficking, age 18 and older, living in western South Dakota. The second study is Indigenous Voices Rising, which includes participants from 15 Native American tribes

spread across the northern Great Plains, and will interview survivors of trafficking, frontline responders and community members. Its focus is on prevention and early identification of Native American survivors of sex trafficking.

Pauletta Red Willow, director of Maggie’s House Youth Center in Kyle, South Dakota, said that along with the historical trauma associated with sex trafficking of Native Americans, trafficking also occurs on reservations and in nearby border towns. “So much of the data supports the notion that Native American women are not valued as equal beings,” she said. “Because of media portrayals, racism and other factors, our value is not held to as high a standard as a non-Native, which contributes to higher rates of sex trafficking among Native women and girls.”

The team aims to identify how Native Americans are recruited, groomed and coerced into sex trafficking situations, and clarify how survivors are identified by law enforcement, medical providers and advocates.

“The survivors are the experts; we’re just providing the voice for them,” said Lenny Hayes, mental and chemical health therapist and project community partner. “My hope with this research is that this population will be seen and heard.”

For both projects, data will be collected from Native American adults who have experienced sex trafficking, either during childhood or adulthood — including those who did or did not access formal services. Participants will be interviewed about their experiences in person — one-on-one or in talking circles — and via phone or videoconferencing.

“Current research on human trafficking does not consider cultural factors in what creates patterns of vulnerabilities,” Diamond-Welch said. “Without this information, we cannot design effective prevention and response efforts.”

MISSOURI RIVER INSTITUTE FACULTY RECEIVE GRANT TO STUDY INVASIVE ZEBRA MUSSELS ALONG MISSOURI RIVER

Two faculty in the University of South Dakota's Missouri River Institute – Jacob Kerby, Ph.D., biology professor and department chair, and David Swanson, Ph.D., biology professor – received a grant from the National Park Service to study settlement patterns of invasive zebra mussels along the Missouri National Recreational River (MNRR), a 59-mile section of the Missouri River between Gavins Point Dam and Ponca State Park.

By Hanna DeLange

The \$145,979 grant will support both a graduate student and the research expenditures for the project over a two-year period.

“This grant will allow us to continue our research on the Missouri River to help define conservation actions that will preserve biodiversity in both riverine and floodplain habitats associated with the river,” said Swanson, who also serves as the director of the Missouri River Institute.

The proposed project seeks to identify settlement preferences and the survival of zebra mussels in the MNRR on natural and artificial substrates occurring in the river. Kerby and Swanson's studies will include descriptions of adult concentrations and larval settlement patterns on naturally submerged substrates, such as cottonwood and

other trees and bank-stabilization structures. Combined with experimental studies of larval settlement densities on submerged cottonwood and red cedar trees, concrete block and quartzite, the project will determine if preferences exist in larval settlement.

The collected data will identify the potential effects of management strategies for zebra mussels on aquatic food webs and assist with the development of optimal strategies for zebra mussel management and mitigation in the MNRR.

“This work will us to better understand the impacts, potentially both negative and positive, of invasive zebra mussels on aquatic food webs and community structure and how we can best mitigate these impacts to preserve biodiversity along the Missouri River,” said Swanson.





USD RECEIVES \$3 MILLION, FIVE-YEAR DEPARTMENT OF LABOR GRANT TO TRAIN NURSES

The University of South Dakota is a recipient of part of \$78 million in grants from the U.S. Department of Labor (DOL) to support workforce training programs.

By Hanna DeLange

The USD Department of Nursing will use its award, a \$3 million grant, to create a worker-centered response to the critical nursing shortage in two ways: by working closely with workforce development and practice partners across the state to support the development of a nursing workforce through targeted recruitment and education strategies; and by facilitating new collaborations to develop long-term strategies for improving nursing workforce pipelines to meet the workforce needs of South Dakota.

The American Association of Colleges of Nursing (AACN) reports that nurses make up the largest segment of U.S. health care professionals, with nearly 4.2 million registered nurses among them. Despite these numbers, the profession faces significant staffing challenges as the Bureau of Labor Statistics projects an average of 203,200 openings for registered nurses each

year through 2031. Research also shows that adequate staffing is important to outcomes for nurses and patients and is essential to maintaining and improving the nation's health care system.

To help address these workforce challenges, the department's Employment and Training Administration has awarded the funding through the Nursing Expansion Grant Program to 25 public-private partnerships in 17 states.

"Training additional nurses is not enough," said Anne Pithan, chair of the Department of Nursing. "Solving this shortage will require both nursing academics and practice to collaborate to create innovative solutions to address this issue. We will work with practice partners, regulatory agencies, regional health centers, networks of small hospitals and community clinics, professional organizations, professional nursing networks and behavioral health partners to make this happen."

The USD grant will allow its nursing department to strengthen and diversify the nursing workforce by educating nurses for the BSN and MSN programs at USD, and employing scholarship funds for students who agree to work in South Dakota. USD will provide educational pathways for those entering the profession and those looking to upskill to a higher degree in nursing.

"This grant will provide scholarship and student support services for 128 new baccalaureate and master's prepared nurses to serve in hospitals and clinics across South Dakota," Haifa Samra, Ph.D., dean of the USD School of Health Sciences, explained.

USD's grant, led by Lisa Feller Ed.D., RN, CNE, will enhance nursing career pathways. As part of the DOL Nursing Expansion Grant Program, the grant begins June 1, 2023, and will be administered over a five-year period.

USD DENTAL HYGIENE RECEIVES \$50,000 GRANT TO EXPAND DENTAL CARE FOR UNDERSERVED IN SOUTH DAKOTA

The Department of Dental Hygiene at the University of South Dakota has received a \$50,000 grant from Delta Dental of South Dakota to help underserved populations gain access to quality dental care.

By Hanna DeLange

The first objective of the grant is to implement a cloud-based patient management system that will create efficiencies for expanding its clinical presence across the state. The second is to increase clinical rotations and dental hygiene care to underserved populations in western South Dakota, which is identified as a South Dakota dental shortage area.

"The USD School of Health Sciences Department of Dental Hygiene is integral to addressing dental prevention and care needs for our state," said Miranda Drake, department chair. "We will provide clinical experiences for students that

will improve services for residents, regardless of geographic location in the state."

Through the implementation of the new cloud-based system, the dental hygiene program will be able to provide more efficient care to its approximately 3,000 patients, the majority of those being children ages 0-19. The \$50,000 grant will be administered over the next two years.

As the only dental hygiene program in the state of South Dakota, the USD Dental Hygiene Clinic provides preventive services such as prophylaxis, non-surgical periodontal therapy, radiographs and fluoride to patients of all ages.





USD RECEIVES AWARD FROM DEPARTMENT OF DEFENSE

The University of South Dakota was one of three recipients who received an award from the Department of Defense (DoD) under the Defense Established Program to Stimulate Competitive Research (DEPSCoR). This award will support the expansion of USD's Artificial Intelligence (AI) infrastructure. USD will receive 1 million dollars over a 2 year period to build capacity in USD's Computer Science Department. Two faculty members will be hired as domain experts in the areas of artificial intelligence and machine learning, which are both important to the mission of the DoD.

BASIC BIOMEDICAL SCIENCES PROFESSOR AWARDED A HALF-MILLION DOLLAR GRANT

University of South Dakota's Jose Pietri, Ph.D., assistant professor in the Division of Basic Biomedical Sciences, was awarded \$552,318 from the U.S. Department of Housing and Urban Development for a research project focused on investigating bed bugs and their connection to human pathogenic microbes.

By Hanna DeLange

"Receiving this grant is very exciting because there has not traditionally been much federal support for research on bed bugs," Pietri said. "Especially when it comes to investigating their public health impacts, funding for research on these insects tends to slip through the cracks, and they don't receive the same attention as some of the major public health pests such as mosquitoes and ticks."

The broad goal of the project is to examine the relationship between bed bugs and human pathogenic microbes to determine whether there is a potential risk for bed bugs to transmit pathogens to people in modern-built environments, such as human homes.

The project will involve analysis of field-collected bed bugs to determine if they harbor any human pathogens and laboratory infection studies to determine if bed bugs could potentially acquire, maintain and transmit certain human pathogens of interest.

"Pathogen emergence can be a random process and since bed bugs are so prevalent, it is important to continue to monitor the possible risks that they pose to the health of humans experiencing bed bug infestations, especially when it comes to the transmission of infectious agents," Pietri said.



Jose Pietri, Ph.D.

USD IS CO-RECIPIENT OF NEARLY \$1 MILLION CAMPUS CYBERINFRASTRUCTURE GRANT

The University of South Dakota is a co-recipient of a \$998,750 information technology grant. The funding was granted to the South Dakota Board of Regents (SDBOR) from the National Science Foundation's Campus Cyberinfrastructure program to provide high-speed access to advanced computing and data storage resources shared among all South Dakota public universities.

By Hanna DeLange

"This award will enhance the ability to provide STEM-based training to the local communities and institutional partners," said Heather Forney, SDBOR system vice president of finance and administration. "Greater access to advanced high-performance computing and high-capacity data storage resources will lead to bolder cyberinfrastructure initiatives."

The nearly \$1 million grant updates USD's dedicated science network, which is like an "express lane" for large-scale data transfers between campus researchers and their collaborators in the SDBOR, said Ryan Johnson, director of research computing at USD. The grant will also position USD to benefit immediately from future upgrades to South Dakota's Research, Education and Economic Development (REED) Network.

"Modern science is a team sport, and fundamental advances are increasingly accomplished through multidisciplinary and multi-institutional collaborations," said Johnson. "This grant will enable greater movement of data between universities, allowing researchers throughout the SDBOR system to take

advantage of advanced computing and data resources located throughout South Dakota."

Using South Dakota's REED Network for campus interconnectivity ensures safe and performant data movement for research and distance learning applications. This initiative also addresses institutional data transmission capacity gaps, augmenting network throughput to ensure a consistent experience and access to advanced cyberinfrastructure within the state and to larger national resources.

Johnson is a co-principal investigator on the project alongside Kevin Brandt from South Dakota State University and Alyssa Kiesow and Debbi Bumpous from Northern State University. The project is led by the grant's principal investigator Paul Kern.

"This award will stimulate collaborative research in South Dakota," said Kern. "Campus-level cooperation and cyberinfrastructure improvement will enhance research projects and STEM education in our state."



USD RECEIVES \$1 MILLION DEPARTMENT OF EDUCATION GRANT TO HELP RURAL STUDENTS SUCCEED

The University of South Dakota received a \$1.1 million grant from the U.S. Department of Education to create a holistic model for student success, with a specific focus on rural students.

By Hanna DeLange

Through the project, titled “Coyote Kickstart: Rural Recruitment, Retention and Completion,” USD will help rural and underrepresented students succeed by providing mentoring opportunities, academic support and access to paid internships. This project is aimed at increasing enrollment and retention rates and will lay the foundation for how the university supports all students moving forward.

“We have several mentoring activities taking place across campus that we know work and support students, but we also know that we have many students that fall through the cracks or don’t have access to the mentoring experience,” said Lisa

Bonneau, Ph.D., assistant provost and grant writer, about the need for the grant. “This will give USD the opportunity to increase the number of students on campus that are supported.”

Creating a scalable mentoring program to support the academic success of USD students provides a unique opportunity to make a lasting impact on the university’s support services, Bonneau said.

“Long term, we hope to be able to use the grant funding as a pilot to develop sustainable mentoring and career readiness programs that will impact the success of all students that choose to attend USD,” Bonneau said. “I am very excited to see this vision come to life.”

As part of this program, USD will also increase capacity for participation in student internships by expanding the Coyote Career Kickstart program. Coyote Career Kickstart is a four-year program designed for incoming students who want to kick start their journey toward a successful career. The program supports students with mentorship, classroom experience, scholarship assistance, paid work experience and leadership and professional development.

“Not only is the program beneficial for our students, but it’s also important to the success of area employers,” said USD President Sheila K. Gestring. “USD plays an important role in building the region’s workforce, and programs like Coyote Career Kickstart do just that by introducing students to employers and building relationships and networks before graduation.”

For more information about Coyote Career Kickstart, visit <https://www.usd.edu/kickstart>.

The contents of this article were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume the endorsement by the federal government.



USD SCHOOL OF EDUCATION RECEIVES \$3 MILLION GRANT TO ADDRESS SCHOOL MENTAL HEALTH PROVIDER SHORTAGE

The University of South Dakota School of Education was awarded a \$3 million grant from the U.S. Department of Education to increase the number of school mental health providers in high-need areas of the state.

By Hanna DeLange

Kari Oyen, Ph.D., LP, NCSP, program director and associate professor of school psychology, and Miranda Zahn, Ph.D., assistant professor of school psychology, were recently awarded the grant that will give the USD school psychology program the opportunity to train more school psychologists.

School psychologists are equipped to provide a comprehensive set of services, including promoting positive behavior and mental health, supporting diverse learners, creating safe and positive school climates, strengthening family-school partnerships, improving school-wide assessment and accountability, and supporting academic achievement.

USD offers the only school psychology degree in South Dakota. It has been accredited by the National Association of School Psychologists (NASP) since 2000.

“School psychologists are an integral part of addressing the academic and mental health needs in schools,” said Oyen. “They are situated to provide services where children spend most of their time – in schools.”

The services provided by school psychologists are severely limited in the state. During the 2020-2021 school year, South Dakota had a ratio of 1:1,617 school psychologist to students. The NASP recommends a 1:500 ratio. In addition, South Dakota has one school psychologist for approximately every 800 square miles, meaning that there is significant distance between students who need support and the professionals who can serve them.

When school psychologists experience high ratios and high distances to travel, the services that they can provide are limited,” Oyen explained. “Shortages also increase the likelihood that they will burn out of the profession due to the high task demands and limited roles they can play in schools.”

Over the next five years, the grant funds will allow the school psychology program to provide financial assistance to graduate students in the program, enhance training, and offer comprehensive practicum and internship placements.

USD’s Oyen and Zahn will first meet with schools across South Dakota to determine high-need areas to better address the school psychology shortage.

With the grant, USD aims to train 12 new highly skilled school psychologists who will work for a minimum of three years in a comprehensive school mental health role within the high-need areas of the South Dakota.

Additionally, up to three postdoctoral fellows will be prepared to serve as school psychology trainers in institutions of higher education.

Area school mental health professionals will also be invited to participate in didactic training via session recordings, reaching over 200 school-employed mental health professionals in South Dakota during the granting period and years to come. Training will support school mental health professionals to advocate for and perform an expanded school mental health role within their high-need school communities.

“Students in schools can be served more effectively by members of their own communities, who frequently can’t become school psychologists due to financial constraints associated with training,” Zahn said. “By creating equitable access to training, we can increase participation of folks who will serve their communities for years to come.”

The grant includes partnering with three educational service agencies, the South Central Cooperative and the Sioux Falls School District, encompassing 117 schools and nearly 32,000 students.

“It is an honor to partner with South Dakota school districts to think creatively how to address the significant shortage of school psychologists,” Oyen said. “We know that home-growing school psychologists has not only a lasting impact on the profession, but also and more importantly, has an impact on the children in our state. We are thrilled to partner with these districts and hope this can be the beginning of continued partnerships with all school districts in South Dakota.”



AWARDS RECEIVED

TOTAL AWARD DOLLARS

College/School	FY19	FY20	FY21	FY22	FY23
Administration	\$3,223,036	\$732,525	\$2,419,176	\$3,965,325	\$2,305,836
Arts & Sciences	\$8,609,680	\$6,042,864	\$5,230,932	\$6,465,476	\$7,093,977
Business	\$4,302,360	\$3,917,938	\$1,694,288	\$3,097,971	\$1,053,757
Education	\$3,138,461	\$2,785,168	\$6,718,208	\$3,633,825	\$4,164,293
Fine Arts	\$54,500	\$181,575	\$960	\$11,717	\$250
Health Sciences	\$1,162,501	\$1,910,086	\$2,009,500	\$3,895,641	\$6,119,277
Law	\$90,000	\$100,000	\$100,000	\$77,045	\$10,000
Medicine	\$16,101,097	\$10,207,341	\$13,724,639	\$16,788,924	\$14,845,329
Total	\$36,681,634	\$25,877,497	\$31,897,703	\$37,935,923	\$35,592,719

NUMBER OF AWARDS

College/School	FY19	FY20	FY21	FY22	FY23
Administration	20	13	16	19	13
Arts & Sciences	54	46	31	43	50
Business	23	10	6	8	5
Education	18	8	19	14	14
Fine Arts	4	2	1	6	1
Health Sciences	20	18	22	31	31
Law	1	2	2	1	1
Medicine	59	59	62	71	61
Total	199	158	159	193	176

COLLEGE OF ARTS & SCIENCES

Department	FY19		FY20		FY21		FY22		FY23	
	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.
Anthropology (including Archeology)	\$15,824	1	\$109,822	2	\$18,176	1			\$1,671	1
Biology	\$1,761,808	14	\$968,992	10	\$1,054,340	9	\$1,297,126	12	\$1,448,482	13
Biomedical Engineering	\$1,315,458	7	\$2,248,866	8	\$990,519	5	\$1,247,990	6	\$720,805	2
Chemistry	\$2,406,238	12	\$1,309,180	7	\$1,227,361	5	\$756,135	5	\$2,237,449	12
Communication Sciences & Disorders	\$192,000	3	\$3,915	1	\$261,600	2	\$5,999	1	\$6,786	1
English			\$5,000	1			\$6,425	1	\$9,638	1
History			\$500	1					\$6,903	2
Mathematics	\$41,740	1								
Modern Languages	\$3,375	1	\$3,229	1	\$958	1				
Physics	\$2,696,695	8	\$294,405	4	\$933,554	1	\$1,918,248	6	\$209,000	4
Philosophy			\$375	1			\$100,482	2		
Political Science	\$37,195	1	\$263,401	5	\$72,172	3	\$29,615	1	\$29,615	1
Psychology (including DMHI)	\$107,084	3	\$744,882	2	\$575,630	1	\$1,025,507	2	\$1,305,270	4
Sustainability & Environment	\$32,263	3	\$90,297	3	\$96,622	3	\$77,949	7	\$1,118,358	9
Total	\$8,609,680	54	\$6,042,864	46	\$5,230,932	31	\$6,465,476	43	\$7,093,977	50



SANFORD SCHOOL OF MEDICINE

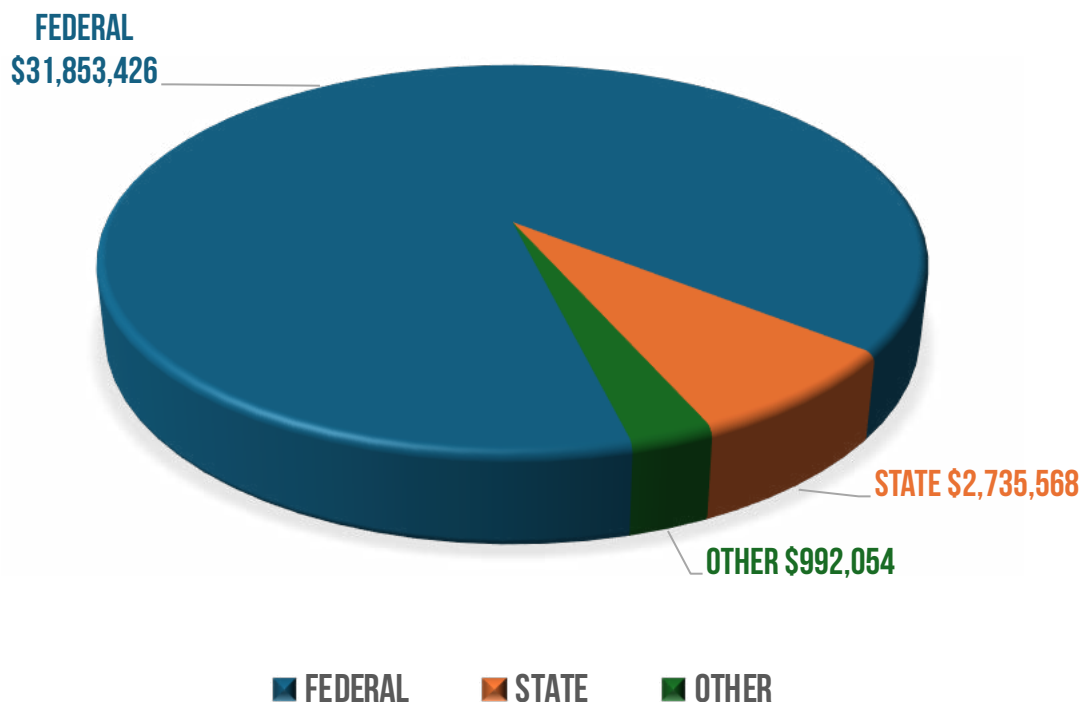
Department	FY19		FY20		FY21		FY22		FY23	
	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.
Basic Biomedical Sciences	\$11,972,130	30	\$5,260,153	26	\$9,373,593	32	\$11,128,282	36	\$9,655,750	30
Cardiovascular Research Institute										
Center for Disabilities	\$3,216,142	15	\$3,400,917	15	\$2,726,810	16	\$4,001,313	23	\$3,812,959	23
Family Medicine	\$658,762	8	\$1,213,173	7	\$1,302,034	8	\$1,290,469	6	\$918,230	3
Dean of the Med School			\$54,000	2	\$12,500	2				
Laboratory Medicine										
Neurology										
Pediatrics	\$38,582	2	\$56,500	1		1				
SSOM Faculty Research							\$35,326	1	\$35,445	1
Surgery	\$215,481	4	\$222,598	3	\$309,703	3	\$333,534	5	\$422,855	4
Total	\$16,101,097	59	\$10,207,341	54	\$13,724,640	62	\$16,788,924	71	\$14,845,239	61

SANFORD SCHOOL OF HEALTH SCIENCES

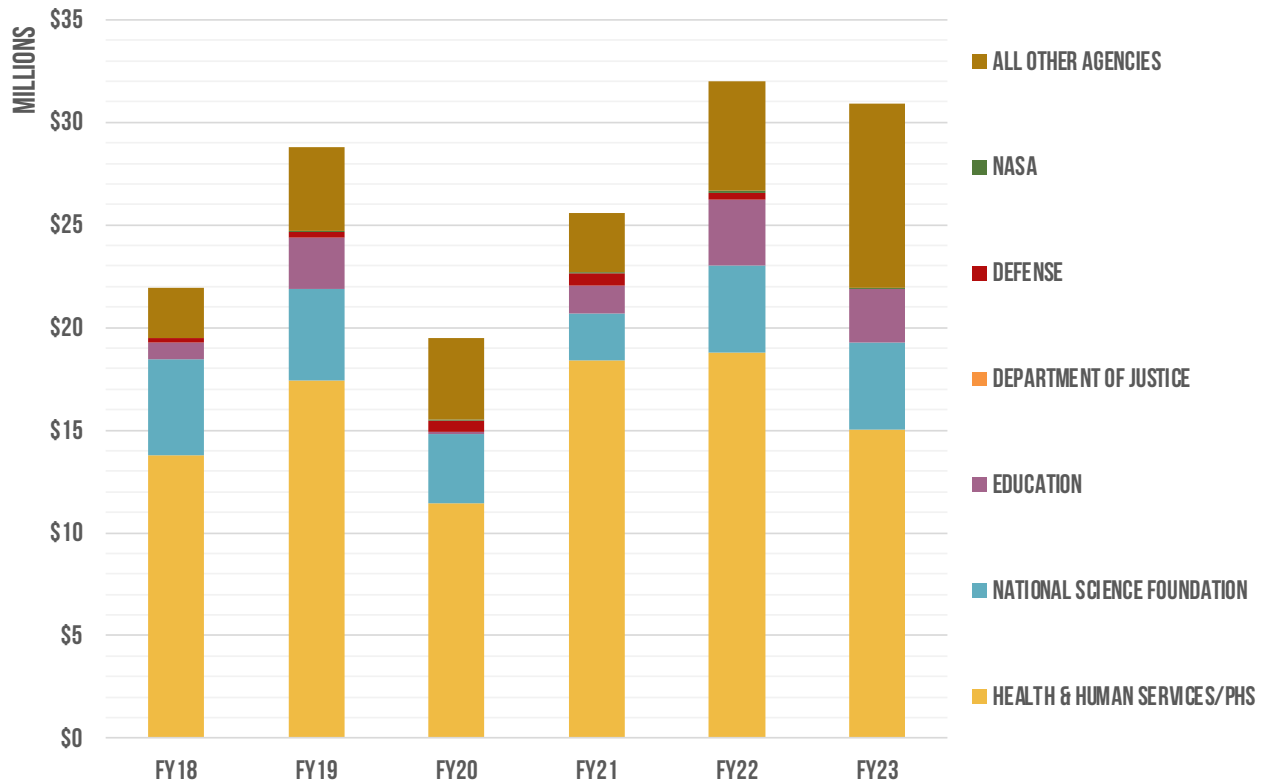
Department	FY19		FY20		FY21		FY22		FY23	
	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.
Addiction Studies					\$229,485	1	\$50,000	1		
Center Prevention of Child Mlt	\$578,650	9	\$54,840	5	\$198,987	6	\$2,454,600	11	\$1,356,335	5
Dean of Health Sciences	\$95,355	1	\$775,565	4	\$345,000	4	\$265,000	3	\$791,120	4
Dental Hygiene	\$200,000	1	\$207,500	3			\$41,159	1	\$30,000	2
Health Sciences Major	\$23,000	2	\$59,200	4	\$5,200	2	\$10,400	4		
Masters of Public Health	\$73,896	2	\$610,098	3	\$941,481	3	\$542,424	5	\$511,291	4
Occupational Therapy	\$19,970	2	\$19,963	1			\$200,000	1	\$48,000	1
Physical Therapy	\$24,957	1								
Social Work			\$177,920	2	\$159,592	1	\$239,551	2	\$22,550	1
USD Nursing Program	\$146,673	2	\$5,000	1	\$129,755	5	\$52,507	2	\$3,359,981	4
Total	\$1,162,501	20	\$1,910,086	23	\$2,009,500	22	\$3,855,641	30	\$6,119,277	21

AWARDS BY SOURCE OF FUNDS

College/School	Federal		State		Other Non-Profit		Total	
	Amount	No.	Amount	No.	Amount	No.	Amount	No.
Administration	\$2,168,520	8	\$127,316	4	\$10,000	1	\$2,305,836	13
Arts and Sciences	\$6,194,787	41	\$326,820	3	\$218,031	4	\$6,739,638	48
Basic Biomedical Sciences	\$9,150,739	26			\$505,011	4	\$9,655,750	30
Beacom School of Business	\$2,299,474	4			\$23,000	1	\$2,317,774	5
School of Education	\$3,342,909	7	\$18,220	4	\$41,000	3	\$3,402,129	14
College of Fine Arts	\$250	1					\$250	1
School of Health Sciences	\$2,320,747	17	\$361,770	6	\$152,515	8	\$2,835,032	31
Knudson School of Law	\$10,000	1					\$10,000	1
Sanford School of Medicine	\$3,245,639	19	\$1,901,441	9	\$42,497	3	\$5,189,578	31
Total	\$31,853,426	124	\$2,735,568	27	\$992,054	23	\$35,592,719	193



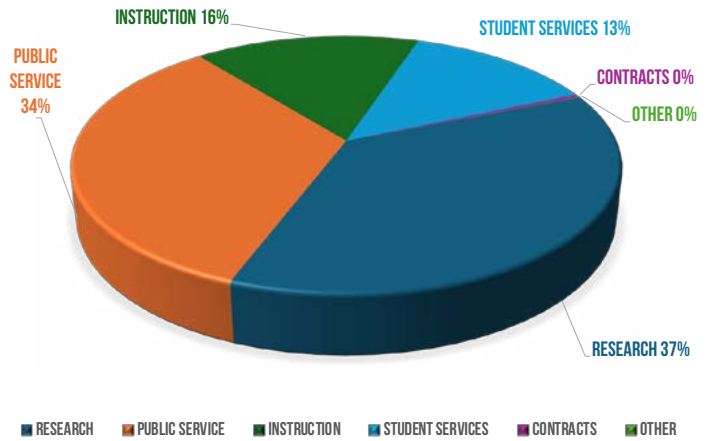
FEDERAL AWARD DOLLARS BY AGENCY



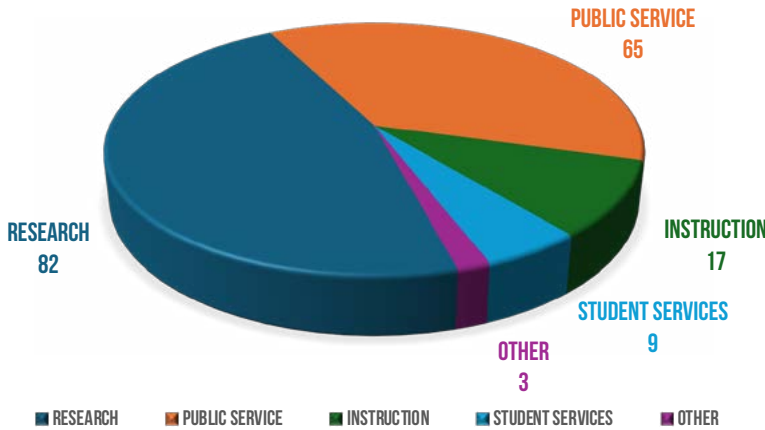
Federal Agency	FY19	FY20	FY21	FY22	FY23
Health & Human Services/PHS	\$17,432,089	\$11,418,197	\$18,430,992	\$18,771,698	\$15,058,594
National Science Foundation	\$4,429,601	\$3,383,954	\$2,270,874	\$4,246,321	\$4,195,285
Education	\$2,504,321	\$139,366	\$1,371,316	\$3,215,056	\$2,625,913
Energy					\$432,856
Defense	\$305,914	\$499,124	\$546,738	\$353,285	\$518,033
NASA	\$56,922	\$105,038	\$78,443	\$89,093	\$45,675
All other agencies	\$4,046,375	\$3,960,385	\$2,900,577	\$5,314,545	\$8,977,070
Total	\$28,775,222	\$19,506,064	\$25,598,940	\$31,989,998	\$31,853,426

AWARD DOLLARS BY TYPE OF PROJECT

Project Type	Amount
Research	\$13,126,838
Public Service	\$11,915,486
Instruction	\$5,639,374
Student Services	\$4,748,181
Contracts	\$140,110
Other	\$22,730
Total	\$35,592,719



AWARDS BY TYPE OF PROJECT

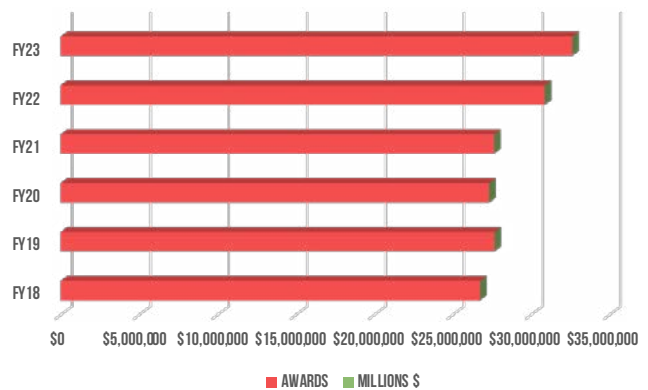


Project Type	No.
Research	82
Public Service	65
Instruction	17
Student Services	8
Contracts	3
Other	1
Total	176

EXPENDITURES

FY	Grant Expenditures	Millions \$
FY18	\$26,767,648	26.768
FY19	\$27,684,938	27.685
FY20	\$27,341,261	27.341
FY21	\$27,662,015	27.662
FY22	\$30,890,170	30.890
FY23	\$32,650,213	32.650

SPONSORED EXPENDITURES





WYATT WIEBELHAUS
Sustainability | Senior
 "Kicking Up Dust on Utah's Off-Road Vehicle Trails: PI-SWERL Assessment of Anthropogenic Dust Emissions"



VERONICA KNIPLING
Graphic Design | Senior
 "The Stilwell Papers"



GRANT BUDDEN
Medical Biology | Senior
 "Monitoring Selenium Bioaccumulation in False Map Turtles"



SADIKSHYA GHIMIRE
Biomedical Engineering | Sophomore
 "Be Real: A Psychological Evaluation of 2022's Most Influential Social Networking Application"



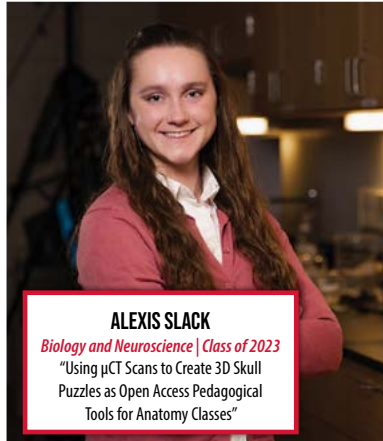
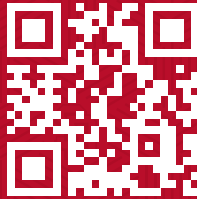
OLIVIA ROBERTS
Mathematics; Music Minor | Senior
 "Understanding Musical Systems with Zn – Cayley Graphs"



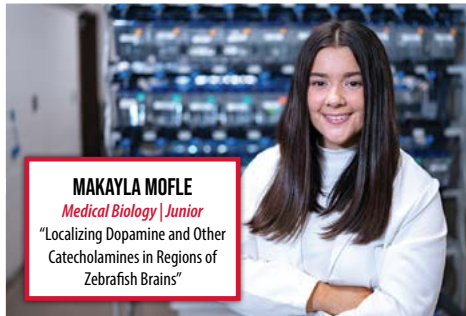
ELLEN MALLORY
Health Sciences | Senior
 "Public Health Interventions for Mental Health Issues at Colleges and Universities"

UNDERGRADUATE RESEARCH Excellence AWARDS · 2024

READ MORE ABOUT STUDENTS' RESEARCH



ALEXIS SLACK
Biology and Neuroscience | Class of 2023
 "Using μ CT Scans to Create 3D Skull Puzzles as Open Access Pedagogical Tools for Anatomy Classes"



MAKAYLA MOFLE
Medical Biology | Junior
 "Localizing Dopamine and Other Catecholamines in Regions of Zebrafish Brains"



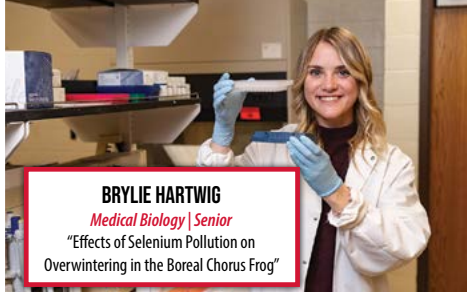
JORDAN GROTHE
Mathematics | Senior
 "Analyzing Heat Generated from Electro-Osmotic Flow Utilizing Computational Fluid Dynamics"



EVAN SIPPEL
Political Science and History | Sophomore
 "Impact of the Top-Two Primary on Electoral Competition in California"



GABRIELLA BEBERG
Medical Biology | Senior
 "Does Length Change in Telomeres Between Hatchlings, Fledglings, and One-Year Old Chestnut-Crowned Babblers Predict Reproductive Behavior in a Cooperatively Breeding Species?"



BRYLIE HARTWIG
Medical Biology | Senior
 "Effects of Selenium Pollution on Overwintering in the Boreal Chorus Frog"

NATIONAL CONFERENCE IN WISCONSIN ON UNDERGRADUATE RESEARCH

The National Conference on Undergraduate Research (NCUR) is the nation's premier showcase of the unique and creative scholarship being performed by undergraduate students across the United States. This year the University of South Dakota had the work of an unprecedented number of students accepted for the conference. Eleven of our outstanding scholars attended the conference held at the University of Wisconsin Eau Claire. We are fortunate to have the following students represent USD at this prestigious event: Eneril Crosslin, Graciela DeAnda, Ruby Hawks, Shayla Kelly, Tiffany Knecht, Sasha Lukina, Christina Nguyen, Olivia Roberts, Sable Schulz, Alexis Slack, and Cassie Thompson.



NATIONAL CONFERENCE IN CALIFORNIA ON UNDERGRADUATE RESEARCH

Five outstanding students represented USD this year at the National Conference on Undergraduate Research, held in Long Beach, CA. NCUR is the nation's premier showcase of the unique and creative scholarship being done by undergraduate students across the United States. In partnership this year with California State University – Long Beach, this was an amazing environment to celebrate and promote undergraduate student achievement. NCUR provides students with the opportunity to forge new connections, build their presentation skills, expand their resumes, and much more. Outstanding students from multiple disciplines and hundreds of universities come together to share their work, and to learn from one another.

We are very fortunate this year to have been represented by:

Makayla Mofle: The Characterization of Neurotransmitters Following Acute Ethanol Exposure and Social Behavior Assay in Zebrafish with and Without Embryonic Ethanol Exposure

Olivia Roberts: Musical Systems with Zn – Cayley Graphs

Jordan Grothe: Analyzing Heat Generated from Electro-Osmotic Flow Utilizing Computational Fluid Dynamics

Kamila Haliru: Effects of Psychological Disorders on Reachability Judgements

Grant Budden: Monitoring Selenium Bioaccumulation and its Potential Effects in False Map Turtles (*Graptemys pseudogeographica*)



From left to right: Makayla Mofle, Olivia Roberts, Jordan Grothe, Kamila Haliru and Grant Budden.

UDISCOVER PICNIC PRENTIS PARK



Each year various USD programs offer undergraduates the opportunity to pursue research projects over the summer. One of these is the prestigious (and competitive) UDiscover program, in which students are financially supported to work on research questions of their own design, under the guidance of a faculty mentor. The Summer Program for Undergraduate Research in Addiction (SPURA) is a multi-disciplinary summer research program providing undergraduate students the opportunity to work with a faculty mentor on a dedicated research project in the area of substance abuse disorder or mental health. The Research Experience for Undergraduate (REU) in Chemistry has students working one-on-one with

a faculty member for the summer, learning what it is like to be a chemist. They are taught how to use state-of-the-art instrumentation, and they then work independently on a research project. In addition to these sponsored programs, a variety of undergraduates spend their summer working with faculty mentors on research projects across a variety of disciplines. We kick off the summer programs with a picnic, so that students from different disciplines can get to know each other. During the summer we offer weekly seminars on subjects critical to successful research, such as how to do a literature review, and how to cite sources. We have an extremely strong cohort of young students on campus over the summer!







UNIVERSITY OF
SOUTH DAKOTA

