Message from the President

This Year in Review presents the creative work of the faculty, staff and students who prepared grant applications and congratulates those who were successful in securing external funding for their research, scholarly ventures and innovative ideas. You will find these pages a diverse spectrum of ideas and projects, and that a number of proposals include our students as grant writers. I hope that we will continue to build our reputation for collaborative student/faculty research and scholarly endeavors.

Members of the faculty and staff maintained a strong interest in seeking external support for research and sponsored programs in Fiscal Year 2013. Our current success in identifying and securing funding from external sponsors continues to grow. Forty-three faculty, staff and students were active in preparing proposals to external funding sources. A total of 43 proposals were submitted, and the total award amount received through the Office of Grants and Sponsored Research exceeded $890,000.

Thank you to our grant writers who showed their commitment in developing and submitting quality proposals. To those who have not yet sought external funding, I hope this publication inspires you to pursue your projects.

I encourage you to contact the Office of Grants and Sponsored Research to assist you in making your ideas a reality.

Best regards,

Cheryl J. Norton
Provost and Vice President for Academic Affairs

dr. philip WAY
“IREX Undergraduate Exchange Program - U.S. Academic Host Institution 2012-14”

Funding Source: International Research & Exchanges Board (IREX)
Amount Proposed: $26,390

Overview: The purpose of this project is to support the vision and the mission of SRU by hosting exchange students through the U.S. Department of State’s Bureau of Education and Cultural Affairs, Global UGRAD Program for Eurasia and Central Asia, Crimea, Kosovo and Pakistan. Participating in sponsored students programs enables SRU to bring students from countries that would not otherwise be represented on campus.
dr. kurt SCHIMMEL

Dean
College of Business, Information and Social Sciences
“SRU Clay Target Club”

Funding Source: Midway USA Foundation, Inc.
Amount Proposed: $1,077
Project Dates: July 1, 2013 to June 30, 2014

Overview: The purpose of this project is to establish and promote the SRU Clay Target Club. The funds will be used for equipment and supplies as well as tournament entry fees and travel expenses for the club members.

“SRU Clay Target Club”

Funding Source: National Shooting Sports Foundation
Amount Proposed: $10,000
Project Dates: Aug. 1, 2013 to April 30, 2014

Overview: The purpose of this project is to establish and promote the SRU Clay Target Club. The funds will be used for equipment and supplies as well as tournament entry fees and travel expenses for the club members.
“Improving Safety Curriculum for Undergraduate Students at Slippery Rock University”

Funding Source: Alcoa Foundation
Amount Awarded: $25,000
Project Dates: Jan. 28, 2013 to Dec. 20, 2013

Overview: The purpose of this project is to enhance the laboratory experiences in the fields of construction, general industry, industrial hygiene and emergency/fire abatement by upgrading the current equipment in the Safety Laboratory. Utilizing the updated equipment will provide the Safety Management students with laboratory experience competencies they will be able to apply in the workplace. This knowledge will assist the students in being proactive rather than reactive in performing their tasks as Safety Professionals in the workplace.
Professional Studies and Interdisciplinary Programs

"Curriculum Mapping and Rubrics Tool Kit for the Nonprofit Sector"

Funding Source: Nonprofit Leadership Alliance
Amount Awarded: $5,679
Project Dates: Nov. 5, 2012 to June 30, 2013

Overview: The purpose of this project is to have seven Non-Profit Leadership Alliance (NLA) campus representatives and two NLA staff develop a curricular mapping process associated with the competency rubrics developed by a similar team in 2011-12 and develop an on-line tool kit of activities and other resources associated with the competency rubrics developed by a similar team in 2011-12.
“PASSHE Entrepreneurial Leadership Centers”

Funding Source: Pennsylvania Department of Community and Economic Development through Pennsylvania State System of Higher Education
Amount Proposed: $20,000
Project Dates: July 1, 2013 to June 30, 2014

Overview: The purpose of this project is to conduct a Student Business Plan competition that encourages students to create new start-up companies, thus creating job opportunities and products for the Commonwealth of Pennsylvania.
“Improving First Generation, Low Income Students of Color Success in Science, Technology and Mathematics”

**Funding Source:** USA Funds  
**Amount Proposed:** $791,958  
**Project Dates:** Jan. 1, 2014 to Dec. 30, 2016

**Overview:** First Generation, Low Income Students of Color (FGLISC) are consistently underrepresented in Science, Technology, Engineering and Mathematics (STEM) disciplines both in recruitment and in retention through the second year in many colleges and universities. At SRU the Jumpstart program has been broadly effective at recruiting and retaining the FGLISC population. This proposal augments the existing Jumpstart program by targeting FGLISC students that identify an interest in STEM fields but have not declared a STEM major. These students will be placed in a learning community cluster that emphasizes science and mathematics through high impact educational approaches. These students, as part of a dedicated FYRST year program, will be introduced to mentored undergraduate research, work on campus in STEM related activities, work one-on-one with faculty, begin classes at the end of summer in order to model successful learning strategies and have additional access to tutoring and recitation sessions.

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**Dr. Deborah Whitfield**

**Dr. Jack Livingston** (not pictured)
Dr. Keith Dils

Dean
College of Education
“Classroom Learning in the Community: Health Promotion for Individuals with Disabilities”

Funding Source: DSF Charitable Foundation
Amount Awarded: $40,000
Project Dates: June 1, 2013 to May 31, 2014

Overview: The purpose of this project is to investigate unique campus-community collaboration in improving critical skills thinking among college students to improve service delivery in community-based programs of physical activity for persons with disabilities. This funding is for Year 02 of a two-year grant.

“Classroom Learning in the Community: Health Promotion for Individuals with Disabilities”

Funding Source: FISA Foundation
Amount Awarded: $35,208
Project Dates: June 1, 2013 to May 31, 2014

Overview: The purpose of this project is to investigate unique campus-community collaboration in improving critical skills thinking among college students to improve service delivery in community-based programs of physical activity for persons with disabilities. This funding is for Year 02 of a two-year grant.
“Transitioning Together: A Community-Based Pre-Employment Skill Building Mentoring Program”

Funding Source: Edith L. Trees Charitable Trust  
Amount Awarded: $60,000  
Project Dates: Jan. 1, 2013 to Dec. 31, 2013  

Overview: The purpose of this project is to: (1) expand opportunities for adolescents with intellectual disabilities to acquire pre-employment skill building competencies and achieve the fitness and stamina to endure the rigors of work through a comprehensive community-based mentoring model (Transitioning Together); (2) provide undergraduate and graduate students with a classroom-to-community instructional environment; and, (3) leverage community resources to address health promotion and wellness for individuals with intellectual disabilities living in Western Pennsylvania. This funding is for Year 02 of a two-year grant.

“Mentoring for Health Promotion and Pre-Employment Skill Building Training during Out-of-School Time for Adolescents at Risk of Delinquency”

Funding Source: Heinz Endowments  
Amount Proposed: $204,068  

Overview: The purpose of this project is to address four strategies to decrease delinquent behaviors of adolescents between the ages of 14-21 years in three Western Pennsylvania counties. The goals of this project are to: 1) decrease absenteeism in schools; 2) decrease anti-social behaviors; 3) increase after-school physical activity participation; and, 4) provide pre-employment, skill-building job readiness skills in three work environments including retail, animal/farm care and custodial/maintenance tasks.
“Adapted Physical Education and Health Literacy Personnel Preparation: A Multi-University Collaborative Model”

**Funding Source:** U.S. Department of Education  
**Amount Proposed:** $1,250,000  
**Project Dates:** Sept. 1, 2013 to Aug. 31, 2018

**Overview:** The goal of this project is to prepare fifteen highly qualified Adapted Health and Physical Education teacher candidates at the baccalaureate level per year for five years at three Pennsylvania State Systems of Higher Education universities. This training is to provide physical education and health literacy to qualified students with disabilities enrolled in Special Education Programs across Pennsylvania and the nation.

“Highley Qualified Adapted Physical Education Teachers in Pennsylvania”

**Funding Source:** U.S. Department of Education  
**Amount Proposed:** $250,000  
**Project Dates:** Oct. 1, 2013 to Sept. 30, 2014

**Overview:** The purpose of this project is to train nine graduate scholars per year for five years to become highly qualified adapted physical education specialists to meet Pennsylvania’s need for adapted physical education instructors. This funding is for Year 02 of a five-year grant.
“Pioneer Education Center Field Experiences”

Funding Source: Edith L. Trees Charitable Trust
Amount Awarded: $2,500

Overview: The purpose of this project is to provide commuting supplements to students to expand SRU’s presence at the Pioneer Education Center in Pittsburgh. The Pioneer Education Center is a part of the Pittsburgh Public School system and designed to provide high quality education experiences for children with multiple diagnoses. Due to the great distance and the high cost of commuting, this grant will allow for more students to choose Pioneer. This funding is for Year 04 of a four-year grant.
“Tennis Serves Lifelong Education and Health”

Funding Source: United States Tennis Association (USTA)
Amount Awarded: $4,000
Project Dates: May 15, 2013 to May 15, 2015

Overview: The purpose of this project is to provide accessible opportunities for people with disabilities of all ages to grow in tennis knowledge and skill in order to open up new avenues for lifelong physical activity and health. The program will improve independence and self-efficacy of individuals with disabilities for physical activity and inclusion opportunities. The secondary outcome involves training undergraduate students how to adapt and modify tennis for people of various disabilities. As the students graduate, they will bring their knowledge of adapted tennis with them to their places of influence in the community.
dr. Susan HANNAM

Dean
College of Health, Environment and Science
“Field Experience in Environmental Education”

_Funding Source: Pennsylvania Department of Environmental Protection_  
_Amount Awarded: $6,495_  
_Project Dates: July 1, 2012 to June 30, 2013_

Overview: College students majoring in Education will be trained in environmental education (EE) programs and activities by the McKeever Center staff during a one-to-two week course. The college students will then teach those environmental education programs and activities to students from a variety of elementary schools in western Pennsylvania. This experience will assist in fulfilling elementary students meeting the Standards of Environment and Ecology and provide an opportunity for college students to gain hands-on experience in environmental education. The purpose of this project is to lay a foundation for future teachers in recognizing and incorporating environmental education into their curriculum by providing them with two-fold experience.
“Relations Among Children’s Understanding of Mind, Moral Self-Concept and Involvement in Prosocial vs. Antisocial Behavior”

Funding Source: John Templeton Foundation through Wake Forest University
Amount Awarded: $14,598

Overview: Development in children’s ability to take others’ perspectives has long been considered an important precursor to moral development. Recent research however, indicates that some children with highly developed perspective-taking abilities use these abilities to take advantage of others rather than to help them. In contrast, other children with highly developed perspective-taking abilities are recognized by both teachers and classmates as sensitive to others’ needs and willing to help others. Clearly, perspective-taking ability does not lead to the same level of moral behavior in all children. This project will study how development in 8-12 year old children’s perspective-taking abilities and their beliefs about their own moral characteristics affects their behavior toward others. Children will complete questionnaires and individual interviews at school to determine their level of perspective-taking ability and beliefs about their moral traits. Prosocial and antisocial behavior will be measure through observation and surveys completed by children and their teachers.

Funding Source: National Science Foundation
Amount Proposed: $80,613
Project Dates: June 1, 2013 to May 30, 2016

Overview: The purpose of this project is to examine how the public reacts when the government institutes precautionary policies to manage technological risks such as radiation from cell phones or nanotechnology. On one hand, we can imagine a “precautionary reassurance” in which people feel that the government is doing a good job of protecting them by being so precautionary. On the other hand, it is also plausible there would be a “precautionary backlash” in which people assume the risk must be really bad to motivate the government to take such strong action. This project will evaluate what circumstances generate reassurance or backlash, in order to help policymakers make better risk management decisions.
“Collaboration Grants for Mathematicians”

Funding Source: Simons Foundation  
Amount Proposed: $35,000  
Project Dates: Sept. 1, 2013 to Aug. 31, 2018

Overview: The purpose of this project is to financially support the project director for his efforts of scholarly exchanges with colleagues from around the world. In particular, the funding will cover conference attendance, visiting scholars with similar interests and cover some of the minor expenses of visitors.
“Pennsylvania National Horse Show Foundation Grant”

Funding Source: Pennsylvania National Horse Show Foundation
Amount Proposed: $2,500
Project Dates: Sept. 1, 2013 to Sept. 1, 2014

Overview: This project will fund several rider scholarships and a rider horse show for children and adults with disabilities.
“Growing Green, Growing Healthy”

Funding Source: Snee Reinhardt Foundation
Amount Awarded: $10,723
Project Dates: July 1, 2013 to June 30, 2014

Overview: The purpose of this project is to provide accessible opportunities for 240 people with disabilities and their families to grow in knowledge and skills for independence in healthy lifestyles. By enhancing the current program at Storm Harbor Equestrian Center with a wheelchair accessible greenhouse, this grant will impact the lifelong health, recreational involvement and quality of life for individuals with disabilities. A secondary community impact comes from training undergraduate students how to use horticultural activities to promote healthy lifestyles of people with disabilities. As undergraduates leave and graduate, they transport skills and innovative health educational strategies to other Pennsylvania communities. The following students assisted with preparing the proposal: Janel Benning; Erin Bukvic; Rebecca Burcher; Cathleen Campana; Scott Chellis; Jarret Criss; Kaitlin Daly; Kelly Decker; Alexandria Evans; Paul Fink; Eric Hart; Janelle Krantz; Candice Mack; Sara McDevitt; Dustin Norcross; Tiffanie Passerrello; Chelsea Peterson; Katie Ritter; Rebecca Searight; Joseph Seneff; Jocelyn Waibel; Shelby Ward and Kaitlin Wiegmann.
Overview: The purpose of this research project is to test the hypothesis that TPIsugarkill is recognized by molecular chaperones and components of the ubiquitin proteasome pathway (UPP), resulting in the proteasomal degradation of the mutant protein. This hypothesis is supported by data which demonstrate that TPIsugarkill turnover is significantly reduced in flies expressing a temperature sensitive mutant proteasome and that molecular chaperones, Hsp70 and Hsp90 appear to be important for targeting TPIsugarkill for degradation. The project director proposes that other factors of the UPP are essential for the degradation of this unique cytosolic soluble mutant protein. The project director will directly test this hypothesis by performing an RNA interference screen to determine if disruption of drosophila genes with putative molecular chaperone activity and function in the ubiquitin proteasome pathway reduces TPIsugarkill degradation. Factors identified in the screen will be confirmed using traditional loss of function mutants, overexpression of the putative factor or pharmacological modification of function to determine their validity. This funding is for Year 02 of a three year grant.
“IBL Videos for Workshops and Training”

Funding Source: Academy for Inquiry-Based Learning/Educational Advancement Foundation
Amount Awarded: $5,000
Project Dates: May 15, 2013 to Aug. 15, 2013

Overview: The purpose of this project is to examine videos to use in training for future inquiry-based learning (IBL) teachers.
“The Influence of Heel Height on Knee Kinematics and Muscle Recruitment During Landing Tasks in Active Collegiate Females”

Funding Source: National Institutes on Health
Amount Proposed: $226,404
Project Dates: July 15, 2013 to July 14, 2015

Overview: The purpose of the project is to examine the effect of heel height on lower extremity kinematics and muscle recruitment at the knee during various landing tasks and to explore an alternative strategy to minimize the risk factors associated with anterior cruciate ligament (ACL) injuries. This research represents an initial phase of a research agenda that has an overall goal of decreasing non-contact ACL injuries in female athletes.
“Law Enforcement Training for Managers for the Pennsylvania Department of Conservation and Natural Resources”

Funding Source: Pennsylvania Department of Conservation and National Resources
Amount Awarded: $39,711

Overview: The purpose of this project is to provide quality training in park law to Pennsylvania forest and park managers. The three-week training session will consist of intensive topics and current issues that are critical components of local, state and national park law enforcement training programs. Approximately 20 state forest and park managers from various regions of Pennsylvania will be attending. Several highly trained, professional instructors will teach in the program. During this training, park managers will participate in role-play scenario training, physical tactics, group activities and lectures. Sample topics include: criminal law, criminal and civil liability, search and seizure, patrol procedures, motor vehicle accident investigation, controlled substances, investigation and authority and jurisdiction.
“A Historical Political Ecology of the ‘New Gold Rush’ in Yukon Territory, Canada”

Funding Source: National Science Foundation
Amount Proposed: $31,090
Project Dates: June 1, 2013 to May 31, 2014

Overview: The purpose of this project is to investigate the cultural politics of the so-called ‘New Gold Rush’ in the Yukon Territory of Canada. This refers to a recent increase in gold mining in the territory due to rising gold prices over the past three years. Both tourism and mining regulatory policy are influenced by the construction and promotion of historical narratives of the late 19th century gold rush. This research will involve interviews, surveys and archival research in The Yukon in order to ascertain how and to what degree understandings of history influence land-use practices and environmental policy.
Overview: The purpose of this project is to research game theory, especially on problems related to the existence of equilibrium points and fixed points over the last ten years. The objective is to continue to make progress in developing the theory of L*-operators. Previous results have shown the utility and importance of L*-operators primarily in the area of non-linear analysis. Additional research results have shown connections of L*-operators to other areas of mathematics such as game theory and convexities.
“New Master in Nursing Degree Program (School Nursing, Leadership and Administration)”

Amount Proposed: $15,000

Overview: The purpose of this project is to develop and enhance the learning environment for five new courses in the new Master of Science in Nursing Degree Program. The program has two tracks---School Nursing and Leadership and Administration. The funds will be used for course development, teaching technologies (software, video and/or technology) to enhance the learning environment, and travel funds to connect with national leaders in Master’s nursing education.

Dr. Maryann Thurkettle
Dr. Diana Jones
“Health Promotion Services Program”

_Funding Source: Highmark, Inc._
_Amount Awarded: $25,000_
_Project Dates: Jan. 1, 2012 to June 30, 2014_

Overview: The purpose of this project is to provide health/wellness programs to Highmark insurance holders.
“Effects of Prenatal Cocaine Use: 21-Year Follow Up”

Funding Source: National Institutes of Health through the University of Pittsburgh
Amount Awarded: $2,029

Overview: The purpose of this study is to examine the long-term effects of light to moderate prenatal cocaine exposure (PCE) on growth, behavior and neurocognitive development. Women were recruited into the study during pregnancy and their children have been assessed at birth, 1, 3, 7, 10 and 15 years. The 21-year follow-up study is designed to evaluate the cohort as they enter young adulthood, a critical developmental stage that requires learning and adapting to new roles and responsibilities. The researchers are evaluating how PCE affects growth, cognitive and neuropsychological functioning, behavior, affect, adaptation to adult roles and substance use in emerging adulthood. Problem behaviors that have been detected in previous phases of the study are significant risk factors for more serious problems in adulthood, including criminality, continued and escalating substance use and other psychiatric disorders. Thus, the researchers expect PCE effects on a broader range of problems in cognitive, psychological and social function.
Overview: The purpose of this supplement project is to evaluate the underlying brain functions associated with prenatal cocaine use (PCE) related behavioral and cognitive problems. Previous studies conducted by the researchers have found PCE-related problems in children’s ability to regulate behavior and attention. Functional neuroimaging had been used to examine the effects of prenatal drug exposure (cocaine, alcohol, tobacco and marijuana) on changes in brain activation while performing attention tasks. With detailed information from the previous study about the development of each subject, the researchers are able to take health, psychological status and current drug use into consideration while interpreting the results of the study. Thus, this study will provide a link between PCE, neurocognitive performance and the underlying neural substrates associated with behavioral outcomes of addiction.
Dr. Eva Tsuquiashi-Daddesio

Dean
College of Humanities,
Fine and Performing Arts
“Pennsylvania Performing Arts on Tour: Jay Smar”

Funding Source: Pennsylvania Performing Arts on Tour  
Amount Proposed: $1,636  
Project Dates: April 18, 2013 to April 19, 2013

Overview: The purpose of this project is to assist in the programming of the Kaleidoscope Arts Festival by providing support for performance and workshop fees for Jay Smar, a musician recently recognized by the Pennsylvania House of Representatives for over 30 years of preserving coal heritage through original and documented song. This presentation fulfills the mission of the Kaleidoscope Arts Festival to provide quality arts programming to an underserved region.

“Kaleidoscope Arts Festival”

Funding Source: Pennsylvania Partners in the Arts  
Amount Awarded: $2,000  
Project Dates: April 1, 2013 to March 31, 2014

Overview: The purpose of this project is to provide additional funding for the Kaleidoscope Arts Festival programs 2013-2014. This support will allow the Kaleidoscope Arts Festival to fulfill its mission of providing free or low cost quality arts programming for underserved regions.
Interim Vice President for Student Life

dr. robert WATSON
“Alcohol Education to Reduce Underage and Dangerous Drinking”

Funding Source: Pennsylvania Liquor Control Board
Amount Proposed: $40,000
Project Dates: July 1, 2013 to June 30, 2015

Overview: The purpose of this project is to provide SRU students with a comprehensive health promotion program to reduce underage and dangerous drinking. Evidence-based programming will be implemented on campus to all students. The driving force for the implementation of these programs will be the Healthy Outreach Through Peer Education (HOPE) peer educators. Expected outcomes include a change in student perception of SRU student alcohol behaviors, fewer negative consequences of alcohol and students being able to identify helping strategies for alcohol poisoning and decreasing alcohol intake.
“SRU-LGBT Carebreak”

Funding Source: Stackpole-Hall Foundation  
Amount Proposed: $5,000  

Overview: The purpose of this project is to provide students an opportunity to have interaction in a Lesbian, Gay, Bisexual and Transgender (LGBT) environment. The first LGBT Carebreak at SRU is to take students to San Diego during the Spring Recess. The students will work at the LGBT Center, assist homeless LGBT youth and reflect on the service and learning components that have taken place.
“Pay It Forward Network”

*Funding Source: Rite Aid Foundation*
*Amount Proposed: $7,000*
*Project Dates: Dec. 1, 2012 to Dec. 1, 2013*

Overview: The purpose of this project is to develop a “Pay It Forward Network” at SRU. The network will link former/recovering cancer patients with current/newly diagnosed cancer patients to provide education, assistance, mentorship and advocacy for the person entering treatment. The network’s goal is to alter the connotation of cancer through cultural change in mindset to *Community Action Negating Cancerous Effects Rapidly* (CANCER).
“Childcare Access Means Parents’ Success”

Funding Source: U.S. Department of Education
Amount Awarded: $24,097

Overview: The purpose of the Childcare Access Means Parents’ Success (CCAMPIS) program is to assist student-parents who wish to enroll in college and complete a degree program but do not have the funds to pay for childcare while they attend classes. Most of the students enrolled at SRU are first generation college students from the rural, five surrounding counties. For them, access to higher education and high quality preschool education is extremely limited. This funding is for Year 04 of a four-year grant.
“Pre-K Counts”

Funding Source: Pennsylvania Department of Education through Lifesteps, Inc.
Amount Awarded: $180,950
Project Dates: July 1, 2012 to June 30, 2013

Overview: The purpose of the Lifesteps and SRU/SGA Preschool and Child Care Center joint grant is to coordinate services so that eligible children can participate in a developmentally appropriate, research-based early learning program that ensures a smooth transition to kindergarten. The goal is to identify at-risk children in Butler County based on their income levels and special needs in order to provide them an early education experience.
“Healthy Lifestyles Initiative: Yoga/Tai Chi for Faculty and Staff”

Funding Source: APSCUF Health and Welfare Fund  
Amount Proposed: $2,000  

Overview: The purpose of the project is to provide faculty and staff with the opportunity to study and practice Yoga/Tai Chi under the guidance of trained and certified instructors. Weekly seventy-five minute Yoga/Tai Chi instruction will enable participants to learn lifelong skills to manage stress, improve concentration and focus. The intended outcome for the skill set will decrease the effects of workplace stress, improve work productivity, increase resilience and overall health.
“Healthfest”

Funding Source: Pennsylvania Faculty Health and Welfare Fund
Amount Awarded: $1,000

Overview: The purpose of this project is to conduct Healthfest 2012, an intergenerational event, aimed to bring together the University community (faculty, students and staff) and the tri-county community (younger and older adults). Health professionals provided exhibits, screenings, presentations, samples and demonstrations to approximately 1,000 participants.
“SRU/SGA Preschool and Childcare CCAMPIS Grant”

Funding Source: U.S. Department of Education
Amount Proposed: $57,132

Overview: The purpose of the Childcare Access Means Parents’ Success (CCAMPIS) program is to assist student-parents who wish to enroll in college and complete a degree program but do not have the funds to pay for childcare while they attend classes. Most of the students enrolled at SRU are first generation college students from the rural, five surrounding counties. For them, access to higher education and high quality preschool education is extremely limited.
SGA Childcare Center

“2012-2013 Keystone STARS Quality Improvement Grant”

Funding Source: Pennsylvania Department of Education through Northwest Regional Key
Amount Awarded: $11,347
Project Dates: July 1, 2012 to June 30, 2013

Overview: The purpose of this project is to fulfill the long-term goal of the Center by providing a high quality learning experience that is aligned with the PA Learning Standards in an environment that is safe and developmentally appropriate. The materials purchased with this funding allows the Center to move toward this goal by improving the environment and helping to upgrade the quality of experiences that are provided to the children.

ms. lisa RINGER
Vice President for University Advancement

ms. barbara ENDER
“Performing Arts Series 2014”

Funding Source: Pennsylvania Council on the Arts  
Amount Proposed: $2,200  

Overview: The purpose of this project is to provide funds to bring Steve Lippia to SRU to perform with the SRU Jazz Ensemble for a performance of the 2014 Performing Arts Series.
Internal Grants
The purpose of this internal grants initiative is to provide support for faculty research proposals that directly involve undergraduate or graduate students in scholarly research or creative activity directed toward a joint presentation, publication, demonstration and/or performance. The following faculty members prepared a grant proposal in response to the Request for Proposals.

**Exercise and Rehabilitative Sciences**

“Standardization of Elastic Band Characteristics During Resisted Running”
There are constant innovations in equipment and methods for training athletes to maximize their athletic performance. Unfortunately, many times coaches implement these new methods and equipment based solely on anecdotal practices instead of scientific evidence. One of these innovations is the use of elastic bands as a form of resisted running. This application, while popular and seemingly effective, is largely based on anecdotal practices instead of scientific evidence. Therefore, the purpose of this study consists of two parts: (1) quantify each individual elastic band resistance (monster, mini, light, average and strong) using a custom designed slide assembly, and (2) utilize subjects to measure the force, work and power required to overcome the elastic bands during resisted running. Furthermore, this study will set the stage for future studies that will compare elastic bands effectiveness as a resisted running apparatus to those already established, such as parachutes, weight vests and weight sleds.

**Jan. 1, 2013 to Dec. 31, 2013**

$5,000

**Ms. Tricia Bishop**
Art

“Weather Resistant Ceramics”
Western Pennsylvania experiences climate changes from subzero temperatures in the winter months to temperatures above 90 degrees Fahrenheit during the summer. Clay and glazes used to construct outdoor ceramic installations must be formulated to survive the climate stresses of freezing and thawing as well as moisture level fluctuations between periods of heavy rainfall to dryer weather. The research for this project will involve testing different formulated clay bodies and glazes for their ability to survive long-term outdoors in Slippery Rock, Pennsylvania.

**Jan. 28, 2013 to July 31, 2013**

**Dr. Patrick Burkhart***
Ms. Katherine Mickle
Mr. Benjamin Bires (U)
Ms. Kaitlyn Bouch (U)
Ms. Maria Camera (U)
Mr. Derick Fiedler (U)
Ms. Hannah Scrima (U)
Mr. James Stevens (U)
Ms. Kaitlin Walter (U)

**Geography, Geology, & the Environment**

“Evaluation of Geomorphic Forcing by the Mediaeval Climate Anomaly in the White River Badland”
Over the past decade, we have determined a chronology of paleosols (old, buried soils) from two localities in Badlands National Park. Based upon these data, we recognized that some environmental factor had initiated rapid stream incision of the landscape during the early portion of the last millennium. We have recently learned of a protracted drought dating from around 800-1000 years ago, called the Mediaeval Climate Anomaly. We want to study more paleosols. Our hypothesis states that we will find that the uppermost paleosols will date to the MCA, in an array of Holocene soil profiles across the region. Recognition of a change in climate in this region during this interval can take our previous findings and catapult them, from being an interesting colloquial peculiarity, to having the status of regional prominence within this context.

**Feb. 1, 2013 to Dec. 31, 2013**

$5,000
Dr. Xianfeng Chen*
Dr. Jack Livingston
Mr. Bob Blystone (U)
Ms. Jenna Kessler (U)
Geography, Geology, & the Environment

“Wetland Mapping with High Spatial Resolution Space-Borne Multispectral and SAR Data”
Wetlands are regarded as one of the richest and most diverse ecosystems on Earth. However, significant wetland loss has been observed all over the world. Therefore, it is essential to accurately delineate wetland distribution and monitor its temporal dynamics. Remote sensing technology has provided a promising tool for monitoring wetlands. This study investigates the potential of integrating high spatial resolution multispectral and Synthetic aperture radar (SAR) space-borne data to improve the classification accuracy of a wetland complex landscape in Mercer County, Pennsylvania, located on the glaciated portion of the Allegheny Plateau. A more detailed and accurate map of wetlands and other land cover and land use types will be produced. The proposal approach is more cost effective than the methods of wetland mapping based entirely on field surveys. There is no literature revealing that the wetlands have been mapped in this manner.
Jan. 1, 2013 to Dec. 31, 2013
$5,000

Dr. Patrick Harvey
Ms. Amanda Whitney (U)
Criminology and Criminal Justice

“The Cycle of Violence & Self Harmfulness: Neglecting the Neglected”
This project is a qualitative exploration of individual self development subsequent to childhood victimization. Supported by Integral Theory’s conceptualization of the self-system, telephone interviews were used to collect data regarding the characteristic qualities of harmful and non-harmful victims, the two general outcomes addressed by the cycle of violence (COV) hypothesis. Analysis uncovered three identified victim groups, each corresponding to a relative placement on a COV Completion Continuum. While individual characteristics of all three identified victim groups are presented, a discussion regarding self-harmful victims, perhaps a more neglected group of COV completers, is emphasized.
Jan. 1, 2013 to June 30, 2013

Dr. Nicole Dafoe*
Mr. Samuel Lotz (U)
Biology

“European Corn Borer (Ostrinia nubilalis) Induces Enhanced Susceptibility in Maize Stems”
The human population is growing at an exponential rate and there is a serious concern that our food supply will not be able to meet increasing demands. In order to increase crop yields, we need to be able to decrease losses due to insect and pathogen infestation. This research project focuses on understanding how corn responds to one of its most devastating pests, the European corn borer. When European corn borer larvae hatch, they begin feeding on leaves and then tunnel into the corn stalks where they cause the most economical damage. Corn stems produce a defense to European corn borer feeding; however, these defenses do not slow the growth of the insect. I am interested in understanding how this insect has adapted to corn defenses. By understanding this interaction, we will be able to make more informed decisions on how to prevent losses due to European corn borer feeding.
Jan. 1, 2013 to Dec. 31, 2013
$4,959
Dr. Elizabeth Kemeny
Dr. Robert Arnhold
Mr. Scott Chellis (U)
Ms. Kimberly Krupack (U)
Ms. Lauren Marriner (U)
Mr. Bradley Martinez (G)
Ms. Allison Rowland (G)
Ms. Becky Searight (U)
Mr. Sean Summer (G)
Ms. Kalli Wakefield (U)

Physical Education

“Sensory Integration in Transition for Lifelong Health Promotion”
Although well-documented disparities exist between the physical activity levels of individuals with and without disabilities, little known research evaluates the effectiveness of outdoor sensory strategies to promote lifelong physical activity in youth ages 14-21 with disabilities. The purpose of this proposal is to mentor three graduate and five undergraduate co-investigators in order to compare the effectiveness of equine-assisted and horticulture-based work activities in promotion of the building blocks of lifelong physical activity participation in 20 youth with disabilities. The outcome measures include self-directed choice-making, physical activity duration, sensory integration and self-efficacy in youth with disabilities. Over ten weeks, the study will employ a within-subject alternating-treatments single subjects design with a return to baseline in order to compare the two sensory interventions. After graphing the data, students will visually inspect and interpret the data in order to better understand efficacy of each intervention.
Jan. 1, 2013 to Dec. 31, 2013

Dr. Ahmad Khalili
Ms. Michelle Mullin (U)

Professional Studies

“Modernization, Modernity, and Democratization in the Middle East”
Modernization theorists have argued that economic developments bring cultural change. The processes of globalization and modernization in the Middle East during the past decades have dramatically influenced people's lives-politically, economically and culturally. The purpose of this study is to test the theoretically and empirically based assumptions of the outcome of socioeconomic modernization at the individual level by examining the prevailing attitudes toward Islam, democracy and gender equality in selected Islamic societies. The data collected by the World Value Survey from the region before and after the Arab Spring will be used to test our hypotheses. Undergraduate students are directly involved in this research and will make a joint presentation of the results in the upcoming conference. March 1, 2013 to Dec. 30, 2013

Dr. Sarah Kuehn*
Dr. Rebecca Schnupp
Ms. Heather Birchfield (U)
Ms. Ashley Swezey (U)

Criminology and Criminal Justice

“Inside the Black Box of A Drug Treatment Court in Western Pennsylvania”
“Problem solving courts” seek to address the underlying causes of criminal behavior and have gained widespread popularity in the United States. Particularly, Drug Treatment Courts (DTC) have been implemented throughout the country. There have been numerous studies claiming DTC as an effective tool to reduce re-offending rates and save costs to the criminal justice system. However, previous research has neglected to examine why these problem-solving courts are effective and how participants perceive these alternatives to the traditional criminal justice system. This study attempts to fill this gap of research with a study of a DTC in Western Pennsylvania. Interviews with DTC participants will assist in gaining more insight into participants’ experience of the program and challenges that they are facing while completing the program. Policy recommendations in regards to improving the effectiveness of DTC and participant’s will be discussed.
$4,332
Dr. Stephen Larson  
Computer science  

“Cyber Security and Privacy Workshop”  
This creative research activity will allow participating students to research cyber security and privacy concepts. The activity will culminate in a cyber security and privacy workshop at which fellow students can test knowledge of cyber security and privacy and learn more about topics including keeping their online information safe, how to safely and securely delete files off their computer's hard disk before selling or giving away the computer, what is malware and how to protect against it, cell phone and smart phone security, strong passwords, etc. Surveys and questionnaires filled out at the workshop will provide data for a research presentation about the general knowledge level of SRU students about cyber security and privacy.  
*Jan. 3, 2013 to April 26, 2013*

Dr. Rizwan Mahmood*  
Mr. Cory Dolbashian (U)  
Mr. Jordon Ewing( U)  
Physics  

“Dynamic Light Scattering in Graphene/Water-Graphene/Liquid Crystals Composites”  
Since its discovery in 2004, graphene has been the focus of intense interest as it exhibits unique properties and may find wide applications in nanoscale science and technology. The unique chicken wire-like 2-dimensional single layer structure composed mostly of carbon atoms provides an excellent opportunity for it to be folded from 1-dimensional (carbon nanotubes) to 0-dimension (buckyball). Dynamic Light Scattering will focus on the Brownian motion of graphene in water and liquid crystals.  
*Jan. 1, 2013 to Dec. 31, 2013*  
*$4,999$  

Dr. Rizwan Mahmood  
Mr. Cory Dolbashian (U)  
Mr. Angelo Visco (U)  
Physics  

“Microscopic and Birefringence Studies of Water/Thermotropic/Lyotropic Liquid Crystals Microemulsions”  
This project will study optical and thermal properties of microemulsions formed in three components system 5CB (liquid crystal), DDAB (double tailed cationic surfactant), and water. Microemulsions are thermodynamically stable dispersions of oil and water stabilized by a surfactant and, in many cases, also by a co-surfactant. The optical birefringence (difference between two refractive indices) study will provide information about the swelling of liquid crystal layers due to the permeation of water. This information is important for oil recovery, drug delivery and for delivering a gene into the cell. On the other hand, thermal studies are important in identifying different phase(s) in this complex system.  
*Jan. 1, 2013 to Dec. 31, 2013*  

Dr. Rizwan Mahmood  
Mr. Cory Dolbashian (U)  
Mr. Angelo Visco (U)  
Physics  

“Graphene colloid in Liquid Crystals”  
The discovery of one atomic thick two dimensional layer of graphite, known as graphene, has sparked the interest of scientific community to understand its properties and to develop technology for fabrication for its potential use in a wide variety of applications. It is stronger than graphite and a good conductor that carries charge over thousands of atomic distances without scattering. It is a part of 3D material (graphite), as presumably a 2D material cannot to be thermodynamically stable with respect to the curved structure in free space and was known as ‘academic’ material. Graphene can be folded into all dimensionalities: 0D (buckyballs), 1D (nano tubes), and 3D (stacks of graphite). Scientists around the world are hoping to replace today’s integrated circuits (silicon based) with graphene-based chips to acquire computing speed as much as 100 times. The composite mixture of liquid crystals and graphene will be studied in this project.  
*Jan. 1, 2013 to Dec. 31, 2013*
“Researching and Creating Handmade Artist Books”
This project will provide funding for two undergraduate students and a professor from the English department to travel to New York City to research artist books, which are publications that combine text and image in unique ways. Artist books, with limited print runs and an emphasis on the handmade, are a counter-literature to the rise of electronic books. The researchers will visit artist book collections at the New York Public Library and Printed Matter and then take classes in making artist books from the world-renowned Center for Book Arts. As a result of their research, the students will create several artist books in collaboration with other students on the staff of Slippery Rock’s SLAB literary magazine.
Feb. 1, 2013 to April 30, 2013
$1,985

Ms. Ursula Payne
Dance

“Investigating African-American Dance Traditions Though Learning and Choreographing Contemporary Dance”
The August Wilson Center Dance Ensemble will spend several days on campus at SRU collaborating with undergraduate dancers, performing repertory in a lecture demonstration open to the campus community, teaching six master classes in dance technique courses and restaging Baina from their repertory on undergraduate dance students enrolled in the DANC 399 Repertory course. Approximately 200 students will be impacted by the proposed creative activities and master classes in dance studies connected to the African-American dance tradition. The second component of the project to be completed involves the DANC 399 Repertory course taught by faculty investigator, Ursula Payne. Ursula Payne and up to twenty six undergraduate dance students will collaborate by approaching the choreography and learning of two new works of contemporary dance connected to the African-American dance tradition.

Dr. Nancy Shipe*
Ms. Nicole Bazil (G)
Mr. Kevin Dougherty (G)
Ms. Alexandra Haldi (G)
Mr. Phillip Scalise (G)
Physical Therapy

“The Effects of Shoe and Prefabricated Orthotic Prescription on Dynamic Balance Control in College-Aged Adults with Unilateral Chronic Ankle Instability”
Physical therapists commonly treat patients with chronic ankle instability (CAI). The objective of this study is to determine if non-supportive shoes, stability shoes and/or prefabricated foot orthotics will improve balance in college-aged adults with CAI. Thirty-six college-aged subjects will be assigned to wear non-supportive shoes, stability shoes or prefabricated foot orthotics with non-supportive shoes. Balance measurements will be taken on baseline, immediately following fitting of assigned footwear, at 4 weeks and at 8 weeks. Changes to their CAI and their balance scores will be analyzed.
Jan. 1, 2013 to Dec. 31, 2013
$4,976
Dr. Carolyn Steglich*
Mr. Jesse Kuhn (U)
Biology

“Creating a Latex Bead-Based Method for Demonstration of Blood Typing and Other Agglutination Reactions for Immunology”
One of the classic methods for detection of an antigen-antibody reaction in immunology is agglutination, or the clumping together of cells or other small particles when antibodies bind to surface antigens and crosslink the cells into large clumps. In the case of blood typing, the cells are human red blood cells and the antigens on the cells’ surface are the various blood type antigens (ABO, Rh, etc.). Demonstrating these reactions in a class poses several problems, the chief one being the need to use human blood of unknown blood types. The need for human blood poses a safety issue as well as a problem getting good quality blood samples in a reliable fashion. We propose developing a system using protein-coated latex beads to substitute for red blood cells that will allow the reactions to be observed in a reproducible and safe procedure in undergraduate classes in immunology.
$2,460

Dr. Deborah Whitfield*
Dr. David Dailey
Mr. Nick Botzer (U)
Mr. Grant Denmead (U)
Mr. Daniel Miller (U)
Mr. Jake Weidman (U)
Computer Science

“Navigating Gravity Graphs on the Internet”
Navigating graphs on the Internet is an ongoing project that utilizes graph theory to determine methods for efficiently navigating web sites. This investigation began with defining a metric called graph gravity. The development of the mathematical theory of this concept led to a way of automatically generating web sites with connective structures that were suggested to be more easily navigated by human subjects. The team discovered that the theory is predictive of human behavior and has implications for web site improvement. At the same time, several theoretical advances suggest further refinement in the overall approach.

Two faculty and three students will expand these theories, improve current software, implement new definitions of navigability and experiment with generated websites to test the predictive power of these theories. Results will be analyzed to determine if gravity can be used to help users navigate graphs (websites) and to design websites with better interconnectivity.
$5,000

Dr. Michael Zieg*
Ms. Megan Graubard (U)
Mr. Caleb Sykora-Bodie (U)
Geography, Geology, & the Environment

“Electron Microprobe Analysis of Mineral Compositions in the Nipigon Sills, Ontario, Canada”
Mineral compositions provide valuable insight into the nature and consequences of processes that occur during the solidification of magma to form an igneous intrusion. However, accurate determination of these compositions requires analytical instruments that are generally unavailable outside of research-intensive institutions. In this project we will (1) access an undergraduate-focused electron microprobe facility at Concord University, West Virginia; (2) conduct analyses and obtain mineral compositions that will lead to a better understanding of the emplacement history of a complex intrusion; and, (3) use the results as pilot data for a National Science Foundation grant proposal. This project will build on prior work that has resulted in SRU obtaining a complete drill core through a 250m thick intrusion (sill) from Nipigon, Ontario. This sample collection, together with the application of electron probe, microanalysis, provides a unique opportunity to improve our understanding of petrologic processes that occur in continental rift environments.
Jan. 1, 2013 to Dec. 31, 2013
$4,700

*Awarded
The mission of Slippery Rock University's Center for Student Research is to create a community of learners by facilitating the exchange of ideas, to provide a collegial venue that prepares students for further scholarly exploration and professional careers and to promote scholarly inquiry as a fundamental value of the SRU experience. The goal of this internal grant program is to support and promote high-quality student/faculty collaborative research, scholarship and create activity. The following students prepared a grant proposal in response to the request for proposals.

Ms. Melanie Calhoun (U)*
Cooperating Faculty Member:
Ms. Nola Nolen-Holland
Dance

“Return to Chicago: 2013 Summer Internship with the Jump Rhythm Jazz Project”
The purpose of this project is to serve as the sole 2013 summer intern for the Jump Rhythm Jazz Project in Chicago, IL. Jump Rhythm Jazz Project is a professional dance company that travels internationally performing and teaching their explosive style, Jump Rhythm Technique. The student interned with the Jump Rhythm company in the summer of 2012. Consequently, she has been invited to intern again in summer 2013 and she was invited to join the company. Receiving this grant would help diminish the cost of traveling and living in Chicago for summer 2013.

Nov. 1, 2012 to Aug. 9, 2013
$500

Ms. Sonja Gable (U)
Ms. Samantha Baker (U)
Ms. Abby Hewitt (U)
Ms. Emily Kurtik (U)
Ms. Alyssa McIntyre (U)
Ms. Erin McKenna (U)
Mr. Ryan McMullen (U)
Ms. Taylor Pearson (U)
Cooperating Faculty Member:
Ms. Jennifer Keller
Dance

“Student Choreographed Tap Dance and Equipment”
This project will add a tap piece to the Rock Dance Company repertoire that will enhance and diversify the company’s performances. Rock Dance Company members Alyssa McIntyre and Emily Kurtik will choreograph the dance and teach it to the company. The dancers will tap on portable, wooden boxes that can be adapted to any indoor or outdoor setting. The knowledge gained from adding the tap technique to the company will broaden the skills of the student performers. Children and community audiences will be enhanced by exposure to a greater variety of dance styles.

Grants for Student, Research, Scholarly, Creative, Entrepreneurial and Civic Projects 2012-2013

Ms. Carly Kaczmarowski (U)*
Cooperating Faculty Member:
Dr. Mark O’Connor
English

“Filming Wildlife in South Africa”
This is a month long film internship in Mossel Bay, South Africa.
During this internship, the student will work with a team of three other interns for the ultimate goal of creating a three minute wildlife documentary. The student will attend a week of pre-production by attending workshops to learn how to use an array of film equipment and create a story. Two weeks will be spent in Schotia Safari’s Private Game Reserve for filming. The last week will be spent in post-production developing and editing the final documentary.
May 1, 2013 to June 1, 2013
$500

Ms. Alanna Leipold (U)*
Cooperating Faculty Member:
Ms. Jennifer Keller
Dance

“Benefit Arts Concert”
The student will plan, direct and produce a Benefits Arts Concert on campus at SRU. She will also work with a team of experienced students from the music, art, dance and business departments. The proceeds from the event will go to a charitable organization. This inclusive, interdisciplinary concert will incorporate principles of dance production and artistic direction, and will connect the arts at SRU with a worthy cause.
$458

Mr. Tim Martin (U)*
Ms. Alyssa Craig (U)
Ms. Jillian Chappel (U)
Ms. Kenya Coleman (U)
Mr. Ryan Geary (U)
Ms. Hannah Malloy (U)
Ms. Anna Pedicini (U)
Mr. Matt Pleso (U)
Ms. Cally Shipton (U)
Mr. Conner Smith (U)
Cooperating Faculty Member:
Dr. Jennifer Willford
Psychology

“Brain Awareness Week Community Service Project: Concussion Awareness and Prevention in Local High Schools”
Brain Awareness Week (BAW) is a national event that occurs annually through the support and resources of the Dana Foundation. The purpose of BAW week is to increase public awareness about the progress and benefits of brain research. A team of students at SRU, lead by student Tim Martin, will design awareness and prevention materials, and speak with local high school students on the dangers and consequences of concussions. The goals of this project are to provide information about concussions effects on the brain as well as educate students, teachers and parents about concussion prevention.
Nov. 1, 2012 to March 17, 2013
$500
Ms. Rebecca Mason (G)*
Ms. Stephanie Nyce (G)
Ms. Frances Shaffer (G)
Cooperating Faculty Member:
Dr. Barbara Billek-Sawhney
School of Physical Therapy

“Physical Therapy Students and Faculty Member Providing Service Learning in a Developing Nation at St. Jude Hospital, Vieux Fort, St. Lucia”
The purpose of this project is to serve an international developing nation via physical rehabilitation. This will be an international service learning experience through Health Volunteers Overseas at St. Jude Hospital, Vieux Fort in St. Lucia. Three SRU students and one SRU faculty member will perform the physical rehabilitation. These will largely include physical therapy examinations and appropriate interventions/treatments of hospital patients in need of our care. The SRU faculty member will also hold an additional international service role of teaching and training existing rehabilitation personnel at St. Jude Hospital.
Jan. 4, 2013 to Jan. 18, 2013
$500

Ms. Leah Nobers (U)*
Cooperating Faculty Member:
Mr. Tom Cobb
Dance

“Guest Choreography from Jump Rhythm Jazz Project”
The goal of this project is to research Jump Rhythm Jazz dance technique by learning choreography and interviewing a current member of the Jump Rhythm Jazz Project company. The student will use this information to integrate Jump Rhythm Techniques into other styles of dance. The student will also learn a solo from the company member that will be performed in the 2013 Department of Dance Senior Synthesis concert as well as present her work at the Student Research Symposium in the spring of 2013.
Nov. 1, 2012 to April 30, 2013
$500

Mr. Kristopher Nolt (U)*
Ms. Marissa Manko (U)
Ms. Aman da Mikatavage (U)
Mr. Dave Reiderer (U)
Cooperating Faculty Member:
Dr. Brian Crow
Sport Management

“Sports and Entertainment Venues Tomorrow Conference Undergraduate Case Study Competition”
The group will compete in the inaugural Sports and Entertainment Venues Tomorrow Conference (SEVT) undergraduate case study competition. The students were given two weeks to compile a written solution and oral presentation to a sport management-based problem given by the selection committee. The group has 15 minutes to present the case to a panel of scholars at the beginning of the SEVT conference in November. Powerpoint and other visual elements will be used to communicate the group's solution. The winning team receives a trophy, presents their solution to conference attendees and the winning school will be given four free student passes to next year's SEVT conference.
Nov. 1, 2012 to Nov. 17, 2012
$500

Ms. Zoey Prokopiak (U)*
Cooperating Faculty Member:
Dr. Carolyn Steglich
Biology

“Harderian Gland Secretion of Anolis carolinensis”
The purpose of this project is to isolate and purify proteins found in the Harderian gland of the anole lizard to characterize their function.
$486
Ms. Mary Regney (U)*
Cooperating Faculty Member:
Ms. Jennifer Keller
Dance

“Broadway Bound: Learning and Performing a Historic Broadway Solo”
This project expands the students’ knowledge of musical theatre choreography and the process of learning the dance movement, developing a character and rehearsing. The student will work with professional choreographer, Chris Saunders, to learn and perform a historical or original musical theatre solo. The student will then present the solo as part of her Senior Synthesis capstone project during the 2013 Kaleidoscope Arts Festival.
Feb. 16, 2013 to April 21, 2013
$500

Ms. Kaila Shumar (U)
Ms. Elizabeth Bright (U)
Cooperating Faculty Member:
Dr. Ethan Hall
Physical and Health Education

“Proper Biomechanics of Circuit Training”
The purpose of this project is to present proper exercising and weight lifting techniques to a group of physical educators at a local conference and then see how well they employ the information during an exercise circuit. Individuals who attend the presentation will be given a wristband and videotaped during the circuit workout to see if they use proper techniques compared to individuals who did not attend the presentation. The results of this study along with a brief overview of correct exercise techniques will be presented at the research symposium.
Aug. 29, 2012 to Dec. 27, 2012

Mr. Adam Wagerman (U)*
Cooperating Faculty Member:
Mr. Ian Thomas
Art

“Contemporary Art Influence”
The students' project is to go to the 2013 conference of the National Council of Education in the Ceramic Arts (NCECA). Upon arrival, he will seek out three of his favorite pieces of contemporary art and analyze them. When he returns to SRU, he will use this influence to generate three bodies of work for presentation at the 2014 Student Research Symposium. He will write compatible artist statements for each body of work and prepare a presentation on what he has learned from this experience.
March 19, 2013 to Dec. 31, 2013
$471

*Awarded
The Green Fund was established to support environmental initiatives on campus and in the community. The Advisory Board accepts proposals and distributes funding for programs promoting environmental education and projects related to environmental sustainability. The following proposals were submitted in response to the Request for Proposals.

Mr. Scott Albert*
Facilities and Planning

“Equestrian Center Electrical Meter Installation and Integration”
The project goal is to measure the effectiveness of energy initiatives implemented in campus buildings which in turn will help us reduce electricity usage. By reducing the use of electricity, we are using less electricity that is generated from coal.
Dec. 1, 2012 to May 1, 2013
$9,500

Mr. Scott Albert*
Facilities and Planning

“Lifelong Learning Electrical Meter Installation and Integration”
The project goal is to measure the effectiveness of energy initiatives implemented in campus buildings which in turn will help us to reduce electricity usage. By reducing the use of electricity, we are using less electricity that is generated from coal.
Dec. 1, 2012 to May 1, 2013
$9,500

Mr. Dallas Cott
Facilities and Planning

“Electric Vehicle Pilot Program”
The project is intended to help SRU and Facilities and Planning determine if electric utility vehicles are a viable alternative to gas/diesel powered vehicles. Also, the use of an electric vehicle is estimated to reduce local introduction of 3000 lbs of carbon into the environment. The use of the electric vehicles also provides a smaller and quieter vehicle into the campus atmosphere and also shows the students that the University cares about the environment, traffic congestion and noise levels on campus.
March 1, 2013 to May 31, 2013

Dr. David Culp
Dr. John Golden
Dr. Colleen Gray
School of Business
Music

“English Garden: Sustainability Garden Demonstration Project”
The main goal of this project is to create a living –learning laboratory on the SRU campus. It will increase awareness of SRU’s commitment to sustainability by repurposing an existing unused space into an attractive and sustainable English Garden. This is an opportunity to educate students, faculty, staff and community members on organic sustainable gardening, using composted and fabricated soil, heirloom plants, some selected native shrubs and trees, repurposed barn stone and watering through collected rain water. It also contributes to SRU’s commitment to globalism. The project will showcase organic gardening and landscaping, and allow the University and local community members the opportunity to work together to repurpose an available green space.
April 1, 2013 to Dec. 31, 2013

Dr. Maria Harrington
Mr. Jon Shumway
Computer Science
Art

“The Virtual and Real SRU Pond Advocacy Project”
The Green Fund and the ideals of sustainability are embraced with a goal to restore and renew the SRU ponds and to inspire new ways of thinking and action in the public. This project proposes the ponds are converted into native fisheries and used to help study the interaction of environment, water, and fish. Additionally, we propose the funding of an immersive virtual stimulation of what this could look like and use the Virtual Pond to study how such a viral model can be used to inspire advocacy and affect change in
values and actions.


Ms. Jenna Kessler (U)*
Mr. Paul Novak
Mr. Kevin Currie
Mr. Paul Scanlon
Dr. Tamra Schiappa
Dr. Kolson Schlossor
Dr. Julie Snow

Environmental Health & Safety
Residence Life
Sustainability Office
Geography, Geology, and Environment

“TerraCycle”
This project is sustainably-progressive with the goal of protecting and achieving sustainable economic benefits by educating students that items can, in fact, be recycled and used to reduce the resources needed to create new products. It will also help expedite SRU’s achievement of its sustainability goal of minimizing landfill waste. The program will also benefit SRU students, who can obtain community service credits for volunteer hours through the CSIL program. To help make this program sustainable itself, we intend to allow the project leader each year to select the TerraCycle charity of his/her choice, giving him/her an additional incentive.

May 1, 2013 to Dec. 31, 2013

$1,050

Mr. Paul Scanlon
Ms. Laurel Dagnon

Sustainability Office
Center for Student Involvement and Leadership

“Sustainable Education Incentive Program”
This project is sustainably-progressive with the goal of protecting the environment and achieving sustainable economic benefits by encouraging students to attend substantive sustainable educational events and environmental cleanup activities during Earth Days. Our specific goal is to increase attendance at major Earth Day activities to average at least 100 participants at each major event and to double the number of students responding to the Sustainability Office's Facebook posts regarding sustainable educational information.

April 8, 2013 to June 30, 2013

Dr. Jason Stuart*

English

“AASHE 2013: Resiliency and Adaptation Conference”
Sustainability issues are not currently addressed in the Technical, Professional and Scientific Writing coursework presented by the English department. In order to build awareness of sustainability issues in the Professional Writing track of the English major, and to build interdisciplinary partnerships with STEM disciplines, English faculty should establish some expertise with the issues and practices of sustainability in higher education. Professional Writing faculty, in the past, worked closely with the Sustainable Systems students to provide them with writing instruction. The project director will attend the Association for the Advancement of Sustainability in Higher Education Conference in October 2013. Themed “Resiliency and Adaption”, this conference will allow the project director to establish connections between the Professional Writing classroom and campus sustainability efforts.

May 1, 2013 to Dec. 31, 2013

$2,481

Ms. Julie Thomas (U)

Dr. Ethan Hull
Mr. Scott Albert

Physical Education
Facilities and Planning

“Sustainable Filtered Water Bottle Refilling Stations”
The project goal is to measure the effectiveness of utilizing water bottle filling stations and to determine the impact on the quality of the campus water.

Dec. 1, 2012 to May 1, 2013

*Awarded

60
The purpose of the President’s International Professional Development Grants Initiative, administered through the Office of International Services, is to financially support the professional development of SRU faculty and professional staff in an international setting. Applications are judged on their international nature, professional merit and relevance to the applicant's profession at SRU. Preference is given to junior faculty and staff members, those who have not received this award in the past five years and papers/performances accepted for presentation in the international setting. The following faculty and staff members prepared a grant proposal in response to the Request for Proposals.

Dr. Colleen Gray
Music
To present a lecture titled “Shining Jewels: Exploring the Songs of Lee Hoiby” and also to perform a recital of “Tesla's Pigeon,” at the 2013 International Congress of Voice Teachers in Brisbane, Australia, July 10–15, 2013. This congress is a gathering of many of the foremost vocal pedagogues and singing artists in the world.

Dr. Stephen Hawk
Music
To present classes and lessons on American Jazz and Trumpet performance at The Royal Conservatory of Music, Manchester, England, UK and also attend the National Brass Band Championship, which will take place in Royal Albert Hall on Oct. 11–13, 2013.

Dr. Brock Jensen*
Exercise and Rehabilitative Sciences
To present research titled, “Using Discriminant Analysis to Predict Resistance Assessment Method Selection” at the 2013 International Journal of Arts and Science conference in Bad Hofgastein, Austria, June 17-21, 2013. Additionally, he will present at St. Gilgen International School titled, “Cancer and Exercise – friends or foes? $1,000

Dr. Benjamas Jirasakuldech
School of Business
To present the manuscript titled, “Foreign Investors’ Trading Behavior in Response to Different Crises: Evidence from Thailand” at the 2013 Bangkok Conference on Interdisciplinary Business & Economics Research during June 6-8, 2013, Bangkok, Thailand. Additionally to visit the Stock Exchange of Thailand and purchase the stock markets data for the working paper with the student on Herding Behavior of Thai Stock Market.

Dr. Jodi Katsafanas
Special Education
To attend The International Association of Special Education, 13th Biennial conference in Vancouver, British Columbia, July 7-11, 2013.

Dr. Ahmad Khalili
Professional Studies
To present a research paper at the International Conference of the Impact of Religion: Challenges for Society, Law and Democracy, Uppsala University, Sweden, May 20-22, 2013.
Dr. Catherine Massey*
Psychology
To travel to the International Conference on Lesbian, Gay, Bisexual and Transgender (LGBT) Psychology to present both a research paper titled, “Psychological Risk Factors Related to Cigarette Smoking: A Comparison of Gay and Heterosexual Identities” and a poster titled, “Heterosexual Perspectives on Gay and Lesbian Rights: The Role of Religion, Etiology and Political Attitudes” in Lisbon, Portugal, June 17-23, 2013. In addition, both research proposals were selected to be included in a special LGBT issue of International Journal of Psychology, Community and Health.
$1,000

Ms. Nola Nolen-Holland*
Dance
$1,000

Ms. Ursula Payne
Dance
To attend the Conference 2013: Dance ACTions – Traditions and Transformations in Trondheim, Norway, June 8-11, 2013. Her research paper titled, “Exploring the Tradition of Dance Reconstruction With-In Contemporary Performance Contexts” was accepted for presentation in the international conference.

Dr. Jennifer Sanftner
Psychology
To present two posters and attending the full meeting of the International Conference on Eating Disorders in Montreal, Canada, April 30 – May 5, 2013.

Dr. Timothy Smith
School of Physical Therapy
To speak at a symposium on the vertebrate nose at the 10th International Congress of Vertebrate Morphologists (ICVM) in Barcelona, Spain, July 8-12, 2013.

Dr. Nanette Kaplan Solomon
Music

Ms. Barbara Westman*
Art
To present a workshop on monoprinting, a little used printing technique, at The Arts in Society International Conference at Eötvös Loránd University in Budapest, Hungary, June 23-27, 2013.
$1,000

Mr. Michael White
Enrollment Services
To attend The National Association for College Admission Counseling (NACAC) in Toronto, Ontario, Canada, Oct. 18-21, 2013.

*Awarded
Summer Undergraduate Research Experience in STEM Grants 2012-2013

The 2013 Summer Undergraduate Research Experience (SURE) grant is a pilot program designed to introduce undergraduate students to the world of academic research. The program requires that each proposal be prepared as a joint effort between the faculty member and a qualified undergraduate student, and that the proposal describes a research project that will engage the student in research skills and techniques of that discipline.

Mr. Daniel Arnet (U)*
Faculty Mentor:
Dr. David Valentine
Computer Science

“Student Cluster Competition Research Project”
This project will allow SRU students to participate in an internationally-sponsored research contest in Parallel and Distributed (PD) Computing. Our students will design, build and test a microCluster to compete at the international SuperComputing Conference (SC13). We will have a $2500 hardware budget to build a machine that runs on no more than 15 amps. These very limiting budget and power restrictions will force us to carefully analyze our hardware options. The research seeks to maximize the raw computational throughput of the machine measured in floating point operations per second, as well as its performance on four “standard” parallel computing software packages from the natural sciences.

As a research project, this exercise will force the student researchers to function at the very highest level of Bloom's taxonomy: analyze, evaluate and create. It will bring together all they have learned about computer hardware, software, networking and computer systems.

May 22, 2013 to Aug. 16, 2013
$781

Ms. Kaitlyn Bouch (U)*
Faculty Mentor:
Dr. Patrick Burkhart
Geography, Geology and Environment

“Examining Pseudokarst in the White River Badlands, South Dakota”
Dr. Burkhart will lead an expedition to the Badlands in June, which will be funded by a SRU Faculty-Student Research Grant, the Department of Geography, Geology, and Environment, and the Department of Art. The goal of that work will be to sample soils for radiocarbon dating. This project will occur jointly with that effort. Pseudokarst involves the formation of holes in the ground that are like caves in Pennsylvania, but typically much smaller. These holes are present in the Badlands, but they have not been studied there, or at least we cannot find any papers on them. The goal of this project is to photograph and describe them, then offer some guesses as to how they form. Describing what features look like, then attempting to explain them is often done in geology.

May 13, 2013 to Aug. 16, 2013
$781
Mr. Logan Hawke (U)*
Faculty Mentor:
Dr. Jiyoung Jung
Chemistry

“Development of Self-Assembled Monolayers for Biomedical Implants”
The student’s research is broadly based on synthetic organic chemistry of functional molecules and the study of the application of synthesized materials. The research project consists of two primary approaches: the design and synthesis of self-assembled monolayer materials and characterization of the self-assembled materials. Designing a building block which can be readily manipulated is the crucial step in generating desired self-assembled structures. The development of self-assembled monolayer materials on metals has been attracted much interest due to their biological compatibility of nanostructured materials for biomedical implants. A major concern is to improve the drawback of corrosion and friction of metallic implants in the physiological environment. This project is devised to explore the synthesis of effective self-assembled monolayer materials from simpler building blocks to enhance mechanical properties such as low friction, corrosion resistance, and good adhesion to metal alloys. The proposed molecules can further be modified to add desired functions. Our motive is to gain fundamental scientific insights into the formation of self-assembled materials by studying these well-defined shape-adaptive structures, while simultaneously laying grounds for developing their application in biomedical implants or drug deliveries.

June 3, 2013 to July 31, 2013
$781

Ms. Amber Lellock (U)*
Faculty Mentor:
Dr. Dean DeNicola
Biology

“Nutrient Limitation of Benthic Algal Communities”
Acid mine drainage (AMD) caused by coal mining is the major human impact on streams in Appalachian watersheds, and drastically affects water quality and aquatic organisms. In the Slippery Rock Creek watershed, 12 AMD treatment systems have been constructed to help restore the streams. Benthic algae is a main energy source in stream food webs, but few studies have examined how it is affected by nutrient reduction associated with AMD. This study’s objective is to examine how nutrient concentrations affect energy production and elemental composition at the base of the food web in untreated and treated AMD streams. Water chemistry will be measured at 4 stream sites along an AMD gradient; severe, moderate, remediated (treated), and no AMD (control). A field nutrient addition technique that supplies nutrients to algae growing on artificial substrates will be used to create treatments of +nitrogen, +phosphorus, +carbon and control (no nutrients) at each site. Algal biomass on the substrates will be measured to experimentally determine the limiting nutrient. Algae from the substrates will be analyzed for C:N:P ratio to ascertain how nutrient regimes affect the elemental composition of the algae, which ultimately determines food quality for organisms higher in the food web.

May 22, 2013 to Aug. 16, 2013
$781

Mr. Kyle Marich (U)*
Faculty Mentor:
Dr. David Dailey
Computer Science

“A Simplified Interface for Non-Rectilinear Web Design”
The goal of this project is to design a user-interface that allows the simplified design and control of non-rectilinear (polygonal) geometries that would enable more expressive and natural flow of information into the interconnected “cells” of web pages.

May 22, 2013 to Aug. 16, 2013
$781
Ms. Samantha McCormick (U)*
Faculty Mentor
Dr. Donald Zapien
Chemistry

Fluorescence spectroscopy is an essential tool for probing protein conformation. In order to record fluorescence spectra of ferritin in its two electrochemical states, a specialized cuvet must be used. A cuvet is a small volume container that holds a sample solution; however, the cuvet needed for this work is not commercially available and must be constructed. The purpose of the proposed work is to design, construct, and test a cuvet in which the ferritin is electrochemically reduced while its fluorescence spectrum is scanned. Student research assistant, Samantha McCormick, will design a cuvet made from Teflon and incorporate two quartz windows that will allow the passage of ultraviolet radiation into the cuvet and fluorescence radiation out of the cuvet, and a gold disk electrode for electrochemically reducing ferritin. Under the direct supervision of the PI, she will use machining techniques for constructing the cuvet, followed by rigorous testing of the device for its suitability in fluorescence measurements and for electrolysis.
June 3, 2013 to June 28, 2013
$781

Mr. Zachary Petrusch (U)*
Faculty Mentor
Dr. Deborah Whitfield
Computer Science

“Crawling the Web in Search of Graphs for Navigational Testing”
Research is currently being conducted in the Computer Science Department to create techniques to efficiently navigate graph structures. Websites can be represented as graph structures – where each page is a node in a graph and is connected to other nodes (web pages) by hyperlinks. Thus, the research can be used to suggest page connections so that a web site might be more efficiently traversed. This proposal requests funding for student wages to develop software called web-crawler. This software will crawl through existing web sites and generate graph structures from those sites. Recent developments in this research have uncovered techniques to efficiently navigate a wider variety of graphs that may be applicable to websites from businesses, social networks, and educational web sites. Such sites need to be graphed by a web-crawler. These graphs will then be used for experimenting with navigation techniques that the SRU research group is developing. Experimentation with real web sites is a necessary step for applying for a NSF RUI grant.
May 22, 2013 to July 31, 2013
$781

Mr. Matthew Scott (U)*
Faculty Mentor
Dr. Krishna Mukerjee
Physics

“Formation of Exoplanets”
The last decade has seen an explosion in planets discovered that are orbiting beyond our Solar System. The so called Exoplanets, however, have a diversity of size, mass, orbital eccentricities and radial distance from the parent star and none of the planetary systems that have been discovered resemble our Solar System. In this project, we intend to do a numerical simulation of how planetary systems from around other stars by taking data from NASA's Kepler mission. Planets form from gigantic rotating clouds that collapse to form a star at the center, leaving a swirling disk of gas and dust called the protoplanetary disk. How the planets form from this disk is debatable. A single model cannot explain the diversity of planetary systems. Our model will incorporate certain features of the Core Accretion process and some of the Disk Instability model. Our goal is to determine how massive, Jupiter-like planets form in the proximity of the central star.
May 22, 2013 to Aug. 16, 2013
$781

Mr. Bryan Smith (U)*
Faculty Mentor
Dr. Jiyoung Jung
Chemistry

“Highly Fluorescent Benzofuran Derivatives: Regulation of Light-Emitting Properties”
Our research has been focused on the development of fluorescent organic materials, which manipulates electron transfer interaction in a flat and
conjugated molecular system. The synthetic strategy toward the target molecules is efficiently optimized under mild reaction conditions. Its absorption and emission studies were investigated in both UV-vis and fluorescent spectroscopic techniques. We have found that these synthesized fluorescent molecules exhibit interesting light-emitting properties with color changes depending on solvent environment. It can be applied to biological imaging or organic light-emitting diodes (OLED). These outstanding results were presented in the American Chemistry Society (ACS) national meeting in Philadelphia in August 2012. Based on our research result, we can further study more efficient fluorescent organic compounds having strong interactions with solvent environment. The proposed organic compounds contain a rigid and flat skeleton, and metal binding sites. Also, the installation of electron-rich and electron-deficient functional groups on the molecular backbone will provide significant insight of structure-property relationships. Such understanding will prompt us to utilize our system in the field of metal-sensing and biological imaging.

*June 3, 2013 to July 31, 2013*

$781

Mr. Caleb Sykora-Bodie (U)*
Faculty Mentor
Dr. Michael Zieg
Geography, Geology, and Environment

“Processing and Analysis of Electron Microprobe Data”
The emplacement history of an igneous intrusion places critical constraints on the subsequent thermal and chemical evolution of the magma. The faculty collaborator in this proposal has obtained a unique data set: a continuous sample profile through an intrusion from Nipigon, Ontario. In his larger research agenda, Dr. Zieg is investigating the use of variation in mineral composition to determine the emplacement conditions of the individual reinjection events that together constructed this intrusion. He and two SRU students will be going to Concord University, West Virginia, the week of May 20 to collect mineral composition data using their electron microprobe facility.

In this project, Caleb Sykora-Bodie, one of the students who will be using the microprobe for data collection, will follow up over the following three weeks by processing and analyzing the raw data. He will be responsible for developing algorithms for processing and recalculating mineral compositions, plotting the results in publication-quality format, and running thermodynamic simulations to interpret the physical significance of the mineral chemistry. This will give the student a unique opportunity to participate fully in several phases of an ongoing research project, from data collection, to processing, to analysis, including responsibilities typically only available to graduate students.

*May 28, 2013 to June 14, 2013*

$781

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