2016 SUMMER UNDERGRADUATE RESEARCH FELLOWSHIP PROGRAM

A Partnership between the UW Superior Foundation and the Center for Undergraduate Research, Scholarship, and Creative Activity
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Note: SURF recipients presented the projects represented here at a campus symposium in October and will also be sharing their work with peers, community members, and elected officials at events such as Rosters in the Rotunda, the UW-System Symposium for Undergraduate Research and Creative Activity, the National Conference on Undergraduate Research, and through disciplinary meetings and publications.
Introduction

2016 marks the fifth year of the Summer Undergraduate Research Fellowship (SURF) program at UW-Superior. The SURF program provides opportunities for students to work with a faculty/staff mentor on in-depth research, scholarly, or creative projects during the summer. Students and mentors work together on all phases of a project, from proposal development to project design, carrying out the project, and presenting the results. The SURF program provides a stipend to both the student and the mentor to support their work for a ten week period. Since it began in 2012, 57 students and 49 different faculty/staff mentors have participated in the SURF program, representing almost every department on campus.

The 2016 SURF program included 18 students working with 17 different mentors and several new elements. One was the addition of a developmental project category for students early on in their academic career. Projects in this category were smaller in size and scope than the traditional 200 hour projects. The intent of this category is to provide an opportunity for students who are not ready to conduct an independent project to learn and develop skills. There were 6 projects in this category in 2016, as well as 11 full fellowship projects. Another new element in the 2016 program was several projects conducted by students while participating in a UW-Superior study abroad program, the War and Peace in Bosnia program. These projects are an excellent example of how students can gain international research experience.

The scope of the projects continues to reflect both the broad spectrum of academic disciplines at UW-Superior and the campus’s commitment to the liberal arts. The creativity and diversity of our students is apparent in the variety of project topics. Students continually express how valuable participation in the SURF program has been for them, both academically and personally, and their statements in the report illustrate that. Funding for the SURF program is provided by the UW-Superior Foundation through the generosity of its donors and the campus is most appreciative of the opportunity it provides for both students and mentors. Thanks also to the proposal review team of Deborah Augsburger, Deik Carlson, Suzanne Griffith, Jayson Iwen, Greg Moore, Kurt Schmude, Ericka Schmidt, Shon Schooler, Zamira Simkins, and Joel Sipress; and to countless others who support, encourage, and champion undergraduate research, scholarship, and creative activity.

Julie O’Leary, Center for Undergraduate Research, Scholarship, and Creative Activity

2015-2016 Undergraduate Research, Scholarship, and Creative Activity Task Force:
Cheong Soon Gan, Lynn Goerdt, Heather McGrew, Shon Schooler, Nick Sloboda
Overcoming Spontaneous Trait Inferences through Education

Student: Maria Ammer
Mentor: Dr. Eleni Pinnow

Maria Ammer was interested in studying the topic of spontaneous trait inferences. These are judgments about a person’s personality or character based on a single behavioral incident, which are made automatically with no conscious intent. Maria wondered if teaching about them can limit, or even eliminate their use. She began her project as an independent research project for part of her coursework, and then continued her research over the summer with the support of the SURF program.

Maria conducted a pilot study to determine whether or not her materials would accurately test her hypothesis, and then ran her study over the summer with about 40 participants. After analyzing the data, Maria found significant support for her hypothesis. Participants who learned about spontaneous trait inferences before being given a task inferred traits less often than participants who did not.

Maria, an international student from Germany, is in her a junior year, and is majoring in Psychology. She came up with her research topic after reading a journal article for a course she took in her sophomore year, and has been working with the topic since. Maria plans to publish her work in an undergraduate research journal.

“Receiving a SURF award made it possible for me to finally finish my research. This is a huge step for me towards graduate school and my career goals.”
New Family of Edge Isoperimetric Graphs

Students: Pavle Bulatovic, Nikola Kuzmanovski
Mentor: Dr. Sergei Bezroukov

Pavle Bulatovic and Nikola Kuzmanovski’s work is in a field called Graph Theory. This is mathematics that studies structures called graphs. Informally, one can visualize a graph as a bunch of dots on a plane and some lines connecting these dots. Graphs are very important in the world today and have many applications to our lives. For example, Google Maps works based on these structures. Pavle and Nikola’s project was concerned with finding graphs that satisfy nested solutions under the edge isoperimetric problem, which is used for circuit design. Interestingly, their results turned out to be a generalization of a result published by their mentor, Dr. Bezroukov, about 15 years ago.

Pavle and Nikola are juniors in the Mathematics and Computer Science Department. They are both international students - Pavle is from Montenegro and Nikola is from Macedonia. Coming up with original results in mathematics was very tempting to them, and both had been looking for a research project. The SURF program provided a great opportunity for them to obtain research experience, learn more mathematics, and get prepared for graduate studies. Working on this project helped them to get a clear idea of how inventing original results in math works. Overall, the SURF program was of great importance to both Pavle and Nikola and will continue to benefit them as they pursue further education and make decisions about their careers.
The goal of Undralsaikhan (Undra) Dambii’s study was to find out the impact of the Chinese economy on the regional economy and specifically, the mining industry of Minnesota. Her project sought to explore how the Chinese economy impacts regional industries in Minnesota, and how layoffs in the mining industries affect the regional economy. Undra reviewed news articles, academic papers, and interviewed industry experts as part of her research. She did not find a single answer to her questions, but learned that there are many different causes for the mining layoffs in the region. She also learned that research is time-consuming, that finding all the necessary information and data is not easy, and that there may be numerous ways to explain a given situation.

During her junior year, Undra worked as a research assistant for the Regional Economic Indicators Forum project and had the chance to survey the general public about current economic conditions and mining layoffs. This experience and the fact that the economy of her home country of Mongolia is based primarily on mining were the reasons for Undra’s interest in doing her own research on the subject.

Undra is a senior double majoring in Economics and Transportation and Logistics Management. Her hometown is Ulaanbaatar, the capital of Mongolia. Undra transferred to UW-Superior after attending community college in Seattle. She was attracted to UW-Superior by the great programs, affordable tuition, and the opportunity to experience a non-urban college where she could have closer relationships with the faculty and her peers.

“This project was a great opportunity to meet new people, learn the basics of academic research, and prepare myself for graduate school.”
Faith King studied historical examples of ekphrastic poetry as well as contemporary models. William Blake (1757-1827), an English poet and painter from the Romantic era, influenced Faith’s work because he both wrote poetry and painted, often combining the two arts in one composition. Mentor Julie Gard provided Faith with contemporary examples of ekphrastic writing by women such as Mary Jo Bang, Anne Carson and many others who wrote poetry based on the work of the influential feminist artist Louise Bourgeois. Faith wrote ten original poems – five based on the work of local artists and five based on her own original artworks. Her mentor gave her regular feedback on her poems, which helped her revise them as needed to create polished works. These poems and artworks will be exhibited together in an art show, published in the Nemadji Review, and Faith also hopes to include them as part of a larger publication in progress.

Faith is from Duluth, Minnesota. She transferred to UW-Superior in 2015 as a Writing major and Art minor. She discovered the concept of ekphrastic writing, writing poetry and prose in correspondence with a work of art, in a creative writing class and was immediately entranced because it combines her two greatest passions.

“The opportunity that SURF provided by funding a summer’s research and active creativity allowed me to focus and grow as a writer, artist and creative collaborator. I hope to use these artwork and poetry pairings to create a visual book of poetry. Keeping the project deadlines and being required to consistently create new work was a great entry into the professional writing and art world.”
Arnbjørn (Arne) Mortensen studied the purism and language policies in Croatia and the Faroe Islands. His initial research question was “What motivates countries to establish purist policies?” This required him to examine the preceding events, political situations, and causes for the growth of national consciousness. He looked at two periods of purism from both cases, one from the 19th century and one from the modern period. The motivation for and execution of purism is remarkably different in the two cases, as the nature and course of history differs. In order to conduct primary research for the project, Arne embarked on field work in three countries. He was able to interview scholars in Bosnia-Herzegovina while participating in the War and Peace in Bosnia Study Abroad. He then independently conducted additional interviews with scholars in Croatia and the Faroe Islands. Arne realizes he has taken on an enormous topic that definitely invites further research and plans to pursue his senior capstone project within the same area, i.e. nation planning.

Arne, a senior, is an international student from the Faroe Islands. He came to UW-Superior in 2013, planning to stay only one year, but during that year he fell in love with the school and the possibilities it provides to students to fashion their own degree. Being able to do undergraduate research such as his is an amazing opportunity for students, because they are able to conduct a funded research project designed to prepare themselves for more professional work within the intellectual scene. This demanded a lot of self-discipline, something Arne had to teach himself over the summer.

“The SURF project was a fantastic opportunity for me. I learned much about conducting independent research, while also learning things about myself as an academic.”
Nick Muska’s project examined the legal protections for American recording artists through historical analysis, case law, and interviews he conducted with industry experts from across the country and also with musicians. He explored the existing body of legislation in order to gauge whether our legal system is sufficiently executing its constitutional duty to protect useful arts. Throughout, he highlighted problems within the music industry both in a philosophical and practical sense, and used an array of methodologies to address them.

Nick is in his fourth year at UW-Superior pursuing a degree in Legal Studies with a Philosophy Minor. As an active musician involved in both academic jazz ensembles and his own personal groups, this project truly was a unique synthesis of his primary interests in life. Nick has a profound appreciation for those who pursue careers in the arts and, through the SURF program, saw a unique opportunity to examine the legal environment for artists in this country. This project was incredibly eye opening for Nick, and he hopes to pique the interests of others who share his curiosity and concern for how the law interacts with the arts in America.
Erika Shearer’s project is about Charles Dickens’ use of ghosts to reflect the disordered society of Industrialized England in the nineteenth century. These ghosts also offer solutions for how to correct society’s problems. The project began with close readings of Dickens’ works until the ones that worked the best were chosen. This was followed by analysis of novels and short stories to demonstrate Dickens’ diverse uses of ghosts as characters. Erika looks forward to broadening her research to include the contrasting elements of “dark and light” that accompany the presence of the ghosts. This project helped her build her research and writing skills as a scholar.

It was not easy to grow up in the farming community of Barron, Wisconsin with an obsession for literature. Erika read her first Charles Dickens novel: A Christmas Carol, at the age of thirteen. This was the first time she realized that what she was reading was not simply a story. It was an incredibly intricate piece of art, full of metaphorical imagery all framed by a deeper societal context. Since that day, she has admired Dickens’ work above all others. This research project has been an amazing experience. It has allowed her to delve into the inner functions of the Industrial Revolution’s society and better understand the works of her favorite author. One day Erika hopes to fulfill her academic dream of earning a doctorate in English literature studies in order to teach what she admires so dearly.

“Participation in the SURF program gave me the incredible opportunity to experience my first real project in the competitive field of literary analysis.”
Vanessa Smith became interested in the subject of her project after participating in the Superior Days event in Madison, Wisconsin in the spring of 2016. While there, she heard a presentation about the potential benefits of a tax exposition district for Superior. Her summer research project explored the topic in depth by interviewing community leaders in Superior, and also looking at the experience of other communities with tax exposition districts. Vanessa appreciated the opportunity her project provided to meet and talk with individuals engaged in the community in Superior outside of the campus setting. She gained experience working on a larger research project than class assignments provide and also experienced a lot of personal growth as a result of being part of the SURF program.

Vanessa is from Hayward, Wisconsin and is a senior majoring in Political Science with a minor in Global Studies. She chose to attend UW-Superior because of the small class sizes and the community feel of the campus, and also because of her attachment to the natural beauty of the Twin Ports and Northern Wisconsin. Vanessa feels strongly about the importance of taking opportunities to be involved in community work, and the important role community engagement plays in supporting community well-being now and for future generations.
Large Scale Self-Portrait Painting

Student: Yuta Uchida
Mentor: Susan D. Maguire, MFA

Yuta Uchida's creative project researched materials and techniques for making large scale figurative paintings. The project consisted of two parts: research into techniques and styles that were used by past and contemporary painters, and the creation of a finished self-portrait painting (72” by 58”). Yuta studied three master painters - Jenny Saville, Nicolai Fechin, and Anders Zorn. This broadened his perspective and showed various possibilities in terms of how to approach figurative painting. He also did painting exercises to practice and familiarize himself with the techniques and approaches. Yuta’s painting expresses self-acceptance, personal growth, introspection, and perseverance; it is also a tribute to his experiences in the Duluth/Superior community. Yuta had not done a painting of this scale before, so the project is significant in his creative career.

Yuta came to Superior in 2012 from Hiroshima, Japan. He planned to major in psychology, but an art class in his first year changed his mind. Since then his passion has been painting and drawing. This project has a profound significance in his art career in that he learned to process his thoughts and ideas and use artistic techniques to convey a message to his audience. Yuta wants to be an artist who is capable of making aesthetic works that can also express messages.

The SURF program provided enough time and money to allow him to focus on the painting, which will be one of the most important pieces in his portfolio. Yuta hopes to keep improving his skills, and to establish himself as an artist in the future.
Genotype Analysis for Confirmation of Eya1 and/or Eya3 Knockout Zebrafish

Student: David Villani
Mentor: Dr. Jenean O’Brien

David Villani worked with Dr. Jenean O’Brien on an ongoing research project at UW-Superior studying the role of the Eya family of genes in muscle cancer. The goal of David’s work was to evaluate a transgenic line of zebrafish developed for the project to determine whether it is missing Eya1 and/or Eya3 genes (i.e., a knockout zebrafish). The suspected mutants were genotyped using different types of DNA analysis. Polymerase chain reaction was the primary technique used, in which the resulting product was run out on an agarose gel and analyzed in relation to controls. Depending on the mutation being screened for, polyacrylamide gels were also used to clarify and verify results. The SURF program gave David the opportunity to learn many valuable skills that will be critical in his future endeavors, from lab techniques to the use of complex equipment. David’s work will contribute to the long-term research project, whose goal is to discover if Eya1 and/or Eya3 play a role in the formation and growth of muscle cancer.

David is from Adelaide, Australia and is a senior majoring in Biology and Broad Field Science, with a minor in Chemistry. He transferred to UW-Superior for the student opportunities to both participate in faculty research and to develop their own research questions. Cancer had always been something that fascinated him, and he became interested in Dr. O’Brien’s research when she presented her work to a student group. The SURF project has inspired him to pursue a Ph.D. in the Bio-Medical field; he hopes to become a professor and ultimately, give more undergraduate students the opportunity to do exciting research like his.
Marcus White's research focused on the topic of Journalism education in the 21st century as it relates to digital security. Although hacking and the revelations brought about by Wikileaks and Edward Snowden raise special concerns for journalists, questions about safety and security online transcend the journalism industry because of the amount of time all in our society spend on-line today. Marcus and his mentor, Dr. Chad Vollrath, interviewed researchers at Columbia University and Arizona State University and corresponded with professors at the University of California – Berkeley and the University of Illinois Champaign-Urbana. They also spoke with a data specialist at the world-renowned ProPublica News Agency. Much literature was also read to provide an accurate background and picture of the evolution of the internet and privacy/regulation concerns that have accompanied it. As part of his project, Marcus reprogrammed his laptop to conform to security standards set by the Centre for Investigative Journalism in London. He hopes to continue his research on this topic as part of his senior capstone.

Marcus is originally from Toronto, Canada, and has lived in the United States for the past ten years. He came to UW-Superior as a transfer student. The topic of digital security has always been an interest of his and his SURF project grew out of that interest. This project has served to better prepare him for a career in journalism by showing him new tools that substantially help in the reporting industry.
Corporate Social Responsibility Practices in Superior, Wisconsin

Student: Ana Caroline Biscaia
Mentor: Kay Biga

Ana Biscaia’s developmental research project looked at the Corporate Social Responsibility (CSR) practices of local businesses in Superior, Wisconsin. She used the CSR strategy concept to analyze the amount invested by local businesses and their reasons for contributing to the area. She also looked at the benefits, the customer’s point of view of corporate social responsibility actions, and the impact on buying decisions. Ana conducted interviews with business owners about their investments and accomplishments, and surveyed UW-Superior students, examining their customer preferences. The SURF program gave her the opportunity to develop research skills, gain interviewing experience, learn data analysis methods, and also learn about the local community and its contributors. As a business major, it was a great learning experience for Ana to analyze business practices and strategies and to gain some field experience that will be relevant to her professional career.

Ana is an international student from Brazil in her senior year. She came to UW-Superior for its international program, outstanding business program, and also for the experience of studying abroad. She is double majoring in International Business and Transportation and Logistics, and minoring in Legal Studies. Ana chose her research topic while taking her mentor’s business law class. She has always been interested in and admired socially responsible practices. She intends to apply the knowledge and values from this project in her career and hopes to influence others to be socially responsible as well.

“This project was very important to me as a learning experience and the funding was extremely helpful with my education expenses.”
What Motivates High School Softball Players?

Student: Zach Brunner  
Mentor: Dr. Kim LeBard-Rankila

Zach Brunner’s developmental research project explored the use of different coaching strategies to motivate high school softball players. To answer his question, Zach designed a survey for the athletes to complete anonymously without their coach seeing the results. The survey asked the athletes to choose which of three different coaching styles best described their coach, then answer the remainder of the survey with that strategy in mind. Zach found that no matter what coaching style athletes chose, there was a pattern of what the athletes liked or disliked about it. Zach plans to continue his research by looking at comparisons with other sports.

Zach is from the small town of Elk Mound, Wisconsin. He came to UW-Superior because of the small school atmosphere, beautiful location, and availability of a Sports Management minor. He has always been involved with sports in some capacity, so it is not surprising that his research interests also relate to sports. Zach is interested in the concept of motivation and there has been relatively little research on his specific topic. As a coach and a future teacher, he wanted to know how to bring the best out of his students or athletes. He chose softball players because of the season, and is interested in studying other groups of athletes in the future.

“The funding this summer made it possible for me to dive into a subject that I find incredibly interesting. I feel like this was the first step in a long journey of research.”
Can an intervention during a freshman seminar class increase awareness of gender diversity? Jenessa Cabak conducted a developmental research project focused on writing a research proposal for developing a pilot intervention study to measure for increases in awareness of gender diversity. The first weeks of her project were spent conducting a literature review through the use of the UW-Superior Jim Dan Hill library database. Following the literature review, she wrote a research proposal for the pilot intervention training. This research experience is an asset in her academic career as she was able to strengthen and gather new research skills. This project provided the foundation for the area of research that Jenessa wants to pursue into graduate school and beyond.

Jenessa grew up in Hawkins, Wisconsin, 2 ½ hours from Superior. She obtained her Associate of Arts and Science (AAS) degree from UW-Barron County and transferred to UW-Superior to complete her undergraduate degree. She is double majoring in Psychology and Business Administration with a minor in Gender Studies. Jenessa became interested in gender studies after her freshman year of college. Funding provided by the SURF program has made it possible for her to begin to conduct graduate level research while still an undergraduate. For fall semester she enrolled in a senior research class for Psychology and will participate in the McNair Scholars program next summer. Jenessa plans to attend graduate school and pursue a Ph.D. in Industrial/Organizational Psychology.
What Kind of Education Do People Want in a Post-Conflict Society: The Case Study of Bosnia-Herzegovina

Student: Sydney Kloster
Mentor: Dr. Khalil (Haji) Dokhanchi

Sydney Kloster’s developmental research project was part of her study abroad experience while participating in UW-Superior’s War and Peace in Bosnia Study Abroad program. Her research question was: what type of history education do the people of Bosnia want? She was also curious to learn if their preferences could be correlated to religious, national, or ethnic identity. While in Bosnia and Herzegovina, she surveyed 169 students from three public universities in different geographical areas of Bosnia. After analysis of the surveys, she found that there was statistically significant data that showed that location was indeed correlated to history education preference.

Sydney is from St. Paul, Minnesota and is a sophomore. She came to UW–Superior for the small class sizes and a liberal arts education. She became interested in peace and reconciliation after taking a First Year Seminar class on genocide. Another class titled War and Peace in Bosnia furthered her interest in the topic of history education.

“The SURF funding gave me a great opportunity to experience academic research. I feel I have contributed something to the academic community and hope to continue researching the topic of reconciliation in the future.”
Understanding the Bosnian Reaction to the Refugee Crisis in Europe

Student: John Wenger
Mentor: Dr. Khalil (Haji) Dokhanchi

The refugee crisis in Europe is one of the most important issues facing the world today. The country of Bosnia and Herzegovina is still in the process of recovering from its own brutal conflict in the 1990s, when much of its population spent time as refugees. John Wenger’s developmental research project looked at the unique history and the perspective that comes with that experience. While participating in the War and Peace in Bosnia Study Abroad, John surveyed students from three universities in Bosnia to measure their views towards refugees and migrants and also their ethnic, religious and national identities. His results provide insight into what today’s refugees look like through the eyes of someone who survived their own war. His data helps to paint a clearer picture of how today’s refugees are perceived by a specific group of people, and adds that information to the larger discussion of the topic.

John is a second year student at UW-Superior and is majoring in History. He became interested in his topic while taking a class called War and Peace in Bosnia. Working on this project gave him the opportunity to travel to Bosnia and Herzegovina and to conduct his surveys in person. Traveling provided plenty of relevant information for his project, but it also opened his eyes to a wider, richer, and more interesting world than he ever knew existed. John hopes to finish his education at UW-Superior and continue working to understand and solve the world’s problems.
An Approach to the Co-existence of Israel and Palestine

Student: Kota Yanagidani
Mentor: Daniela Mansbach

Kota Yanagidani’s developmental research project aimed to analyze how the coexistence of two different conflicting group is made possible. He focused on one Israeli village where Israeli-Jews and Israeli-Arabs live together, NSWAS: Oasis of Peace, and the use of an educational program called “Encounter” which has been adopted for use in the schools there. Kota looked at the historical roots and background of the Israeli-Palestinian conflict, and then focused on NSWAS: Oasis of Peace and the importance of the “Encounter” program to the people living in the village. Kota concluded that although we live in a global society, the most effective and powerful way of making peace can be between one community and another. The community based approach is a tool that could be used throughout the world to work on challenging social issues.

Kota is a senior with a Political Science major and Journalism minor. He came to UW-Superior from Japan to study peace studies and to practice communication. He was interested in studying the idea of utopias where there is no hatred, even between opposing groups. The SURF program and funding it provided gave him opportunities to talk with professionals on the subject. Kota plans to continue his work on the community-based approach to peace-making.