The Office of Undergraduate Research

Summer Program to Increase Diversity in Undergraduate Research

Summer 2020 Project Descriptions
List of Faculty SPIDUR Projects for 2020

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Project Title: Resistance and Revolution: The Maroons of Jamaica, 18th-19th Century

Mentor Name: Dr. Crystal Eddins

Mentor Department: Africana Studies

Mentor College: College of Liberal Arts and Sciences

Mentor Status: Assistant Professor

Project Description: This project uses primary source enslaved runaway advertisements printed in newspapers of colonial Jamaica in the 18th and 19th century. It attempts to understand the lived experiences of enslaved Africans and African descendants in Jamaica through analysis of their individual and collective acts of resistance. Specific questions relate to the runaways and their potential connections to or awareness of maroon communities and revolts in Jamaica, as well as socio-political events on neighboring Caribbean islands such as the Haitian Revolution. The Summer Scholar would be expected to help conceptualize a coding schema, to conduct a literature review, to code and analyze a sample of the advertisements, and to present preliminary findings.

Minimum Qualifications: Research skills (primary and secondary source analysis), Microsoft Excel analysis.
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Project Title: My Body Hurts: A Qualitative Analysis of Consequences of Discrimination & Injustice on Student Health and Wellness

Mentor Name: Dr. Laurie Garo

Mentor Department: Geography and Earth Sciences

Mentor College: College of Liberal Arts and Sciences

Mentor Status: Lecturer

Project Description: Our project utilizes the technique of Body Mapping to qualitatively explore ways that discrimination, bias and injustice may affect student mental, emotional and physical health and wellness. Using life-sized body images, participants from across the campus will paint, draw or otherwise visually represent aspects of their life stories that cause pain, discomfort or other ill-effect as illustrated on affected parts of the body. Some examples of effects might be increased heart rate, shortness of breath, sweating, uneasy stomach, anger, clenching of fists, sadness and associated facial expression, etc. The body mapping method enables those with difficulty verbalizing their thoughts and feelings to represent them artistically. This process has potential to be therapeutic for the participant. Body maps will be qualitatively analyzed for patterns and themes that reveal health and wellness consequences of being treated unfairly or with lesser importance. Results will be reported in a document that may serve as a guide for Diversity, Equity and Inclusion initiatives at UNC-Charlotte and other institutions of higher education. An art exhibition is planned for displaying body maps and findings. The location of the exhibit may be the art gallery in the Student Union or at Center City UNC-Charlotte.

The IRB approvals will be sought during the Spring 2020 semester such that, by summer, we can begin the actual project. The summer scholar will complete the CITI training, thus become familiar with this vital area of research protocol. The scholar may lend aspects of their own experiences with discrimination and/or injustice, thereby providing additional insights useful for the body mapping project. The scholar will serve as a research assistant throughout the 8-week duration of their program, and be mentored in qualitative research methods by two graduate students as well as the faculty participant. Some duties may include assisting with materials purchase and preparation, participation communications and logistics for body mapping sessions, and helping at the sessions themselves. Time permitting, the scholar will take part in thematic analysis and preparing body maps for exhibition.

Minimum Qualifications: There are no set skills required for this project. It is helpful if the scholar has experience with Microsoft Office programs (Word, Power Point, Excel) and has interest in qualitative research methods and in research on racial/social discrimination or injustice. Additionally, artistic skills would be helpful. The scholar should have an outgoing personality to the extent that they are not afraid to interact with study participants, to help draw outlines of participant bodies, etc.
Summer Program: Summer Program to Increase Diversity in Undergraduate Research (SPIDUR)

Project Title: Restoration Impacts on Watershed Nutrient Flux

Mentor Name: Dr. Sandra Clinton

Mentor Department: Geography and Earth Sciences

Mentor College: College of Liberal Arts and Sciences

Mentor Status: Research Assistant Professor

Project Description: Restoration is used to improve degraded streams in urban environments. The Reedy Creek Restoration Project involves the whole watershed restoration of forested headwater streams where we are testing the impacts of restoration on groundwater-surface water interactions, stream macroinvertebrates, and water quality. In this project, the student will collect both baseflow discharge and nutrient data to calculate nutrient flux at 11 sites in the restored watershed. These data will be compared with pre-restoration data to evaluate how restoration has influenced the release of nutrients following restoration. The undergraduate student will learn to measure discharge and collect and analyze basic nutrient samples for nitrogen, carbon, and phosphorus. The research involves time spent at the Reedy Creek Preserve near UNC Charlotte (transportation provided) to collect field samples. The scholar should be prepared for outside work in warm weather with biting insects (such as mosquitoes).

Minimum Qualifications: The scholar should have completed a minimum of first year chemistry and a course in earth and environmental science (or something similar). The student should be prepared to work outside collecting water samples from nearby urban creeks. The scholar should also be familiar with basic software such as WORD and Excel.
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Project Title: Regulation of Skeletal Muscle Mass and Function

Mentor Name: Dr. Joseph Marino

Mentor Department: Kinesiology

Mentor College: College of Health and Human Services

Mentor Status: Associate Professor

Project Description: The purpose of the research is to determine/characterize cellular and biological mechanisms that regulate skeletal muscle size through the aging process and metabolic disease. The summer scholar will receive hands on experience in tissue culture and/or animal research. This includes helping perform rodent aerobic training protocols, tissue collection, histology and related experiments.

Minimum Qualifications: Students should read and write at the college level and have basic computer skills (Microsoft Excel, Word, and PowerPoint). Basic wet lab skills (weighing and mixing solutions) are preferred but not required. Cell biology and molecular biology or the equivalent, are preferred.
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Project Title: Health Risk Assessment Community Outreach Program

Mentor Name: Dr. Trudy Moore-Harrison

Mentor Department: Kinesiology

Mentor College: College of Health and Human Services

Mentor Status: Clinical Assistant Professor

Project Description: UNC Charlotte Health Risk Assessment Program staff (faculty and students) will perform health risk assessment testing throughout the Charlotte community

1) To identify health risk factors associated with conditions such as type 2 diabetes, cardiovascular disease, and obesity,

2) To provide immediate feedback and education to tested individuals concerning their health risk numbers, referring them to their primary care physicians or Community Health Clinic if risk is high,

3) To develop and implement physical activity programming (individualized based upon risk screening results) that can be implemented at the various places to reduce health risks,

4) To offer educational sessions (short classes and demonstrations) to participants to enhance their health awareness and independent health awareness and ability for self-care,

5) To assess potential impact of testing and/or physical activity interventions on health risk factors in individuals who return for repetitive follow-up testing over time, and

6) To assess differences in the effectiveness of the physical activity programming intervention among different demographic groups such as race, sex, and age group.

Minimum Qualifications: CPR/AED Certified, willing to work with diverse populations.
Summer Program: Summer Program to Increase Diversity in Undergraduate Research (SPIDUR)

Project Title: Coaching in the Classroom

Mentor Name: Dr. LaTonya Gaines-Monigomery

Mentor Department: Office of School and Community Partnerships

Mentor College: College of Education

Mentor Status: Assistant Professor

Project Description: Review the data collected thus far on coaching and its impact in student teaching and on student.

Minimum Qualifications: Research skills, language skills, computer skills, data analysis skills.