

## Anthropology

**Project Description:** Carla Guerrón Montero is seeking a student to conduct independent library research to support the preparation of a manuscript about anthropology in the Global South. Duties include identifying the state-of-the-art literature on world anthropologies and assisting Professor Guerrón Montero in setting up Zoom meetings with authors and other activities related to book editing. This project will especially be attractive to students interested in anthropology, the Western history of ideas, and the publishing process. This research will support the publication of the edited volume *Why Anthropology Needs the Global South* (Carla Guerrón Montero and Dan Podjed), under contract with Routledge.

### **Required Skills:**

- Be in good academic standing (GPA of 3.0 or higher)
- Interested in understanding anthropological thinking worldwide
- Diligent, organized, and attentive to detail
- Some background in anthropology, history, sociology, or human geography
- Self-directed
- Good time-management skills
- Ideally, candidate can read in multiple languages (not required)

**Contact:** Carla Guerrón Montero (CMCS), [cguerron@udel.edu](mailto:cguerron@udel.edu)

## Art History

Old College's Original Colors: UDRAW (Fall'24)

**Project Description:** An advanced undergraduate research assistant is sought to carry out research in the UD Archives on the alterations to the exterior of the Old College building specifically as it relates to its painting from its original construction in the 1830s up through the present day. The individual will examine resources in the Archives such as Board of Trustees' meeting notes, facilities department files, and other finding aides. Required skills are general computer file proficiency, and to be highly detail-oriented and organized.

**Contact:** Interested individuals should contact Dr. Rujivacharakul ([vimalin@udel.edu](mailto:vimalin@udel.edu)) and Ms. Catherine Matsen ([cmatse@udel.edu](mailto:cmatse@udel.edu)). Work-study eligibility is required.

## Bioengineering

Cartilage Bioengineering Laboratory

**Project Description:** This would be a great opportunity for a student interested in bioengineering research and practices. The project investigates the mechanical properties of soft tissues, such as cartilage in knee joints. Students will work with Dr. Lu and graduate

students on the mechanical testing device, sample harvest, tissue culture, drug treatment, mechanical loading, and theoretical analysis. The student will receive all relevant lab training. The student will have the opportunity to co-author scientific publications.

**Required Skills:** Background and interest in bioengineering. We will provide all necessary training. Students interested in summer research are preferred.

**Time commitment:** Approximately 3-8 hours per week, depending on the student's availability

**Contact:** X. Lucas Lu – [xlu@udel.edu](mailto:xlu@udel.edu)

## **Biology and Engineering**

**Project Description:** We are seeking an interested student to join our synthetic biology/engineering team. In this role, you will primarily focus on optimizing a PCR (Polymerase Chain Reaction) protocol, with the potential to engage in additional projects and responsibilities within our laboratory. This and future projects will support efforts in developing/evaluating a new gene editing tool. This is an excellent opportunity for a student looking to gain hands-on experience in molecular biology techniques while contributing to ongoing research efforts.

**Required Skills:** Interest in synthetic biology and engineering. Preference for students in biology, engineering, chemistry, or related areas. Necessary training will be provided, and no previous experience is required.

**Time Commitment:** ~5-8 hours per week

**Contact:** Kevin Solomon – [kvs@udel.edu](mailto:kvs@udel.edu)

## **Communication and Media**

**Project Description:** Dr. Ellithorpe's lab conducts research related to media use and media effects, especially topics such as video games and decision making, health behaviors, and media enjoyment. Research assistants will work with Dr. Ellithorpe and the graduate students in the lab to run lab studies, assign credit in SONA for online studies, and help design, create, and test stimuli for studies. RAs will also be expected to attend the biweekly lab meetings (schedule allowing).

**Required skills:** Interest in communication and media, familiarity with video game controls (console and/or PC). Further training will be provided.

**Preferred skills:** Experience with video and photo editing software is a plus, but not necessary.

**Time required:** Up to 10 hours per week, flexible.

**Contact:** Email Dr. Ellithorpe at [mellitho@udel.edu](mailto:mellitho@udel.edu) with your CV, a description of your interest in the position, and the skills you would bring to the lab.

## **Education**

**Project Description:** Dr. Jordan and Dr. Dyson's research centers primarily on helping students with math learning disabilities. Currently, we are looking for students to assist with our Fraction Sense Intervention lab. This lab focuses on evaluating the efficacy of our fraction sense intervention as it is tested in public school 6th-grade classrooms by real teachers. We collect student data through a pretest, a posttest, and student workbooks throughout the intervention period. We also observe classroom sessions and keep audio recordings of every lesson. Most (if not all) tasks will require students to come to the lab (Willard 211) in person. Responsibilities could include (but are not limited to):

1. assembling and organizing student materials
2. transcribing lesson recordings
3. entering student data
4. attending weekly lab meetings
5. assisting graduate students with related projects

### **Required skills:**

1. Be in good academic standing (GPA of 3.0 or higher)
2. Be interested in student learning
3. Be organized
4. Have good time management skills
5. Have good communication skills
6. Be attentive to detail
7. Be able to commit to at least 5 hours of work per week (limit of up to 10 hours)
8. Be interested in learning about the research process

### **Recommended Skills:**

The following are preferred but not required:

1. Education, Psychology, Cognitive Science, or other Social Sciences majors preferred.
2. Have experience using Excel and other Microsoft Office products.
3. Have experience using statistics software.
4. Comfortable thinking and talking about mathematics (at various grade levels)
5. Interest in attending graduate school
6. Availability to stay on for spring 2024 if in good standing.

**Time Commitment:** Hours/Week: 5-10

**To Apply:**

If interested please contact Heather Suchanec-Cooper by email, [hsuchan@udel.edu](mailto:hsuchan@udel.edu), with the Subject Line: **FSI Research Assistant** and the following information:

1. Name
2. Weekly Hours of Availability for the Fall Semester
3. Cell phone number
4. Preferred email address
5. a short statement about why you are interested in working in our lab
6. Resume of CV (optional)

## **Education**

### **Project Title: Studying Student Participation in Classroom Discussions in Elementary Classrooms**

**Project Description:** Children's learning can be supported through talking about their thinking in classrooms with their classmates and teacher. Our research seeks to understand how elementary school teachers use classroom discussions to deepen and support students' learning and participation. Teachers learn how to support discussions across mathematics, English Language Arts, and science through professional learning activities known as *Learning Labs* where they plan and teach lessons in their classrooms with colleagues. We examine how teachers learning evolves through examining their practice, responses on surveys and in interviews.

We seek organized and responsible undergraduate students to support with data management, including cleaning transcripts of teaching, interviews, and of teachers working with colleagues. Undergraduate researchers will meet regularly with project staff to identify goals and activities. Students from all disciplines are welcome to apply.

#### **Preferred Qualifications:**

- Experience with transcribing data
- Familiarity with data management programs

#### **Required skills:**

- Be in good academic standing
- Be organized
- Have good time management skills
- Have good communication skills
- Be attentive to detail
- Be interested in learning about the research process
- Be interested in issues related to education

**Time Commitment:** 5-10 hours/week, depending on weekly scheduling needs.

**Contact:** Steve Smith ([smithsa@udel.edu](mailto:smithsa@udel.edu)) for more information and to apply.

Subject Line: **McDonnell Grant Research Assistant** and the following information:

- Name
- Weekdays and Hours of Availability
- Cell phone number
- Preferred email address
- A short statement about why you are interested in working with us

## Education

### **UDRAW (Work Study) Research Assistantship in SOE: Dr. Barbieri's M<sup>3</sup> Lab: Math Methods & Motivation**

**Project Description:** In Fall 2023 Dr. Barbieri's various projects on mathematical cognition and learning will have a range of remote and in-person activities for an undergraduate scholar to receive mentoring in, such as analyzing students' problem-solving skills and explanations, working with children to collect data for a research study, creating databases, and preparing conference submissions. This apprenticeship can be primarily asynchronous with a mixture of remote and in-person activities for Fall 2023. Preference is given to students who wish to assist in working with kids at local schools to collect data or those who are looking for an apprenticeship that continues in the Spring. For those not interested or available to work in classrooms to collect data, there are other options for lab work as well. Please indicate your preference in your application.

Dr. Barbieri's research program centers broadly on instruction for students who struggle in math. Specifically, her work focuses on the evaluation and application of learning principles to improve mathematical competencies and motivation for math, especially for students at risk for low mathematics achievement. Dr. Barbieri studies mathematical competencies from preschool to adulthood. Dr. Barbieri also considers the role of motivation and attitudes towards mathematics in student learning.

#### Required Skills

- **Be eligible for work study.**
- Be in good academic standing (GPA of 3.0 or higher)
- Have a stable Wifi connection and access to a laptop
- Be able to commit to at least 8 hours a week (up to 10) of work (excluding Spring Break and finals weeks).

- Interested in student thinking and learning
- Diligent, organized and attentive to detail
- Have good time-management skills

Recommended Skills - The following are preferred but not required:

- Have experience using Excel and/or R and/or SPSS.
- Some experience tutoring mathematics (at any grade level)
- Comfortable thinking and talking about mathematics (at any grade levels)
- Particularly interested in collecting data with kids in a local school
- Interest in attending graduate school
- Preference given to students available for more than one semester (e.g., Fall 2023 and Spring 2024, etc.) and are welcome to stay as long as they qualify for work study and remain in good standing.

Please contact Dr. Christina Barbieri at [barbieri@udel.edu](mailto:barbieri@udel.edu) for more information.

More information about Dr. Barbieri's lab can be found here: <https://sites.udel.edu/m3-lab/>

## Engineering

**Topic:** Development of low cost, high performance solar cells

**Lab:** Institute of Energy Conversion

**Project Description:** The Institute of Energy Conversion is developing high-performance low-cost solar cells with an emphasis on industrially relevant processes. Current research at IEC focuses on a variety of materials for solar cells and includes development of new and novel processing techniques to improve material and cell properties, development and processing of new cell structures, and material and device characterization and analysis. We are seeking undergraduate researchers as part of our research team to carry out laboratory work and analysis related to these projects, supporting researchers and graduate students. Depending on their background, a student research assistant will help make materials, carry out chemical treatments, process working solar cells, and perform various types of characterization.

Students majoring in either the physical sciences or Materials, Chemical, Electrical or Mechanical Engineering are preferred, and candidates should be comfortable with chemical handling, working in chemistry and engineering laboratories, or working with electronics.

**Contacts:** Bill Shafarman [wns@udel.edu](mailto:wns@udel.edu)

Kevin Dobson [kdobson@udel.edu](mailto:kdobson@udel.edu)

## Entomology

**Project description:** The [Agricultural Entomology Lab](#) at University of Delaware is seeking undergraduate students to assist with projects aiming to develop AI-based tools to monitor insect pests of specialty crops (e.g., lima beans, mushrooms, tomatoes, watermelons). Undergraduate student researchers will assist with identifying and labeling insects on photos of sticky cards used to monitor insect pests. These labeled images will ultimately be used to train a deep learning algorithm to automate the detection of insect pests on sticky cards. Ample training will be provided to accomplish these tasks. Any students interested in biology, ecology, and/or insects are strongly encouraged to apply.



**Time commitment:** Flexible; must be able to work for short blocks of time 2-3 days a week, but probably not more than 10 hours/week.

**Contact:** To apply, please contact Dr. Mike Crossley at [crossley@udel.edu](mailto:crossley@udel.edu).

## Geography & Spatial Sciences

**Project name:** Climate change adaptation in border regions

**Project description:** The RISE Lab is hiring an undergraduate research assistant to join a project examining climate change adaptation in border regions. The goal of this project is to better understand how households perceive and adapt to the stressors of climate change within the complex economic, cultural, and political context of border regions. We have data from two research areas: 1) Texas, USA and 2) Gilgit-Baltistan, Pakistan. This position focuses primarily on data from households in Pakistan; however, the research assistant will have an opportunity to work with the larger team on data from Texas if interested. All work can be done remotely (with stable Wi-Fi) except for bi-weekly meetings with Dr. Nixon on the Newark campus.

### **Primary tasks:**

1. Process survey data on how households perceive the border and their experiences of climate change.
2. Create reports of missing data
3. Generate summary reports of data (i.e., descriptive statistics)

### **Required:**

1. Have experience using Excel.
2. Be attentive to detail and organized.

3. Be in good academic standing (GPA of 3.0 or higher)

**Preferred:**

1. Have experience with STATA, SPSS, or other statistical software
2. Interest in research on climate change and/or environmental justice

**Time commitment:** up to 10 hrs./week with flexibility

**Contact:** Dr. Nixon at [nixon@udel.edu](mailto:nixon@udel.edu) with a copy of your resume or CV and a brief description (about one paragraph) of your interest in the position

## History

### **Project Title: Slavery, Freedom, and Mobility in Delaware**

**Project Description:** The [UDARI Legacies of Enslavement and Dispossession committee](#) is investigating the history of slavery and freedom in the state of Delaware, with a focus on the mobility exercised and experienced by people of color during the nineteenth century. Working with Prof. Dael Norwood, an undergraduate research apprentice will use print, microfilm, and digital collections to locate and describe advertisements and newspaper articles related to these topics, make entries into a spreadsheet, and, where appropriate, digitize materials for inclusion in a public primary source collection. This is an excellent opportunity for students interested in history, social justice, and racial inequality; it would also make a great springboard for a later independent research project.

**Qualifications:** Must be in good academic standing, and confidently use word processing and spreadsheet software (e.g. Google Docs, Google Sheets). Prior experience doing historical research preferred but not required; training will be provided.

**Time commitment:** ~5 hours/week

**Contact:** Dr. Norwood at [dnorwood@udel.edu](mailto:dnorwood@udel.edu) with a copy of your resume or CV (with GPA), and an explanation of your interest in the position.

## Interdisciplinary position in Sustainable Food Systems/Plant and Soil Sciences/Environmental Sciences/Chemistry/Biology

**Project Description:** The Seyfferth Lab conducts research at the intersection of chemistry, biology, environmental sciences, plant, and soil sciences. Two main projects are:

1. 1) To understand how contaminants in soil and water enter the food that we eat. Importantly, we strive to decrease the amount of toxic compounds in our food supplies in sustainable ways that benefit society and the environment.
2. 2) To understand how sea-level rise impacts biogeochemistry in coastal soils.

See <http://udel.edu/~angelias/Seyfferth/Welcome.html>

Due to the interdisciplinary nature of the work, we have many different projects that can suit student's interests and we have employed students from Environmental Engineering, Chemistry, Biology, Geology, Environmental Sciences, and Plant and Soil Sciences. Typical tasks include field work, wet chemistry lab work, sample preparation, plant tissue analysis, soil analysis and water analysis.

**Required skills:** Strong interpersonal and organizational skills, and good time management.

**Preferred skills:** Microsoft Excel and preparing solutions in a laboratory setting.

**Time commitment:** Approximately 3-hr or more blocks of time, 3-10 hours per week.

**Contact:** Please reach out to the PI, Dr. Angelia Seyfferth, at [angelias@udel.edu](mailto:angelias@udel.edu) if you are interested in this position.

## Language, Literatures, Cultures

**Project Description:** This project investigates the careers, self-representation and reception of 19<sup>th</sup> century women doctors in Europe and the Americas. Your tasks will include identifying scholarly books and articles about the figures key to the project, as well as identifying popular culture sources about them (films, novels, blog posts, Youtube videos, etc). You'll also work on an MLA-style bibliography of the findings and briefly annotate the entries. Knowledge of French or Spanish is a plus.

**Contact:** Please do not hesitate to contact me with any questions ([aio@udel.edu](mailto:aio@udel.edu)).

## Marine Science and Policy

**Project Description:** The Carlisle Lab in the School of Marine Science and Policy (College of Earth, Ocean, and the Environment) is seeking an undergraduate student to work on projects using stable isotope analysis (SIA) to investigate a variety of marine ecological questions. Some of the current SIA projects include investigating the ecological role of sharks in coastal Delaware and Virginia as well as building a food web model of an oyster reef within Delaware Bay. We are seeking an undergraduate student to assist in the laboratory processing of tissue samples for SIA. This work will include all steps needed to prepare SIA samples for processing including fish

ID/dissection, chemical treatments on samples, and boating samples for SIA analysis. The undergraduate student will not only work directly on active research, but they will also develop valuable laboratory skills and learn relevant theory. The expected time commitment for this position is 5-10 hours/week and the laboratory work will take place at UD's marine campus in Lewes.

### **Qualifications**

- Able to work on the Lewes campus at least 1 day a week
- Strong organizational skills
- Background or interest in marine ecology

**Contact:** Dr. Aaron Carlisle ([carlisle@udel.edu](mailto:carlisle@udel.edu))

## **Material Culture**

**Project Description:** The Undergraduate Research Office and the Center for Material Culture Studies is seeking a student to conduct independent library research to assist in preparing and writing an extensive Research Experiences for Undergraduates (REU) NSF grant. This grant will provide a selected group of students with the opportunity to participate in an interdisciplinary methods summer school at the University of Delaware. Duties include identifying current literature on pedagogical approaches to undergraduate research in material culture studies and social science/humanities/STEM research methods and summarizing this literature for use in the grant application's literature review section. This research can be conducted largely according to the student's own schedule; short written reports and summaries will be expected on a regular but flexible basis.

### **Research Skills:**

- Be in good academic standing
- Some background in education, material culture studies, STEM, and/or interdisciplinary research
- Self-directed and motivated
- Good time-management skills
- Strong writing skills and a familiarity with grant applications or a desire to learn about them.

**Contact:** Carla Guerrón Montero (CMCS), [cguerron@udel.edu](mailto:cguerron@udel.edu)

## **Material Culture Studies/English**

**Project Description:** The Center for Material Culture Studies (CMCS) is seeking a student to assist with two projects during the 2023-24 academic year.

1. The Center is building a “Lending Library of Things” that faculty and students can consult for research and teaching. The library will consist of various artifacts that will be housed in CMCS office space and catalogued in an online database. We seek an RA who will work with CMCS leadership to manage an online intake form created for people who wish to donate items, write descriptive texts of accepted items, and create a public-facing website cataloging these items so that the UD community can browse the library and learn about the items it contains. This work will begin in November and continue throughout the academic year. Aside from the initial creation of the website, we expect the duties related to the lending library to be relatively light; they can be completed on a flexible schedule that accords with the RA’s own availability.
2. CMCS is hosting a symposium on “Material Culture Studies Today” on April 26-27, 2024 at the STAR Campus. The RA will work with CMCS leadership, CAS events staff, and our Center’s graduate assistant on planning duties associated with the symposium. These may include designing promotional material, organizing catering, lodging and transportation for guests, and coordinating AV and other tech needs for the event. We also hope that the RA will be able to attend the symposium to help with registration and general event support. This work will begin in February 2024 and conclude with the symposium itself in late April. It will provide a student interested in event planning, social media, and/or interdisciplinary research with valuable experience.

We are seeking an RA who possesses:

1. Good communication skills: clear and correct writing skills, responds to email promptly, has a professional demeanor and a collaborative mindset (works well with others)
2. Great time-management skills: work on the lending library will be largely self-directed and flexible; work on the symposium will be largely time-sensitive. We therefore seek a student who can work in both an independent and deadline-driven fashion.
3. Social media and web design skills (especially the experience with Instagram and Wordpress)
4. Interest in event-planning
5. Interest in humanities scholarship and interdisciplinary research

**Contact:** Sarah Wasserman (CMCS), [swasser@udel.edu](mailto:swasser@udel.edu)

## **Material Sciences**

**Available Project:** 2D Materials exfoliation, identification, and transfer

**Project Description:** Two-dimensional (2D) materials, in the form of thin films with one or few atom layer thickness, exhibit extraordinary electrical, optical, mechanical, and thermal properties. High-quality 2D materials are typically prepared by mechanical exfoliation from their

bulk crystals. Then, they are transferred to desired substrates for subsequent fabrication or characterizations. The undergraduate student will contribute to the exfoliation of two-dimensional (2D) materials. The student will use the optical microscope and the micro-Raman system to identify exfoliated 2D materials and practice the transfer procedure. The student will be involved in procedure development to figure out ways to improve yield. In addition, the student, if interested, will participate in the production of outreach videos.

**Preferred Skills:** Image/video processing and programming are preferred but not required.

**Contact:** Dr. Xi Wang – [wangxi@udel.edu](mailto:wangxi@udel.edu)

## Mathematical Sciences

**Project title:** Automated analysis of tear film imaging

**Faculty mentor:** Toby Driscoll

**Project Description:** We receive video and data files captured by ophthalmologists of patients while they hold one eye open as long as possible. The collected information is ultimately processed to yield data that are used in a mathematical model to identify and characterize loci of poor tear film function. We are seeking assistance with the steps needed to transform the raw data into forms accessible by the modeling codes. These steps are semi-automated and do not require specialized knowledge of math or biology. Ideally, the student will find ways to automate the process even further.

### **Qualifications:**

- Strong coding skills in MATLAB, Julia, or Python with NumPy
- Comfortable using command line / terminal and installing new software
- Desired: Experience with programming using videos and images as data

**Contact:** Toby Driscoll at [driscoll@udel.edu](mailto:driscoll@udel.edu)

## Physical Therapy

Research assistant for Move to Learn Innovation Lab - UDRAW

**Project Description:** The Move to Learn Innovation Lab is located in Star Campus. Our research focuses on designing interventions, clothing, and technologies to help improve quality of life for people with disabilities.

We are seeking two undergraduate research assistants to engage in a variety of research activities with our team. Our team's current projects focus on early intervention, parent education, and rehabilitation technology. Students will assist in a variety of tasks, including

transcribing spoken interviews into written text, coding of data from interviews or videos, digitally gathering scientific articles, and data processing and organization. No prior experience with these tasks is required as ample training and support will be provided.

The benefits of the position include working with our interdisciplinary team members to learn more about how to scientifically design interventions, clothing, and technologies that support and assist movement for children and adults with disabilities as well as participation in a supportive environment with students pursuing a variety of careers in health sciences, fashion and apparel, and public health.

Approximately 8-10 hours of work required per week for each student.

Contact: Michelle Lobo – [malobo@udel.edu](mailto:malobo@udel.edu)

## **Social Neuroscience**

**Position Description:** The Impression Formation Social Neuroscience Lab ([ifsnlab.org](http://ifsnlab.org)) investigates how we form impressions of people. The lab uses both neuroscience and behavioral research methods. The lab seeks a student for work in the fall to help conduct neuroimaging research. The student's responsibilities will include: (1) creating stimuli, (2) conducting online research, (3) collecting participant data with EEG or fMRI, (4) cleaning and analyzing data, (5) programming studies, and (6) other miscellaneous tasks.

**Required Skills:** High GPA, attending lab meetings, and a 10 hour a week commitment.

**Contact:** Email: [jtkubota@udel.edu](mailto:jtkubota@udel.edu)