



# Summer 2022 Undergraduate Research Internship Opportunities

Applications for these undergraduate research internships are being accepted for the summer of 2022. The opportunities are funded by the Department of Education through the STEM Opportunities for Hispanic and Low-Income Students (SOHLIS) project. Interested students will have the opportunity to apply to one of the following undergraduate research programs in the fields of: biodiversity, computational biology, and organic synthesis/medicinal chemistry. The successful applicants will receive a summer stipend for their participation in this program.

## Description of Internships

### BIODIVERSITY INTERNSHIP

The student intern will be responsible for contributing to a project that is focused on understanding and documenting the biodiversity of Rockland County. The project focuses on native and invasive plants but can include other organisms based on the student's interest. Some prior experience is preferred, although the internship will include a close mentoring experience with the supervisor. Responsibilities include:

- Photographing, identifying, and documenting species in the Dominican College local area
- Entering data into iNaturalist and spreadsheets
- Literature, herbarium, and web search on the biodiversity and ecosystems of Rockland County
- Analysis of data and results to be presented in a final paper and poster

The student will have travel to the New York Botanical Garden and/or a conference. If the student wishes to earn internship credits, guidelines as set forth by the Dominican College Career Development Center apply.

The intern must be a documented U.S. citizen or permanent resident in possession of an alien registration receipt card (I-551) or another legal document of such status at the time of application. International citizens studying in the United States with an F-1 Visa are not eligible.

### Experience and Educational Requirements

- Undergraduate student
- Basic understanding of biological principles
- Training in Ecology and Botany preferred but not required
- Desire to participate in the scientific research process

### Other Knowledge, Skills, and Abilities

- Strong written and verbal communication skills
- Ability to follow instructions as directed
- Ability to manage time effectively
- Positive attitude and willingness to learn

### Values, New Skills, and Benefits for the Student

The student intern will gain critical thinking skills as a result of the scientific process they are involved in under the umbrella of this internship. The student will increase their knowledge of biodiversity research, invasive plants, and ecological restoration. Research will take place on the Dominican College Campus as well as involve field trips to natural areas near the campus.

### Stipend

- \$3,500 student intern stipend (tax deductions will apply)
- Full travel stipend to a professional scientific conference and/or Botanical Gardens

### Application Process

In order to be considered, the student must complete the attached application and provide an unofficial transcript, resume, and two letters of recommendation. The student intern must commit to the full 6-week period of the internship (June 1 - July 8, 2022).

***If you have questions about this internship, please contact Dr. Regina Alvarez at [regina.alvarez@dc.edu](mailto:regina.alvarez@dc.edu).***

### COMPUTATIONAL BIOLOGY INTERNSHIP

The student intern will be responsible for contributing to a project that is focused on understanding the bacterial communities present in surface waters along the Hudson River. Some prior experience is required, although the internship will include a close mentoring experience with the supervisor. Responsibilities include:

- Command-line coding using QIIME2 and other software
- Statistical analysis using R and R Studio
- Analysis of outputs to form meaningful conclusions
- Synthesis of results in the form of publication-quality images

The intern will have the opportunity to present their work in the form of a final paper and poster at a national professional conference. If the student wishes to earn internship credits, guidelines as set forth by the Dominican College Career Development Center apply.

The intern must be a documented U.S. citizen or permanent resident in possession of an alien registration receipt card (I-551) or another legal document of such status at the time of application. International citizens studying in the United States with an F-1 Visa are not eligible.

#### Experience and Educational Requirements

- Undergraduate student
- Basic understanding of biological principles
- Training in Genetics, Microbiology, or Cell Biology preferred but not required
- Desire to participate in the scientific research process

#### Other Knowledge, Skills, and Abilities

- Strong written and verbal communication skills
- Proficient in computer programming
- Ability to follow instructions as directed
- Ability to manage time effectively
- Positive attitude and willingness to learn

#### Values, New Skills, and Benefits for the Student

The student intern will gain critical thinking skills as a result of the scientific process she/he is involved in under the umbrella of this internship. At many steps in the scientific process, the intern, along with the supervisor, will need to make decisions based on experimental results. In addition, the intern will gain practical skills in the use of common laboratory equipment as well as more advanced equipment and analysis. All research will be completed on the campus of Dominican College.

#### Stipend

- \$5800 student intern stipend (tax deductions will apply)
- Full travel stipend to a professional scientific conference

#### Application process

In order to be considered, the student must to complete an application and provide an unofficial transcript, resume, and two letters of recommendation. The student intern must commit to the full 10-week period of the internship (June 1 - August 6, 2022).

***If you have questions about this internship, please contact Dr. Bernadette Connors at [bernadette.connors@dc.edu](mailto:bernadette.connors@dc.edu).***

### Organic Synthesis and Medicinal Chemistry Internship

The student intern will be responsible for contributing to a project aimed at exploring the scope and potential of a novel thionating reagent with compounds of biological interest. The student will be trained in techniques of modern synthetic chemistry including the application of new microwave technology to discover and optimize synthetic transformations. Some prior experience is required, although the internship will include a close mentoring experience with the supervisor. Responsibilities include:

- Conducting and following synthetic reactions using chromatography techniques
- Purification of compounds using various techniques
- Interpretation of spectral data: NMR (<sup>1</sup>H, <sup>13</sup>C), IR, mass spec
- In some cases, assessing chiral purity
- Documentation of scientific work
- Working in team environment with adherence to safety protocol
- Contribution to future scientific publication

The intern will have the opportunity to present their work in the form of a final paper or poster at a professional conference.

If the student wishes to earn internship credits, guidelines as set forth by the Dominican College Career Development Center apply.

The intern must be a documented U.S. citizen or permanent resident in possession of an alien registration receipt card (I-551) or another legal document of such status at the time of application. International citizens studying in the United States with an F-1 Visa are not eligible.

### Experience and Educational Requirements

- Undergraduate student
- Basic understanding of chemistry principles
- Training in organic chemistry preferred but not required
- Desire to participate in the scientific research process

### Other Knowledge, Skills, and Abilities

- Strong written and verbal communication skills
- Passion for experimentation
- Ability to follow instructions as directed
- Ability to manage time effectively
- Positive attitude and willingness to learn

### Values, New Skills, and Benefits for the Student

The student intern will gain critical thinking skills as a result of the scientific process she/he is involved in under the umbrella of this internship. At many steps in the scientific process, the intern, along with the supervisor, will need to make decisions based on experimental results. In addition, the intern will gain practical skills in the synthesis, purification, and structural determination of novel organic compounds. All research will be completed on the campus of Dominican College.

### Stipend

- \$3,500 student intern stipend (tax deductions will apply)
- Full travel stipend to a professional scientific conference

### Application process

In order to be considered, the student must complete the attached application and provide an unofficial transcript, resume, and two letters of recommendation. The student intern must commit to the full 6-week period of the internship (June 1 - July 8, 2022).

***If you have questions about this internship, please contact Dr. Colleen Evans at [colleen.evans@dc.edu](mailto:colleen.evans@dc.edu).***



# Summer 2022 Undergraduate Research Internship Opportunities APPLICATION

Please fill out the applicant information, provide copy of an unofficial transcript, resume, and two recommendation letters. All application materials should be emailed to [sohlis@dc.edu](mailto:sohlis@dc.edu).

## Application Information

NAME	HOME INSTITUTION
EMAIL ADDRESS	PHONE NUMBER
MAJOR OR DEGREE PROGRAM	

Please rank the following undergraduate research internship programs in order of your preference from 1 to 3. Every effort will be made to accommodate your selection; however, there are limited positions available.

- Biodiversity
- Computational Biology
- Organic Synthesis/Medicinal Chemistry

## Brief Description

Please write a brief description (a maximum of 250 words) of why you are interested in your preferred research internship program (your number 1 selection).

**Applicant**

Complete the Applicant Information section of this form. Sign and give this waiver form to your recommender for submission with their letter of recommendation. This form along with the completed letter of recommendation **must be received by March 1, 2022.**

Under federal law, students have the right to inspect and review the letter(s) of the recommendation contained in their educational records. However, applicants may waive the right of access. The letter(s) will then remain confidential between the supervisor and the recommender(s). Applicants are not required to waive their right of access as conditions for acceptance to the research program. All letters of recommendation, whether written confidentially or not, will be given careful consideration in the admission decision. Applicants alone must decide whether to waive their right of access.

**Applicant's Waiver Declaration**

I have read the statements above and I understand that I am not required to waive the right of access under the Family Educational Rights and Privacy Act of 1974 ("FERPA") and any/or all other laws, regulations, or policies.

Please check the appropriate response.

- I hereby waive my right of access to this letter of recommendation as provided by FERPA.
- I do not waive my right of access to this letter of recommendation as provided by FERPA.

SIGNATURE OF APPLICANT	DATE
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# Summer 2022 Undergraduate Research Internship Opportunities **RECOMMENDATION REQUEST**

**Applicant:** Please fill recommender information and send copy of request to recommender.

## Recommender Information

NAME	INSTITUTION
EMAIL ADDRESS	PHONE NUMBER

**Applicant:** Please rank the following undergraduate research internship programs in order of your preference from 1 to 3. Every effort will be made to accommodate your selection; however, there are limited positions available.

- Biodiversity
- Computational Biology
- Organic Synthesis/Medicinal Chemistry

**Recommender:** To best assist the supervisor in determining whether the applicant is capable of carrying out and committed to the research experience, please write candidly about your knowledge of the applicant and the applicant's qualifications including but not limited to:

- How long and in what capacity have you known the applicant?
- The applicant's qualifications and potential to be successful in a research project.

If there are any other insights that you wish to share about the applicant, please do. Letters should be submitted on departmental letterhead.

Submit this form along with your letter via email to [sohlis@dc.edu](mailto:sohlis@dc.edu). All application materials must be received by **March 1, 2022**.