

# Vanderbilt Research Opportunities for Undergraduate Students

## *Vanderbilt Students Only*

### **Vanderbilt Data Science Institute Summer Research Program (DSI – SRP)**

**Brief Overview:** The Vanderbilt Data Science Institute Summer Research Program (DSI – SRP) provides **Vanderbilt undergraduate students** with the opportunity to engage in 10 weeks of full-time data science focused research in collaboration with any full-time Vanderbilt faculty member during the summer. The goal of DSI – SRP is to encourage and enhance student-faculty mentoring and joint research efforts in data science.

**Web:** <https://www.vanderbilt.edu/datascience/academics/undergraduate/summer-research-program/>

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### **SyBBURE Searle Program**

**Brief Overview:** The SyBBURE Searle Program aims to incubate and inspire the next generation of innovators through research, design, and community. The program creates a research and design playground where uniquely different people gather to do cool stuff. The program funds **undergraduate students at Vanderbilt University** to explore any aspect of STEM that interests them through independent research and team-based design projects. The program provides individualized mentorship and training to promote student personal and professional development within an extraordinary and inclusive community.

**Web:** <https://www.sybbure.org/>

### **Vanderbilt Undergraduate Summer Research Program (VUSR)**

**Brief Overview:** The Vanderbilt Undergraduate Summer Research Program (VUSR) provides **Vanderbilt undergraduate students** with the opportunity to fulfill 10 weeks of full-time research during the summer under the mentorship of any full-time Vanderbilt University faculty member, including faculty in the graduate and professional schools. VUSR strongly prioritizes research that our Vanderbilt students do with Vanderbilt faculty. In-person research and mentoring is favored, though with adequate justification, virtual research and mentoring will be considered.

Participants will fulfill their research on campus or in another research and/or field setting. The goal of VUSR is to encourage and enhance student-faculty mentoring and joint research and discovery efforts.

The program dates for 2023 are June 5 through August 11.

**Web:** <https://www.vanderbilt.edu/immersion/vusrp/>

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## *All Undergraduate Students*

### **Undergraduate Research at Vanderbilt**

**Brief Overview:** Vanderbilt University prides itself as a center for scholarly research, and there are a wealth of opportunities for undergraduate students to participate. Undergraduate research is a defining experience and at Vanderbilt, students have the opportunity to work with world-class faculty and:

- Engage in the scientific process
- Become better learners
- Think critically
- Generate, apply, and disseminate new knowledge

**Web:** <https://www.vanderbilt.edu/undergraduate-research/>

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### **Vanderbilt Summer Science Academy (VSSA)**

**Brief Overview:** The Vanderbilt Summer Science Academy (VSSA) is an umbrella program that brings together undergraduates conducting summer biomedical research at Vanderbilt University School of Medicine. Approximately 70 students in 15 research programs participate in VSSA seminars, enrichment activities, and social activities.

**Web:** <https://medschool.vanderbilt.edu/vssa/>

### **VUSE Summer Research Program**

**Brief Overview:** Each student in the program works for 10 weeks under the supervision of a School of Engineering faculty member. Students work side-by-side with faculty, graduate students and other undergraduates on a currently active research project while gaining first-hand experience in laboratory research. Students receive \$6000 of support to aid with the cost of housing and living expenses.

**Web:** <https://engineering.vanderbilt.edu//summer-research/>

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### **American Heart Association Supporting Undergraduate Research Experiences (AHA SURE)**

**Brief Overview:** Through a partnership with the American Heart Association, mentored summer research experiences are available for three students from ethnic and racial groups under-represented in science.

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- Learn the Biological, Behavioral, and Social Determinants of Health: Discover what factors affect health in vulnerable populations through the AHA's extensive, unique resources.
- Gain Invaluable Experience and Mentoring: Work with an AHA-associated researcher, sampling career paths and learning how the AHA supports research.

The AHA is committed to increasing diversity in science and in the delivery of health care. The program advances and promotes a rich academic experience for Scholars from historically underrepresented groups. We encourage careers in health services, research, community engagement and public service.

**Web:** <https://medschool.vanderbilt.edu/vssa/aha-sure/>

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### Summer Research Internship Program in Biomedical Informatics

**Brief Overview:** The Summer Internship Program in Biomedical Informatics is designed to provide students from diverse backgrounds with a high quality Biomedical Informatics research experience; thereby encouraging students to consider pursuing PhDs and research careers in the field. Biomedical Informatics is the interdisciplinary science of acquiring, structuring, analyzing and providing access to biomedical data, information and knowledge. As an academic discipline, biomedical informatics is grounded in the principles of computer science, information science, cognitive science, social science, and engineering, as well as the clinical and basic biological sciences. Exceptional students from any of these disciplines are encouraged to apply.

**Web:** <https://www.vumc.org/dbmi/summer-research-internship-program-biomedical-informatics>

### The Medical Scientist Training Program (MSTP) – Summer Research Program

**Brief Overview:** The Medical Scientist Training Program (MSTP) – Summer Research Program offers undergraduate students with interests in pursuing MD/PhD dual degree training an opportunity to conduct summer research in the lab of a physician-scientist at Vanderbilt. In addition to gaining valuable research experience, students will participate in a variety of formal and informal mentoring activities and will gain clinical shadowing experience.

**Web:** <https://medschool.vanderbilt.edu/vssa/mstp-summer-research-program/>

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### Promoting Academic Excellence with Community Engagement and Reach Multicultural Scholars (PAECER) Program

**Brief Overview:** Undergraduate students from historically underrepresented groups will complete a mentored, summer research experience in a laboratory addressing an

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aspect of cardiovascular disease that is supplemented with training in critical thinking and exposure to the complexities that underlie health disparities. Students also benefit from near peer mentoring and exposure to a range of career opportunities. Ten students from groups underrepresented in science and medicine will be selected to participate each summer. PAECER is funded by NHLBI with collaborative support from the American Heart Association.

**Web:** <https://medschool.vanderbilt.edu/vssa/pacer/>

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### The Vanderbilt Research Experience for Undergraduates (REU) in Chemical Biology

**Brief Overview:** The Vanderbilt Research Experience for Undergraduates (REU) in Chemical Biology program is a ten week hands-on course designed to introduce chemistry, biochemistry and biology students to the research processes and the interdisciplinary nature of contemporary research. Students participate in a mini-symposium on drug discovery, attend seminars given by VICB faculty working across disciplinary lines and participate in weekly discussions on topics such as ethics.

The 2023 program will run from May 30th to August 4th.

**Web:** <https://www.vanderbilt.edu/reu/>

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### Undergraduate Clinical Research Internship Program

**Brief Overview:** The Vanderbilt Undergraduate Clinical Research Internship Program (UCRIP) gives college students earning a four-year degree the opportunity to participate in both research and clinical patient care at an academic medical center. This program is designed for students who are interested in a career in medicine. Participants will complete a research project under the directorship of a research mentor and also directly observe clinical patient care while spending time with residents and attending physicians.

The 2023 session will run from the beginning of June through the first week in August, with the Sunday before and Saturday after allotted for moving.

**Web:** <https://medschool.vanderbilt.edu/vssa/undergraduate-clinical-research-internship-program/>

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### Vanderbilt Institute for Nanoscale Science and Engineering (VINSE)

**Brief Overview:** The Vanderbilt Institute for Nanoscale Science and Engineering (VINSE) brings ten students each summer to campus to work closely with VINSE faculty

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on research projects in cutting edge areas of nanoscale science and engineering. This summer program is funded by the National Science Foundation Research Experiences for Undergraduates (NSF-REU) program. Participation in the program provides students with a true interdisciplinary research experience in an environment where physicists, chemists, biologists, and all engineers collaboratively solve problems and create new scientific understanding. Weekly lunchtime meetings are held for all faculty and students that cover topics ranging from ethics and the responsible conduct of research to demystifying graduate school and how to present research findings. Each student works directly with VINSE faculty members and their research groups and has access to the VINSE laboratories, which are shared facilities available to all authorized users.

**Web:** <https://www.vanderbilt.edu/vinse/reu/index.php>

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### Vanderbilt Physics & Astronomy Research Experiences for Undergraduates (REU) Program

**Brief Overview:** The Vanderbilt Physics & Astronomy Research Experiences for Undergraduates (REU) Program brings ten students each summer to the Vanderbilt campus to work closely with faculty and research groups. The program provides research opportunities in areas across sub-fields of theoretical physics, experimental/observational physics, computational physics, and data-driven physics.

Funded by the National Science Foundation, this REU program is a 10-week internship for rising sophomores, juniors, and seniors. (Graduating seniors: Please contact [jonathan.bird@vanderbilt.edu](mailto:jonathan.bird@vanderbilt.edu).) The program emphasizes a friendly, collaborative environment, field trips and local social events. Comprehensive mentoring is achieved through close interaction with faculty, postdocs, and other Vanderbilt students within the department. Professional development opportunities are offered through topical workshops, coffee break chats, expert seminars, and coached poster/talk sessions which prepare students for future academic and professional challenges.

**Web:** <http://astro.phy.vanderbilt.edu/~reu/index.htm>

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### Vanderbilt Summer Diabetes Research Program

**Brief Overview:** This program provides undergraduate students who are interested in diabetes with the opportunity for a research experience in one of the many laboratories associated with the Vanderbilt Diabetes Center.

**Web:** <https://medschool.vanderbilt.edu/vssa/vanderbilt-summer-diabetes-research-program/>