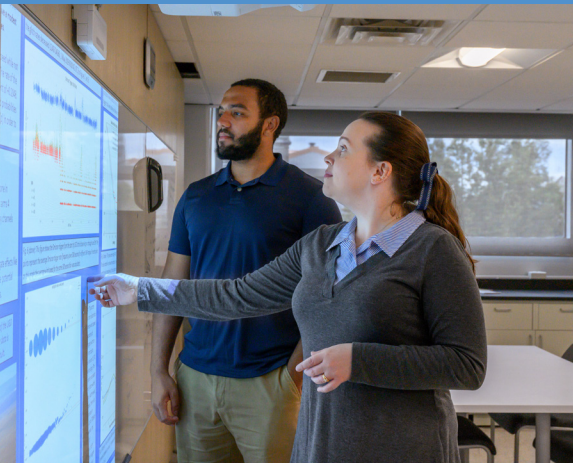




VILLANOVA
UNIVERSITY



RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU) AT VILLANOVA UNIVERSITY

PHYSICS AND ASTROPHYSICS

Villanova faculty are teacher-scholars—conducting nationally distinguished research and inviting undergraduate students to be partners in their lab. Supported by a REU grant from the National Science Foundation, professors in the Departments of Physics and Astrophysics and Planetary Science are looking for promising undergraduate students from other institutions to participate in hands-on research with them in summer 2021.

Applicants don't need to have the best grades or go to the best schools—you just need passion!

ASTROPHYSICS

- Gravitational wave data analysis with LIGO
- Make your own astrophysical observations to go hunt for exoplanets
- Develop new polarizers to study the cosmic microwave background
- Study black holes through X-ray spectroscopy with NICER
- Analyze photometric and spectroscopic observations of eclipsing binaries to extract fundamental stellar parameters
- Investigate potential habitability of planets hosted by solar-like stars

CONDENSED MATTER PHYSICS

- Study engineered human ferritins with Mössbauer spectroscopy
- Synthesize and characterization of magnetically frustrated materials
- Create and study graphene samples to customize its electrical properties.

The 10 week program runs from May 24–July 30, 2020. Students will receive a \$6000 stipend, round-trip travel from their home to Villanova and free room and board on campus.



Once you do research with us at Villanova, you are a member of our community. We are wholly invested in your future success and will continue to mentor you long after the summer ends.

BENEFITS OF THE PROGRAM

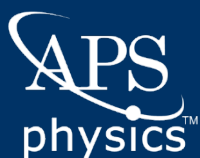
- Professional training in conducting responsible research, delivering elevator pitches for your work, and developing effective research posters
- A trip to Goddard Space Flight Center and the Smithsonian Air and Space Museum in Washington, D.C.
- An opportunity to present your research at a local symposium
- Up to \$1500 to present your research at a professional conference of your choice during the next school year—which can cover registration, airfare, hotel, meals, etc.

For more information about the program and how to apply, visit villanova.edu/REU-physics-astro



VILLANOVA
UNIVERSITY

College of Liberal Arts
and Sciences



WEBINAR

Moving the Needle: Supporting Black Students' Academic Success

Wednesday, February 10, 2:30 - 4:30 p.m. ET

[Register](#)

Sponsored by: [American Physical Society](#), [American Institute of Physics](#), [American Association of Physics Teachers](#), [African American Women in Physics](#), [National Society of Black Physicists](#)

The University of Maryland Baltimore County's [Meyerhoff Scholars Program](#) is known for their success in supporting students from diverse backgrounds as they complete STEM degrees. Two prestigious alumni who serve as examples of the program's success are Dr. Kizzmekia Corbett, leading COVID-19 immunologist, and Dr. Jerome M. Adams, former US Surgeon General.

In this webinar, President of University of Maryland Baltimore County, and founder of the program, Dr. Freeman Hrabowski, III, and Dr. Willie May will discuss the Scholars Program. For the first hour, Dr. May will interview President Hrabowski about the creation of this program, and the factors that led to its success. After the conversation, attendees will have the opportunity to ask Dr. May and Pres. Hrabowski questions.

After attending, webinar attendees will take away a better understanding of:

1. The Meyerhoff Scholars Program that supports students from diverse backgrounds
2. The mechanisms that make the program successful
3. Strategies of successful programs that support Black students' academic success

The presentation and Q&A will be recorded, so please register even if you cannot attend live and you will receive a link to the recording. The webinar will be hosted by APS CEO Dr. Jonathan A. Bagger and APS President S. James Gates, Jr. (Brown University, Ford Foundation Professor of Physics & Affiliate Professor of Mathematics).

Moderator

Prof. Jim Gates (Brown University, Ford Foundation Professor of Physics & Affiliate Professor of Mathematics; APS, President)

Presenters

President Freeman Hrabowski III (University of Maryland Baltimore County, President)

Dr. Willie May (Morgan State University, Vice President for Research and Economic Development)



APS Headquarters: 1 Physics Ellipse, College Park, MD 20740

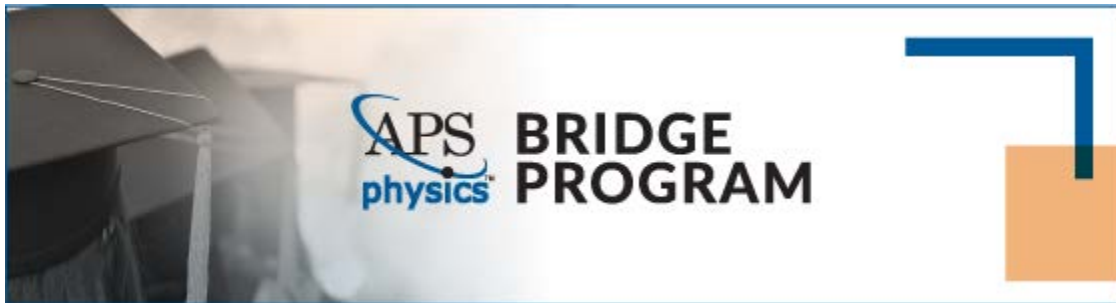
Editorial Office: 1 Research Road, Ridge, NY 11961

Office of Government Affairs: 529 14th St NW, Washington, DC 20045

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It's that time of year again! The 2021 Bridge Program applications are officially open for students who are interested in pursuing a PhD in physics.

This year, we hope you will continue to reach out to Black, Latinx, and Indigenous students who you believe might be good candidates for the program. These might be students who applied to your graduate program, but for whom your institution was unable to make an offer of acceptance, or who are unlikely to apply or to be accepted into a physics graduate program, but with some additional support could be successful in pursuing a doctoral degree.

If you know such a student, please send them the materials below and encourage them to apply to the APS Bridge Program.



[Letter from APS to Students](#)



[Informational Brochure](#)

We appreciate your efforts in spreading the word about the APS Bridge Program and helping us reach those students who stand to benefit most.

If you have questions about the Bridge Program, reach out to staff at bridgeprogram@aps.org.

Thank you,

Brián Clash
APS Bridge Program Manager

[Learn more](#)



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APS DBIO Tutorial, March 2021

Machine Learning for Biological Physics

When

March 14, 2021, Sunday from 12:30 pm to 4:30 pm CST (a virtual meeting)

Fee

\$15 per registrant

Who Should Attend

Graduate students, post-docs, and other scientists interested in learning about the exciting new area of Machine Learning for Biological Physics. The tutorial talks will be very pedagogical, describing the theoretical foundations and tools of the field for a wide range of topics in biological physics. Latest developments and open questions will also be prominently featured.

Tutorial Description

Biological physics is at an exciting moment where the integration of machine learning (ML) and data science tools have enabled new physical insights, better understanding, and accelerated discovery that surpass or complement traditional approaches. This tutorial section provides pedagogical lectures on the tools of ML-related methods applied to several topics that closely follow this year's DBIO scientific programs. The attendees will learn about the use of ML on several data types from biomolecular sciences, molecular modeling, high-throughput multi-omics, cell biophysics, to single-cell imaging before the March Meeting kicks off.

Topics

- Clustering and dimensionality reduction methods applied to biomolecular ensembles
- Dimensionality reduction approaches for -omics data
- Can machine learning help systems modeling in cellular biophysics?
- Quantifying single-cell imaging data with deep learning method

Organizers

Margaret S. Cheung, Vice Chair of DBIO,

Pacific Northwest National Laboratory; University of Washington, Seattle;

University of Houston; Center for Theoretical Biological Physics at Rice University

Margaret Gardel, Chair-Elect of DBIO, University of Chicago

Instructors

Ruxandra Dima, University of Cincinnati

Purushottam Dixit, University of Florida

Padmini Rangamani, University of California, San Diego

Jianhua Xing, University of Pittsburgh