Hostos Community College | CUNY

Natural Sciences Department

OPEN HOUSE

SCIENCE WEEK

WELCOME TO OUR HOUSE

NOVEMBER 10 – 14

A-507

Hostos Research Center | C-130

Fall 2025

Chair Welcome Message

The **Natural Sciences Department (NSD)** warmly invites the Hostos community to **celebrate** the **2025 Science Week – Open House!** This year's theme, **"Artificial Intelligence (AI) and Science Discovery,"** highlights how AI is transforming the way we explore, understand, and innovate across scientific disciplines.

We are honored to welcome our **Keynote Speaker**, **Dr. Derek M. Shore**, from **Weill Cornell Medicine's Department of Systems and Computational Biomedicine**. Dr. Shore, a Scientific Computing Engineer at the Institute for Computational Biomedicine, will present an inspiring talk titled *"How AI, Supercomputers, and Massive Datasets Accelerate the Search for Better Medicines."*

Yoel Rodríguez, PhD
Professor and Chairperson
Engineering Program Coordinator

Throughout the **week of November 10 and beyond!**, we invite you to take part in a variety of exciting events, including:

- **Teach-in Activities**
- **Conversations with STEM Alumni**
- **Student Research Presentations & Robotics Exhibition**
- **Hostos STEM Olympiad**
- **Science Games**

The NSD remains dedicated to providing high-quality programs in **Science, Engineering, and Forensic Science,** and to supporting students in **Allied Health Sciences, Liberal Arts, and A.A.S. programs**. We are also developing new tracks within the **Science A.S. Program** including **Pre-Health**, **Earth and Environmental Sciences, Biomedical Informatics**, and a new **Jointly Registered Earth System Science & Environmental Engineering Science Program**. These initiatives expand opportunities for Hostos students to pursue diverse and rewarding careers in science and engineering. Let us come together to celebrate the **NSD 2025 Science Week – Open House**, embrace the spirit of discovery, and explore the limitless possibilities of science!

Keynote Speaker

Derek M. Shore, PhD, is a Lecturer in **Weill Cornell Medicine's Department of Systems and Computational Biomedicine,** a Scientific Computing Engineer in the **Institute for Computational Biomedicine**, and a senior member of Professor Harel Weinstein's research group. Dr. Shore's work is at the **intersection of computational structural biology, artificial intelligence (AI), and high-performance computing**. He develops and applies AI and machine-learning methods to investigate molecular mechanisms, viral infectivity, and rational drug discovery. He also collaborates closely with experimental groups to translate computations into clear, testable hypotheses.

To support this work, Dr. Shore runs advanced calculations on the nation's leading supercomputers, including the Frontier supercomputer at Oak Ridge National Laboratory, the Delta system at the National Center for Supercomputing Applications at the University of Illinois Urbana-Champaign, and the AiMOS supercomputer at Rensselaer Polytechnic Institute. He also **teaches graduate-level courses in modern AI methods for biomedicine and quantitative biology**. Dr. Shore holds an M.S. in Computer Science from the Georgia Institute of Technology and a PhD in Medicinal Biochemistry from the University of North Carolina at Greensboro.

Derek M. Shore, PhD
Lecturer, Department of Systems and Computational Biomedicine
Scientific Computing Technology Engineer
Institute for Computational Biomedicine
Weill Cornell Medicine

Science Week - Open House

AGENDA

Wednesday, November 12, 2025

Hostos Research Center | C-130

11:00 AM **Opening Remarks**
President Daisy Cocco De Filippis, PhD
Interim Provost Andrea Fabrizio, PhD
Natural Sciences Department Team and
Dr. Yoel Rodríguez – Chairperson, Natural Sciences Department

11:10 AM **Keynote Presentation**
How AI, Supercomputers, and Massive Datasets Accelerate the Search for Better Medicines
Derek M. Shore, PhD | Lecturer
Department of Systems and Computational Biomedicine
Weill Cornell Medicine

12:30 PM **STEM Student Research Presentation and Robotics Exhibition**
CSTEP-CRSP-LSAMP Students

2:00 PM **STEM Alumni Conversation – Professional Experiences**

From Hostos to European Labs: My Journey From Battery Research at CCNY to Aerobic and Anaerobic Cell Studies at KTH Sweden
Blerina Sehitaj, Chemical Engineering | Class 2025

Bridging Communities Through International Cooperation
Ricky Bhola, Civil Engineering | Class 2013

- **Hostos STEM Olympiad | Thursday, Nov 13 | 12:30 PM**
- **Teach-in and Open Lab Activities | Week of Nov 10 and Beyond!**

PROGRAM
Teach-in | Open Lab Activities

Monday, November 10, 2025

Science Presentations: Microscopic Landscapes
Anatomy and Physiology I Lab BIO 230 208B | Not Open to Public
In Person | A-527 | 10:00 AM - 11:00 AM | Prof. Carmen Inda García, PhD
Students presentations.

Discussion of Advanced Topics in Chemistry
General Chemistry I CHE 110 308B
In Person | A-435 | 11:00 AM - 12:15 PM | Prof. Francisco Fernández, PhD

Class Debate: Renewable vs. Non-Renewable Energy in the U.S. Today
Environmental Science I ENV 110 710A
In Person | A-331 | 5:30 PM - 6:00 PM | Prof. Nelson Nuñez-Rodríguez, PhD
Following a role-play scenario, students will take on different roles such as politicians, community advocates, and company owners to debate how current political dynamics are shaping the use of renewable and non-renewable energy sources in the U.S. today.

Tuesday, November 11, 2025

Impact of Chemistry in "Dental Hygiene" or "Nursing"
Introduction to Chemistry CHE 110 216A | Not Open to Public
In Person | A-536 | 11:00 AM - 12:15 PM | Prof. Sharmila Shakya, PhD

Discussion of Advanced Topics in Chemistry
General Chemistry I CHE 220 316A
In Person | A-517 | 11:00 AM - 12:15 PM | Prof. Francisco Fernández, PhD

Contemporary Issues in Biology
General Biology I BIO 210 409B | Not Open to Public
In Person | A-432 | 11:30 AM - 1:30PM | Prof. Flor Henderson, PhD
Students' presentations.

PROGRAM
Teach-in Activities

Wednesday, November 12, 2025

Current Medicine and Scientific Events that We Have Studied in Class
Anatomy and Physiology I Lab BIO 220W 208A | Not Open to Public
In Person | A-526 | 11:00 AM - 12:00 PM | Prof. Amanda Bernal-Carlo, PhD
Class discussion.

Noise Pollution in NYC
General Physics II I PHY 220W 215A
Online | 9:30 AM - 10:45 AM | Prof. Biao Jiang, PhD

The Genetic Revolution: The Manipulation of Human DNA
General Biology BIO 110 409A | Not Open to Public
Online | 11:30 AM | Prof. Flor Henderson, PhD
Documentary screening.

Earth Science Trivia | Geoscience Club
In Person |Outside HRC C-130 | 12:30 PM - 2:00PM
Prof. Anna Ivanova, PhD, Prof. Prof. Allison Franzese, PhD
Students: Steven Martínez, David Lee | Win prizes!

STEM Hands-on Activities and Tabling
Science-Geoscience-Physics-Robotic Clubs
In Person |Outside HRC C-130 | 10:00 AM - 11:00 AM and 12:00 PM - 2:00 PM
Prof. Anna Ivanova, PhD, Prof. Biao Jiang, PhD, Prof. Allison Franzese, PhD, Prof. Yoel Rodríguez, PhD

Peers in Action | Physics Contest
General Physics I PHY 210 215A
In Person | 3:00 PM - 4:00 PM | Prof. Yoel Rodríguez, PhD

Discussion of the Movie "And the Band Played On”
Microbiology BIO 310 710A
In Person | A-408 | 5:30 PM - 6:30 PM | Prof. Julie Trachman, PhD
This movie is about the early days of the AIDS epidemic.

PROGRAM
Teach-in Activities

Thursday, November 13, 2025

Circulating Discoveries: The Future of Blood Health and Disease
Anatomy and Physiology I Lab BIO 230 111A | Not Open to Public
Online | 8:15 AM | Prof. Vyacheslav Dushenkov, PhD
In-class discussion. Microfluidic blood analysis and immunohematology breakthroughs are shaping personalized medicine.

Organic Chemistry in the Era of AI
Organic Chemistry I CHE 310 316A | Not Open to Public
In Person |A-534 | 11:00 AM - 1:00 PM | Prof. Roy Debasish, PhD
Portfolio presentation by students.

Artificial Intelligence in Plant Science: Future Perspectives, Applications and Challenges
Anatomy and Physiology I Lab BIO 230 411A | Not Open to Public
In Person | C-463 | 12:30 PM | Prof. Márcia Ribeiro, PhD

From Genes to the Vein: Innovations Transforming Blood Science
Anatomy and Physiology I Lab BIO 230 409A | Not Open to Public
Online | 12:30 PM | Prof. Vyacheslav Dushenkov, PhD
In class discussion. Genomic insights into hemoglobinopathies, artificial blood substitutes.

How to Study Effectively for Exams
In Person | A-408 | 12:30 PM | Prof. Soheli Chowdhury, PhD
General activity. Not related to any specific course. Everyone is welcomed!

Biodiversity on the Planet Earth
Organismic Biology BIO 120 411A | Not Open to Public
Online | 12:30 PM - 1:30 PM | Prof. Vladimir Ovtcharenko, PhD

Impact of Chemistry in "Dental Hygiene" or "Nursing"
Introduction to Chemistry CHE 110 711B | Not Open to Public
In Person | A-431 | 5:30 PM - 6:20 PM | Prof. Sharmila Shakya, PhD

PROGRAM
Teach-in Activities

Friday, November 14, 2025

Immersive Experience: Impressionists
Science-Physics-HEAT-Robotic Clubs
In Person |555 West 57th St, New York, NY 10019 | 12 PM
Prof. Anna Ivanova, PhD, Prof. Yoel Rodríguez, PhD

Monday, November 17, 2025

Field Trip to Visit Mercer Labs
Women in Science Club
In Person | 10:00 AM - 11:00 AM | Prof. Carmen Inda García, PhD

400 Faces of Sight Restoration Pop-Up Portrait Studio
In Person | HRC C-130 | 10:00 AM - 5:00 PM
The Eye-Bank of New York

Gift of Sight: Eye Banking and Ocular Research
In Person | HRC C-130 | 1:00 PM - 2:00 PM | Prof. YoneJung Yoon, PhD

2024 NSD Science Week – Open House Celebration | Group Picture

Hostos Journal of Student Research - HJSR

- The purpose of the **HJSR**, housed in the Natural Sciences Department, is to **showcase achievements of students** involved in research under the guidance of research mentors. We anticipate that having the Journal will inspire all our students to write and publish high quality scientific manuscripts.

- **2026 Call for Student Research Articles!**

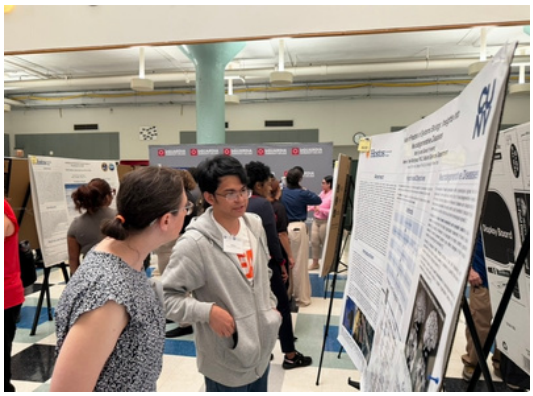
  Types of articles:

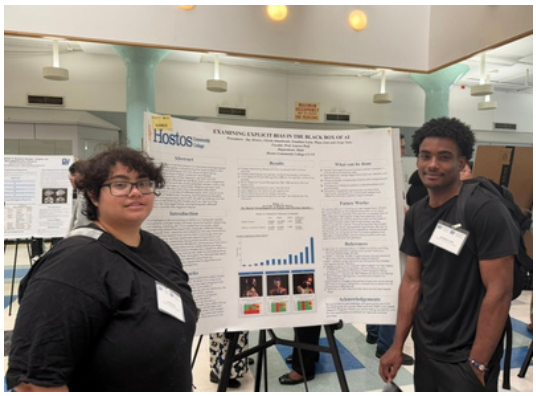
  - Reports of Original Students' Experimental Research,

  - Scientific Reviews done in class as an assignment or as an essay on the subject of interest.

  Letters written in response to articles you have read in the Journal are also welcomed.

Scan Me

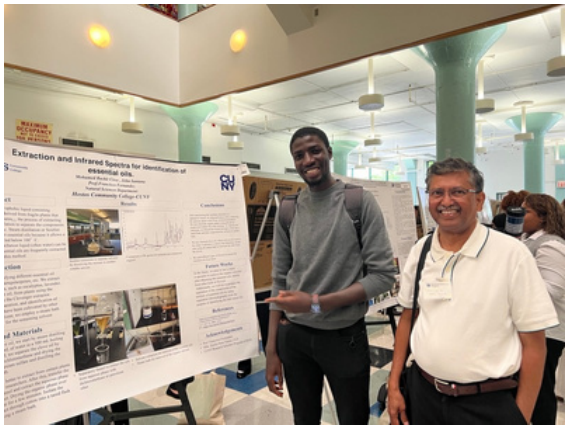


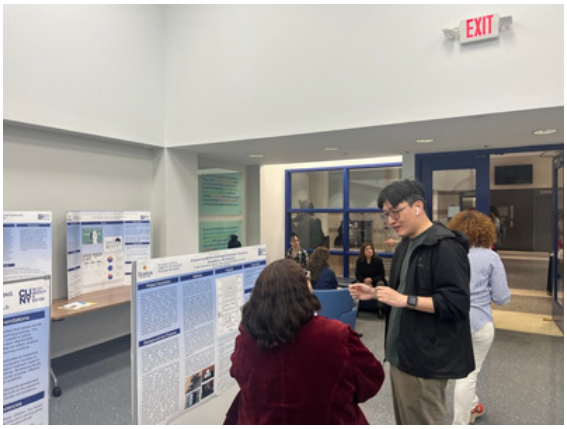


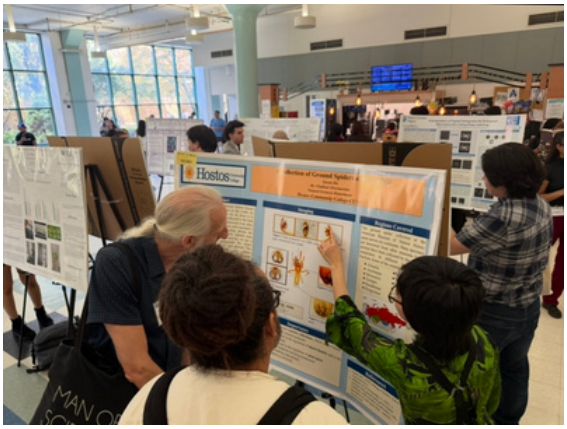
CUNY Research Scholars Program – CRSP | Group Picture
Hostos Students Presenting their Research at
2025 CRSP Symposium LaGuardia CC, July 8 - 9, 2025

CONTRIBUTE

- To make a gift to benefit **students** attending **Hostos Community College**, please visit **www.givetohostos.com**
- To make a gift to benefit the **Natural Sciences Department** specifically, please contact Idelsa Méndez at **imendez@hostos.cuny.edu** or **718.518.4341**

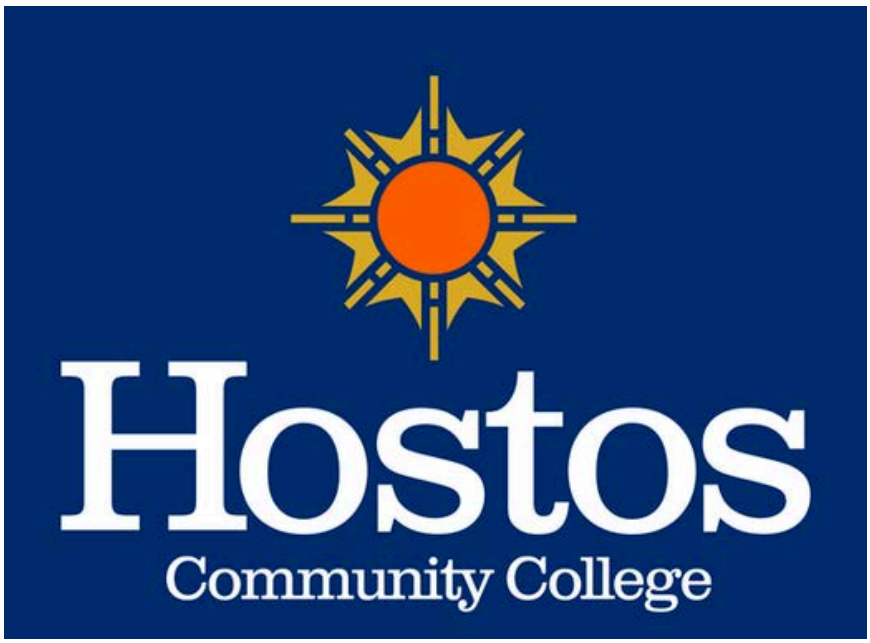






K-12 Students Visiting the Natural Sciences Department, Undergraduate Research Students and Research Mentors, Hostos Engineering Academic Talent – HEAT Program Graduates

The Natural Sciences Department thanks the Office of the President, Office of Academic Affairs, Hostos Research Center, Communication Office, National Science Foundation, Campus Operations, STEM Clubs, Institutional Advancement, Office of Student Activities, Student Government Association. Thank you all for your support!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