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# Yale Physics



## Week of September 10-16, 2023

### Events

#### Monday, September 11

- 3:00 pm **Molecular, Cellular and Developmental Biology Special Silliman Seminar:** *Our Body's Stem Cells: How They Cope With Stress and Learn from Their Experiences*, Elaine Fuchs, Rockefeller University, YSB Marsh Lecture Hall. Host: Valery Horsley.
- 4:00 pm **Molecular Biophysics and Biochemistry Seminar:** *A Tour of the Pore: Structural and Functional Mapping of the Nuclear Pore Complex*, Michael Rout, Rockefeller University, Bass 305. Host: Christian Schlieker.
- 4:00 pm **Department of Chemistry Silliman Inorganic Chemistry Seminar:** *Bioinorganic Signatures of Pathological Mineralization*, Lara Estroff, Cornell University, SCL 110. Host: Amymarie Bartholomew.

#### Tuesday, September 12

- 11:45 am **International Securities Study (ISS) Colloquium:** *Reforming Social Media*, Artur Monteiro, Jackson School of Global Affairs, 46 Hillhouse, rm. 104. Email Bess Oliver for reading materials.
- 2:30 pm **Wright Lab Event:** *Fall 2023 EHS Orientation for Wright Lab Research Shop Users*, Wright Lab will host two, identical 1-hour Environmental Health and Safety (EHS) Shop Orientations on Thursday, September 7 at 1 p.m. and Tuesday, September 12 at 2:30 p.m., WL 216. [Sign up for EHS orientation.](#)
- 4:00 pm **Particle Theory Seminar:** *The five-point bootstrap*, Petar Tadic, Yale University, SPL 48.

#### Wednesday, September 13

- 11:00 am **Yale Quantum Institute Virtual Event:** *Quantum Information Science (QIS) Career Fair*, [Register here](#). Steve Girvin and Shruti Puri will be speakers.
- 4:00 pm **Molecular, Cellular and Developmental Biology Seminar:** *Context matters: agathokakological roles for nitric oxide*, Dianne Newman, Caltech, Bass 305. Host: Jing Yan.

- 4:00 pm **Earth & Planetary Sciences Colloquium:** *Title - To Be Announced*, Dorian Abbot, University of Chicago, KGL 123.
- 4:00 pm **The Franke Program in Science and the Humanities:** *Screening of My Octopus Teacher and Post-film Discussion with Co-Director*, Pippa Ehrlich, HQ L01. [More on the movie here.](#)
- 5:00 pm **Yale Interdisciplinary Center for Bioethics Talk:** *Understanding Essential Concepts behind GPT AI*, R. Thomas McCoy, Yale University, [zoom](#).

## Thursday, September 14

- 11:30 am **QBIO Seminar:** *Motile marine bacteria and the biological carbon pump*, Johannes Keegstra, ETH Zurich, Switzerland, YSB 352. Host: Thierry Emonet.
- 1:00 pm **Condensed Matter Theory Seminar:** *Angle-resolved transport nonreciprocity as a new method for probing 2D electrons*, Jia Leo Li, Boston University, SPL 51. Host: Meng Cheng.
- 1:00 pm **NPA Seminar:** *Science in an Underground Lab*, Carlos Peña Garay, Laboratorio Subterráneo de Canfranc, WL 216.
- 1:00 pm **National Science Foundation Alan T. Waterman Lecture:** *The future of Earth's forests in a rapidly changing climate*, William Anderegg, University of Utah, [Register for the lecture here.](#)
- 2:30 pm **Yale Astronomy Colloquium:** *Title - To Be Announced*, Jason Tumlinson, Space Telescope Science Institute, KT 509A&B.
- 4:00 pm **Department of Chemistry Kuggie Vallee Distinguished Lecture:** *Innovation by Evolution: Bringing New Chemistry to Life*, Frances Hamilton Arnold, Caltech, SCL 110.

## Friday, September 15

- 12:00 pm **Yale Quantum Institute Colloquium:** *One Hundred Years After Heisenberg: Discovering the World of Simultaneous Measurements of Noncommuting Observables*, Carlton M. Caves, University of New Mexico, YQI Seminar Room. Host: Steve Girvin.

## Save the date

- Sept. 18-22 **National Postdoc Appreciation Week** [Schedule of Events](#)
- Sept. 22 **KT Opening Ceremony** - join us at 3:30pm for the ribbon cutting ceremony followed by tours of the physics and astronomy spaces 4-6pm.

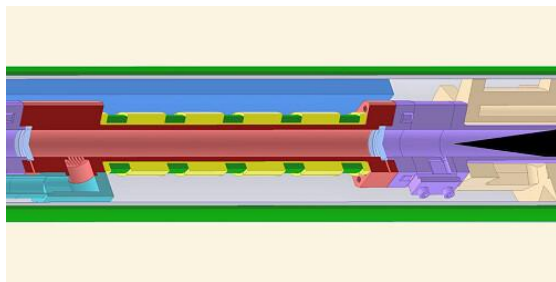
[More events](#)

## News



### Congratulations Dr. Lauren Saunders!

On August 21, 2023, Lauren Saunders successfully defended the thesis "Telescope Pointing for the Simons Observatory: Data Acquisition & Control Software, Calibration, and Modeling" (advisor: Laura Newburgh).



## A New Way to Measure Neutrino Mass

An international team of researchers from the Project 8 experiment, including Professor Heeger's group, reports the first measurement of neutrino mass using a novel technique called Cyclotron Radiation Emission Spectroscopy.

## Welcome to the Graduate Class of 2023!

Starting with the August 4th issue of the departmental newsletter, we are featuring brief articles introducing the graduate class of 2023. Look for them in our buildings and let's make them feel welcome.



### Bjorn Larsen

I am interested in Computational physics, pulsar timing arrays, and gravitational waves. Outside of physics, I have two cats who are very silly and try to help me write computer programs badly.



### Benja Li

I am interested in AMO physics.



## Jiayi Liu

I am interested in glass transition and crystallization; statistical physics; biological physics; and cellular dynamics. Outside of physics, I have an insight into arts (literature, classical music, rock, paintings) and philosophy. (Favorite artists: Hemingway, Faulkner, Fitzgerald, Rimbaud, Baudelaire, Dostoyevsky; Mahler, Bruckner, Wagner; Bob Dylan, Tom Waits; Edvard Munch, Vasily Kandinsky, ...). I am creating literature and translating some literature works. I am a big fan of philosophy. I make cocktails (both classics and my own specials).



## Cecily Lowe

I am interested in using AMO techniques to control atoms in coherent quantum systems and develop their applications in precision metrology, quantum sensing, and searches for physics beyond the Standard Model. I hope to incorporate data analysis, mathematical modeling, and machine learning methods to enhance our understanding of these systems and their relationships. Outside of physics I spend most of my time in my ceramics studio, reading, or going on long runs!

[More news](#)

## Community

### Climate and Diversity Committee News

The Yale Schwarzman Center last week announced its [2023–2024 season](#), featuring a compelling slate of boundary-pushing artists. Songs steeped in ancestral pain, performances giving voice to the voiceless, and sonic sculptures that are both playful and meant to be played represent just a few of the cultural offerings in this ambitious second season.

*If interested in joining the CDC, please contact Rona Ramos, Chair of CDC. You may contact the whole committee at [physics-cdc@mailman.yale.edu](mailto:physics-cdc@mailman.yale.edu)*

**From the desk of Kayleigh Bohamier**



## Everything you wanted to know about the Yale Library Awards

If you are an undergraduate senior this year, you have a lot on your mind: gearing up for that thesis project, planning your life post-graduation ... and graduation itself. If you're scoping out prize eligibility, here are a few prizes to keep in mind from Yale University Library. Please note that the third prize in the list also has one for sophomores.

First, we have the **Yale Library Map Prize**. This prize is awarded to a Yale College senior for the best use of maps in a senior essay or equivalent project. When we say "maps," we mean either geospatial data or using traditional maps — so projects analyzing data collected about a place are OK, as are projects that use historical maps or maps from government science agencies.

Second, speaking of those science agencies. Did you know that, if you are making substantive use of resources from *any* national government, you may be eligible to submit to the **Harvey M. Applebaum Award**? The prize is awarded to a Yale College senior for an outstanding essay based on research that makes substantial use of government information. Remember that NASA, NOAA, and other science agencies in the USA and abroad produce data and reports that may make your project eligible, depending on how heavily you use those materials. Please see the [criteria for more information about what counts](#).

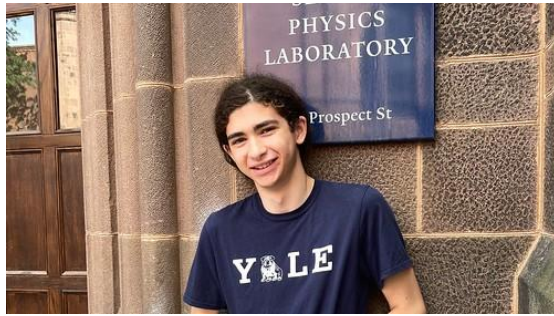
Third, we have the **Adrian Van Sinderen Book Collecting Prize**. While one prize category is for seniors, yes — there is also a sophomore prize! The (print) collections can be on any topic, but they must be a coherent unit and not solely acquired for coursework. Noteworthy for all of you are Nathaniel Kerman '20's sophomore prize for the collection "Physics, Astronomy, and Photography: Revealing the Hidden through Sight and Insight," a senior honorable mention for Jason Parisi '16's collection "Chinese Theoretical Physics," and Giovanna Truong '23's sophomore honorable mention for the collection "The Conception of Science."

Fourth, the **Diane Kaplan Memorial Prize** is awarded to a Yale College senior for an outstanding senior essay based on research materials from any Yale Library special collection. Up to three essays are chosen each year. If you're doing a double major and writing an essay that involves historical resources, this may spark your interest.

Finally, for anyone active in design and printing, the University Printer and the Haas Family Arts Library have a series of **Lohmann and Van Sinderen Prizes**. Print publications, ephemera, websites, and mobile apps are under consideration, as long as they have been planned and executed in the past year.

More information about eligibility and requirements is available on the [Yale Library website](#).

## Community News



## Physics Challenge for students!

Jacob Feldman '27 solved the [fifth department puzzle](#). It was based on multiple tactile written languages and when deciphered asked a Fermi question on the total mass of books written in braille. Keep an eye out for the next challenge in SCL and SPL.

## COVID-19 Update

[Yale COVID-19 Information](#) - including updates on [testing](#) and [vaccinations](#).

# Opportunities

## Faculty Opportunities

### **Associate/Full Professor, Experimental Atomic, Molecular, and Optical Physics - Yale University**

Assistant Professor position in the fields of Neutrino Physics, Particle Astrophysics, Cosmology and Gravitational Waves - UC Riverside (deadline **November 19, 2023**)

Tenure-track faculty position in Quantum Condensed Matter Theory- Brown University (application deadline **November 30, 2023**)

Two tenure-track Assistant Professor positions in experimental physics - Illinois Wesleyan University

Faculty positions in experimental and theoretical physics - King Fahd University of Petroleum and Minerals, Physics Department

## Postdoctoral Opportunities

Post-Doctoral Fellowships in Space Security - Outer Space Institute, University of British Columbia (deadline **September 15, 2023**)

Stanford Cancer Imaging Training (SCIT) Program - Stanford University (deadline **October 1, 2023**)

Dicke Fellow - Princeton University (deadline **October 20, 2023**)

**2024 Yale Quantum Institute Postdoctoral Fellowship - Yale University, YQI (deadline October 29, 2023 at 11:59pm ET)**

Linus Pauling Postdoctoral Fellowship- Pacific Northwest National Laboratory (deadline **November 9, 2023**)

Postdoc Position in Theoretical Condensed Matter and Computational Biophysics - UC Riverside

Experimental Postdoctoral Position in Electron-Positron Plasmas - UC Riverside

## Graduate Student Opportunities

[NRC Research Associateship Programs](#)- National Academies for Sciences, Engineering, Medicine (Online applications open as follows December 1 (closes February 1), March 1 (closes May 1), June 1 (closes August 1), and **September 1 (closes November 1)**)

[Foreign Affairs Information Technology Fellowship](#) - U.S. Department of State (deadline **January 16, 2024**), [Webinar](#) for more information.

[The Department of the Airforce Science & Technology Fellowship Program](#)

## Undergraduate Student Opportunities

Research Assistant - Yale School of Medicine (contact [Navin Kumar](#) for further information)

- Research Assistant – Harm Reduction (send CV to Keyu Chen [keyuchen2020@gmail.com](mailto:keyuchen2020@gmail.com))
- Research Assistant – Data Analysis & Harm Reduction (send CV to Keyu Chen [keyuchen2020@gmail.com](mailto:keyuchen2020@gmail.com))

[Foreign Affairs Information Technology Fellowship](#) - U.S. Department of State (deadline **January 16, 2024**), [Webinar](#) for more information.

## General Grants and Fellowships

[NASA Connecticut Space Grant Consortium - Fall Request for Proposals](#) (deadline **October 13, 2023**, at 11:59pm)

## Meetings, Schools, Workshops, and Conferences

[American Physical Society Webinars](#) - PULSE Undergraduate Research Webinar: Possible Research Areas, September 27, 2023 @ 10:00am ET.

[American Physical Society March Meeting 2024](#), March 3-8, 2024 - Minneapolis, MN and virtual (dates to be announced). American Physical Society March Meeting is a scientific research conference that brings together more than 13,000 physicists from around the world to showcase their work, connect with others, and discover groundbreaking physics research. Join us in 2024 for an extra special week as we celebrate the 125th anniversary of APS.

**Registration opens November 2023. Submit your abstract through October 20, 2023.**

[American Physical Society Conferences for Undergraduate Women in Physics \(CUWiP\)](#), January 19-21, 2024 - nearest locations are: Boston University & Wellesley College; City University of New York, Graduate Center; or United States Military Academy, West Point. The 2024 Millie Dresselhouse CUWiP Keynote Speaker is [Dr. Jocelyn Bell Burnell](#), Royal Society of Edinburgh. **Applications close October 23, 2023.**



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