

# Yale Physics



## Week of November 12-18, 2023

### Events

#### Monday, November 13

- 3:30 pm **Physics Club:** *Moving in a Dynamically Changing Free Energy Landscape: Strain, Heterostructure and Optical Control of the Correlation-Driven Me*, Andy Millis, Columbia University, SPL 57 + zoom (pw 595687). Host: Leonid Glazman.
- 4:00 pm **Molecular Biophysics & Biochemistry Seminar:** *How Cells Inherit Chromosomes*, Sue Biggins, Fred Hutch Cancer Center, HOPE 110. Host: Lily Kabeche.

#### Tuesday, November 14

- 10:30 am **Physics Dissertation Defense:** *Inclusive Hadron Yield Analysis in Small and Mid-sized Collision Systems at  $\sqrt{s_{NN}}=200$  GeV at STAR*, Tong Liu, Yale University, WL 216. Thesis committee: Helen Caines (advisor), John Harris, Karsten Heeger, Ian Moult.
- 4:00 pm **Particle Theory Seminar:** *Do novel Rational Conformal Field Theories lurk in extensions of modular subgroups?*, Naveen Umasankar, Yale University, SPL 48.

#### Wednesday, November 15

- 1:00 pm **Special Solid State & Optics Seminar:** *Nematicity in iron-based superconductors – Insights from strain-dependent ARPES*, Heike Pfau, Pennsylvania State University, ML 107 + zoom (pw 770337). Host: Yu He.
- 4:00 pm **Earth & Planetary Science Colloquium:** *Title - To Be Announced*, Mark Caddick, Virginia Tech University, KGL 123.
- 4:00 pm **Department of Mathematics Colloquium:** *Geometry and Dynamics of Anosov groups*, Richard Canary, University of Michigan, Ann Arbor, KT 219.

#### Thursday, November 16

- 10:30 am **WIDG Seminar:** *Detectorology and its Phenomenological Applications*, Mark Gonzalez, Yale University, WL 216. Host: Jiaxiang Wang.

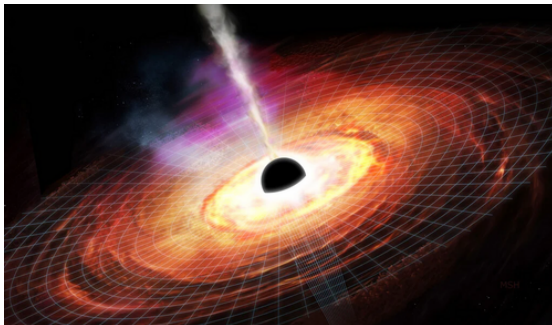
- 1:00 pm **Condensed Matter Theory Seminar:** *The quantum breakdown model: Krylov subspaces and many-body localization*, Biao Lian, Princeton University, SPL 51.
- 1:00 pm **NPA Seminar:** *Dark Matter Meets Condensed Matter*, Yoni Kahn, University of Illinois, Urbana-Champaign, WL 216. Host: Ian Moulton.
- 2:30 pm **Yale Astronomy Colloquium:** *Probing the Depths: Tracing Disequilibrium Chemistry in Brown Dwarf Atmospheres*, Brittany Miles, University of Arizona, KT 14th Floor.

## Friday, November 17

- 11:00 am **Elusives Journal Club:** *Ocean Science with the Pacific Ocean Neutrino Experiment*, Emily Pottebaum, Yale University, WLC 245. Host: Xiran Bai. Reading.
- 1:00 pm **Physics Dissertation Defense:** *Error Mitigation and Detection in Circuit Quantum Electrodynamics Powered by QND Measurements*, Jacob Curtis, Yale University, YQI Seminar Room + zoom. Thesis Committee: Robert Schoelkopf (advisor), Peter Rakich, Steven Girvin, Shruti Puri.
- 5:00 pm **November Recess** - through November 27 @ 8:20 am

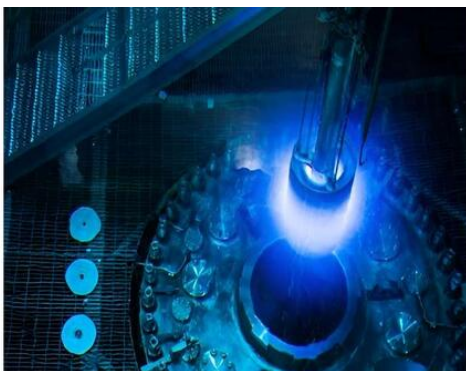
[More events](#)

## News



### Priya Natarajan, research news

Yale's Priyamvada Natarajan and colleagues have identified the oldest known X-ray quasar — offering compelling proof of a concept Natarajan helped pioneer.



### New research from the PROSPECT Experiment

The PROSPECT Experiment, including Wright Lab scientists, has produced final results and new insights from measurements of neutrinos at Oak Ridge National Laboratory. PROSPECT's final assembly took place at Wright Lab in 2017, and Yale Physics' Chair Karsten Heeger is the Principal Investigator and co-Spokesperson of the experiment.

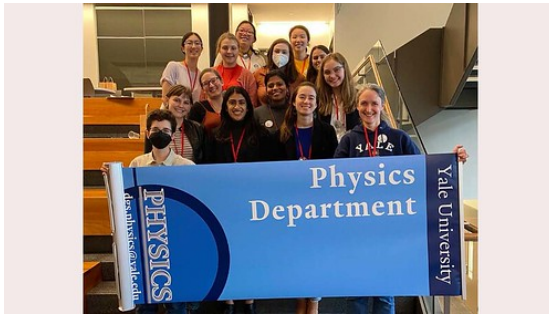
[More news](#)

## Community



## Wright Lab Tour

The Yale Society of Physics Students (SPS), Women in Physics (WiP), and Queer Affiliated fRiends of physiKs (QuARK) joined together to take a tour of Wright Lab to learn from Wright Lab researchers about the various research opportunities available to undergraduates at the lab. The tour included interactions with researchers at six faculty laboratories and Wright Lab's shared facilities.



## CUWiP Application x Women+ in Physics Jeopardy Night

Eight days before the Conference for Undergraduate Women in Physics (CUWiP) application deadline, WiP+ hosted an event where people worked on their applications together and then played a Women+ in Physics Jeopardy. Categories ranged from “Womxn Physicists” and “Nobel Laureates” to “WiP+ at Yale”. This enjoyable event helped us maximize the number of CuWiP applications for a strong showing in January

## Climate and Diversity Committee News

### The mental health benefits of gratitude and kindness

Tues., Nov. 14, noon - 1 p.m.

Gratitude and kindness are both important character strengths, but did you know they are also beneficial for your mental and emotional health? Studies suggest that more acts of kindness throughout the day contribute to increased feelings of happiness and well-being and can be contagious. And that's not all; kindness has also been demonstrated to reduce social anxiety.

Join Danielle Casioppo, MS, Education Specialist, certified Mindfulness-Based Strengths Practice instructor, and certified Mental Health First Aid instructor with Being Well at Yale for an enlightening, evidence-based exploration of practical information and actionable interventions. [Learn more and register here.](#)

*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).*

## Lost and Found

Reminder, there is a Lost and Found box in the Chair's Office. [Please check our flickr album](#) to see what has been collected over the last AY. If you have an item go missing or think you have left it behind somewhere, please check with Kirstin or Jen in the Chair's Office (SPL 34).

## Media



## Physics Club Video

On October 23, 2023 Kathryn Moler from Stanford University presented the Physics Club talk, "Exploring Quantized Flux: Insights into Superconductivity."

## COVID-19 Update

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

# Opportunities

## Faculty Opportunities

[Assistant Professor in Quantum Information Science - UC Berkeley](#) (deadline **November 13, 2023**)

[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 Assistant Professor positions - Columbia University in the City of New York](#) (application deadline **December 1, 2023**)

[Next-Generation Fellowship - Physicists Coalition for Nuclear Threat Reduction](#) (deadline **December 15, 2023**)

[Assistant Professor Position in Experimental Particle Physics - New York University](#) (deadline **December 1, 2023**)

[Assistant, Associate, Full Professor positions- Princeton University](#) (application deadline **December 31, 2023**)

[Tenure Track Position - Physics - Cal Poly](#) (anticipated start September 16, 2024, application deadline **January 2, 2024**)

[Assistant Professor, Condensed Matter and Materials Theory - University of California, Santa Cruz](#) (anticipated start July 1, 2024; initial deadline **January 2, 2024** and final deadline **June 30, 2024**)

[2024 Simons Emmy Noether Fellowship - Perimeter Institute for Theoretical Physics](#) (application deadline **January 15, 2024**)

[Tenure-Line Faculty hire in Experimental Dark Matter/Neutrinos - Brown University](#) (application deadline **March 15, 2024**)

[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

[Yale Mossman Fellowship - Yale University](#) (deadline **November 15, 2023**)

[Edwin Thompson James Fellowship - Washington University in St. Louis](#) (deadline **November 15, 2023**)

[Harvard Quantum Initiative in Science and Engineering Postdoctoral Fellowships - Harvard University](#) (deadline **November 15, 2023**)

[Postdoc Position in Gravitational Wave Probes of Particle Dark Matter - University of Amsterdam](#) (deadline **December 1, 2023**)

[Congressional Science Fellowships - American Physical Society](#) (deadline **December 1, 2023**)

[Postdoctoral Fellows in the Center for Cosmology and AstroParticle Physics \(CCAPP\) - Ohio State University](#) (deadline **December 1, 2023**)

[Postdoc Position on Gravitational Wave and Multi-Messenger Astrophysics with the LISA Mission - University of Amsterdam](#) (deadline **December 15, 2023**)

[Postdoctoral Associate in Experimental Cosmology - Yale University](#) (deadline **December 15, 2023**)

[Next-Generation Fellowship - Physicists Coalition for Nuclear Threat Reduction](#) (deadline **December 15, 2023**)

[Postdoctoral Fellowships in Physics and Astronomy - Johns Hopkins University](#) (deadline **February 29, 2024**)

[Postdoc Position in Theoretical Condensed Matter and Computational Biophysics - UC Riverside](#)

[Experimental Postdoctoral Position in Electron-Positron Plasmas - UC Riverside](#)

[Postdoctoral Position in the Quantum Monte Carlo Group - Washington University in St. Louis](#)

[Postdoctoral Research Position in Experimental Neutrino Physics - University of Pittsburgh](#)

## Graduate Student Opportunities

[Paid Graduate Student Fellowship Opportunity for Summer 2024 - Sandia National Laboratory](#) (deadline **November 24, 2023**)

[PhD position in gravitational wave probes of particle dark matter - University of Amsterdam](#) (deadline **December 1, 2023**)

[Congressional Science Fellowships - American Physical Society](#) (deadline **December 1, 2023**)

[Next-Generation Fellowship - Physicists Coalition for Nuclear Threat Reduction](#) (deadline **December 15, 2023**)

[Graduate Research Fellowships - Jane Street](#) (deadline **December 17, 2023**)

[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))

[Stewardship Science Graduate Fellowship - Department of Energy National Nuclear Security Administration](#) (deadline **January 10, 2024**). Register here for an informational webinar on Wednesday, December 13, 2023 at 1:00pm CT.

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

[Perimeter Scholars International](#)- Perimeter Institute for Theoretical Physics (deadline **February 1, 2024**)

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

## Undergraduate Student Opportunities

[Fellowship Program](#) - D.E. Shaw & Company (deadline **November 13, 2023**), [Summer 2024 internships available for Class of 2025](#)

[Undergraduate School on Experimental Quantum Information Processing](#) - University of Waterloo (deadline **January 2, 2024**)

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

[Research Experience for Undergraduates](#) - The Center for Neutrino Physics, Virginia Tech (application cycle **December 1, 2023-February 1, 2024**)

[Undergraduate Research](#) - Yale School of Medicine

## Meetings, Schools, Workshops, and Conferences

[American Physical Society Webinars](#) - Careers: Activating Industry Careers: Mid-Career Advancement in the Physics Industry, November 14, 2023 @ 12:00pm ET.

[Gravitational Wave Symposium](#) - Yale University, November 20-21, 2023. The primary objective of this symposium is to foster in-depth discussions regarding our recent suite of papers, exchange insights, and discuss the course for future directions in our research. The symposium will serve as a platform for researchers, scientists, and enthusiasts to connect, learn, and share their knowledge.

[CircuitQED@20](#), January 10-12, 2024 - New Haven, CT. A celebration of the 20 years of circuit quantum electrodynamics.

[Gordon Research Seminar: The Bounds of Mechanical Systems From Probes of New Physics to Hardware for Quantum Technologies](#), March 2-3, 2024 - Ventura, CA. The Mechanical Systems in the Quantum Regime GRS provides a unique forum for young doctoral and post-doctoral researchers to present their work, discuss new methods, cutting edge ideas, and pre-published data, as well as to build collaborative relationships with their peers. Experienced mentors and trainee moderators will facilitate active participation in scientific discussion to allow all attendees to be engaged participants rather than spectators. Applications for this meeting must be submitted by **February 3, 2024**. Any applicants who wish to be considered for an oral presentation should submit their application by **November 26, 2023**.

[Gordon Research Conference: Mechanical Systems in the Quantum Regime](#), March 3-8, 2024 - Ventura, CA. The Mechanical Systems in the Quantum Regime GRC is a premier, international scientific conference focused on advancing the frontiers of science through the presentation of cutting-edge and unpublished research, prioritizing time for discussion after each talk and fostering informal interactions among scientists of all career stages. Applications for this meeting must be submitted by **February 4, 2024**.

[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 in mid-November 2023.

[American Physical Society April Meeting 2024](#), April 3-6, 2024 - Sacramento, CA. The American Physical Society's April Meeting 2024: Quarks to Cosmos is a scientific research conference convening physicists and students from around the world to connect and collaborate across academia, industry, and major labs. The meeting encompasses a broad range of physics spanning astrophysics, particle physics, nuclear physics, and gravitation. Join us in 2024 for the exciting program theme "New Challenges and Questions for the Micro and Macro Universe". [Abstract submissions](#) open Monday, November 13, 2023 and will **close on January 5, 2024, at 4:00 p.m. ET.**

[American Physical Society 55th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics](#), June 3-7, 2024 - Fort Worth, TX.

[Boulder School for Condensed Matter and Materials Physics 2024](#) : Self-Organizing Matter: From Inanimate to the Animate, July 1-26, 2024 - University of Colorado, Boulder. Living systems exhibit remarkable self-organization and dynamics at all length scales and requires matter that is both active and adaptable. Within a cell, biomolecules actively convert energy to collectively self-organize into dynamic assemblies that enable a cell to move, divide, organize into functional compartments, undergo shape changes, and adapt to changing environment. Understanding how to rationally design such active and adaptable matter will revolutionize materials science, enabling us to design materials capable of moving, processing information, sensing, and adapting its mechanical properties. This summer school will bring together physicists, biologists and material scientists to cover a wide range of topics in the physics of self-organized matter, from inanimate to the animate. The lectures will focus on understanding collective and programmable effects in nature and in engineered systems, such as smart metamaterials, synthetic active matter, cytoskeleton, cells, and tissues. Applications close **January 15, 2024**)

[MCQST Summer Bachelor Program](#), August 3-30, 2024 - Munich, Germany. The MCQST Summer Bachelor Program provides undergraduate students worldwide the opportunity to gain an insight into research in Quantum Science and Technology (QST) at MCQST and its participating institutes. Applications accepted November 1, 2023 - **January 31, 2024**)



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