



The Physics Observer

October 2nd, 2020

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UPCOMING EVENTS

➤ Monday, October 5, 2020, 4:00pm:

[Quasi-1D Hexagonal Chalcogenides: From Giant Optical Anisotropy to Ultralow Glassy Thermal Conductivity](#) Jayakant Ravichandran (USC)

➤ Thursday, October 8, 2020, 12:30-1:30pm:

[Proteins in a crowd under heat and pressure](#), Margaret S. Cheung (University of Houston)

➤ Monday, October 19, 2020, 4:00pm:

[Form from flow: The role of dynamics in shaping fluvial and vascular topology](#), Eleni Katifori (UPenn)

➤ Monday, October 26, 2020, 4:00pm:

[Nobel prize talk](#), TBA

Welcome

The Physics Observer is a periodic bulletin of happenings in and around UW Physics. Our goal is to share information of notable happenings, events, and news associated with the department. Please feel free to pass this newsletter to anyone who may be interested. Readers wishing to subscribe, or unsubscribe, may do so [here](#). Previous newsletters may be found on the physics website at [The Physics Observer Newsletter](#). Information for future editions may be sent to the editor, [Alexis Hall](#).

Chair's Corner (L. Yaffe)

The biggest annual prizes for fundamental science, as measured by \$ amounts, are the Breakthrough Prizes ([link here](#)). This year's Breakthrough Prize in Fundamental Physics was awarded to three of our colleagues: Professors Eric Adelberger, Jens Gundlach, and Blayne Heckel. Congratulations! In 1986 Eric, Jens and Blayne created the "Eöt-Wash" group, devoted to precision measurement of gravity and exploration of possible new forces or certain types of dark matter. Their work has set the best constraints on many speculative models of new physics beyond the Standard Model, and has also led to greatly improved precision in the measured value of Newton's gravitational constant - the most poorly known fundamental constant of nature. The Breakthrough Prize is a wonderful recognition of the significance and impact of this unique research effort here at the UW.

An interview with Eric Adelberger has recently been posted as part of the American Institute of Physics oral history program, [link here](#). This is just one of several recent oral history interviews with our faculty. Others are Lowell Brown ([link here](#)), Lillian McDermott ([link here](#)), and Hamish Robertson ([link here](#)). More of these will be coming soon: check them out!

Research Awards & Grants

- Associate Professor [Jason Detwiler](#) has been elected to fellowship in the American Physical Society.
- Professor [Xiaodong Xu](#) has been elected to fellowship in the American Physical Society and received a total of 1.1 mil. USD from the US Department of Energy for Quantum Engineering Exciton Dynamics in 2D-Heterostructures and Ultrafast Control of Emerging Electronic Phenomena in 2D Quantum Materials 2020.
- Associate Professor [Shih-Chieh Hsu](#) received 300K USD from the National Science Foundation for Collaborative Research: Advancing Science with Accelerated Machine Learning.
- Professor [David Hertzog](#) received 1 mil USD from the US Department of Energy as continuation funding for CENPA.
- Professor [Martin Savage](#) received 1.4 mil. USD from the US Department of Energy for InQubator for Quantum Simulations of Quantum Systems (IQuS2).
- Assistant Professor [Jiun-Haw Chu](#) received 100K from the Air Force Office of Scientific Research for Acquisition of Helium 3 upgrade for Physical Property Measurement System.
- Professor [Miguel Morales](#) received 250K from the National Science Foundation for HERA: Unveiling the Cosmic Dawn.

Department Resources & News

➤ Monday, November 2, 2020, 4:00pm:
[Colloquium, TBA](#), Saurabh Maiti (Concordia University)

➤ January 25-28, 2021:
[Axions Beyond Gen 2](#)

➤ July 8-10, 2021:
[Summitting the Unknown: New Physics. Celebrating the Legacy of Ann Nelson](#)

➤ July 11-20, 2021:
[Snowmass 2021: High Energy Physics Community Planning](#)

[SOCIAL MEDIA](#)

Instagram: @uwphysics

Facebook: Link [here](#).

YouTube: Link [here](#).

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Find important information about Zoom security [here](#).

UW EH&S Biological Safety encourages researchers and department staff to take precaution handling [suspicious mail or packages](#), as there have been reports to the FBI from COVID-19 researchers on the east coast receiving threatening mail. If you receive any suspicious mail at work or home:

1. Do NOT open the mail or package. Do not handle the item. Wash hands thoroughly if you did handle the item.
2. Move others away from the suspicious item.
3. Contact the police by calling 911.
4. Follow the directions of the police. Avoid creating panic.
5. Notify the UW Environmental Health & Safety; Safety Department Research and Occupational Safety section at 206-221-7770. Also submit an online incident report at UW OARS. EH&S will notify the FBI and other regulatory and law enforcement groups in coordination with the local law enforcement agency.

All employees are required to complete the onsite work attestation on Workday if they are coming in to the lab or office. This must be done every day that an employee reports to work on-site.

Assorted Talks & Meetings

[Welcome to a new academic year](#): Read President Cauce's welcome message, and watch her Annual President's Address on **October 12th** where she will discuss the challenges posed by the COVID-19 pandemic as well as the University's role in supporting an equitable recovery and resilient communities.

November 9-13, 2020, [62nd Annual Meeting of the APS Division of Plasma Physics](#). **Register by October 30th**.

January 22-24, 2021, [APS Conferences for Undergraduate Women in Physics \(CUWiP\)](#). **Applications are due 5:00pm EDT on October 30th**.

November 22-24, 2020, [73rd Annual Meeting of the APS Division of Fluid Dynamics \(Virtual\)](#). **Register by October 31st for the discounted rate**.

Funding Announcements

Applications open for Two Sigma PhD Fellowships. Deadline **November 6th**. See the details of the fellowship [here](#) and [here](#).

Applications open for Women in Physics Group grants, see [here](#). **Deadline Nov 6**.

Applications open for Global Innovation Fund research awards, see [here](#). **Deadline Nov 1**.

Applications open for Moore Inventor Fellowships (200K/year for 3 years), see [here](#). Limited submission opportunity, internal UW **pre-application deadline Oct 22**. Must be within 10 years of PhD. Requires institutional matching funds; contact the chair if considering applying.

Ideas solicited for the Templeton Foundation's 40M\$ Grand Challenges for Human Flourishing, see [here](#). **Deadline Nov 11**.

The German Academic Exchange Service (DAAD) solicits applications from students interested in Research Internships in Science and Engineering. Programs are for both undergraduates ([here](#)) and Master's and PhD students ([here](#)) interested in an internship in Germany. **Deadline Dec 15**.

Applications also solicited from research groups here interested in hosting a German exchange student (with DAAD funding) during summer 2021, see [here](#). **Deadline Oct 15**.

Applications open for DoE funded Office of Science Graduate Student Research (SCGSR) awards. Areas of interest include Microelectronics, Data Science, Conservation Laws and Symmetries, and Accelerator Science. Funds thesis work at DOE national labs, see [here](#).
Deadline Nov 12.

Applications open for DoD funded Science, Mathematics, and Research for Transformation (SMART) Scholarship-for-Service program for Bachelor's, Master's, or PhD STEM students, US citizens only. Provides full tuition, summer internship, and subsequent civilian employment with US DoD. See [here](#). **Deadline Dec 1.**

Applications open for Bridge funding from the UW Provost. See [here](#). **Deadline Nov 1.**

Applications open for multiple AIP science policy fellowships, include

- Congressional fellows (**deadline Dec 15**),
- State Department fellows (**deadline Oct 15**), and
- AAAS science and technology fellows (**deadline Nov 1**).

See [here](#).

Job Opportunities

- Faculty Position in Theoretical and Condensed Matter Physics, UC Davis. Apply [here](#).
- Head, Department of Physics and Astronomy, Purdue University. Apply [here](#).
- Assistant Professor in Physics, Princeton University. Apply [here](#).
- Assistant Professor in Physics, University of Chicago. Apply [here](#).
- Chair, Department of Physics, Georgia Tech. Apply [here](#).
- Faculty Positions in Physics, Brigham Young University. Apply [here](#).
- Assistant Professor in Quantum Science and Technology, University of Texas Austin. Apply [here](#).
- Lecturer in Applied Physics, New York University. Apply [here](#).

Selected Publications

"Low-energy Scattering and Effective Interactions of Two Baryons at $m\pi \sim 450$ MeV from Lattice Quantum Chromodynamics," S. Beane, M. Savage et al., <https://arxiv.org/abs/2009.12357>.

"The Physics Inventory of Quantitative Literacy: A tool for assessing mathematical reasoning in introductory physics," S.W. Brahmia, A. Olsho, A. Boudreaux, C. Zimmerman et al., <https://arxiv.org/abs/2009.10865>.

"Experimental realisation of Dual Periodicity Moiré Superlattice in a MoSe₂/WSe₂ Heterobilayer," P. Rivera, X. Xu et al., <https://arxiv.org/abs/2009.07676>.

"Distribution of Nuclear Matter and Radiation in the Fragmentation Region," I. Kolbé, M. Lushozi, L. McLerran, G. Yu, <https://arxiv.org/abs/2009.05680>.

"Can a protophobic vector boson explain the ATOMKI anomaly?," X. Zhang and G. Miller, <https://arxiv.org/abs/2008.11288>.

UW Coronavirus Response Information

The UW has a new Covid-19 case tracking dashboard: [here](#).

Enroll in the [Husky Coronavirus Testing](#) program. You can spread the coronavirus even if you have no symptoms — so for your health and the health of our community, you're encouraged to enroll in the Husky Coronavirus Testing program.

It is more important than ever to get your flu shot this year. You can get it on campus at Hall Health or at one of UW's [flu shot clinics](#).

UW HR has released resources and tips for [caregivers](#).

Information on sick time off can be found [here](#).

Check [this](#) webpage for updates on the status of UW's campus. Right now, we are in Phase 2. This means that:

- [Face coverings are required](#) on all campuses.
- Telework is strongly encouraged for all non-critical personnel, and all in-person work must adhere to all appropriate safety measures and unit [COVID-19 Prevention Plans](#).
- Majority of courses offered remotely. Only instruction with approved safety protocols may be offered in-person.
- Gatherings of more than five people are not permitted, with the exception of instructional sessions following approved safety protocols.

[How the UW responds to a COVID-19 positive case](#): Read about the UW's contact-tracing program and activities to prevent the spread of COVID-19 when a UW community member tests positive.

COVID-19 [frequently asked questions](#).