



The Physics Observer

Sep 13, 2021

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UPCOMING

EVENTS

Monday, September 27th, 2021, 12:00 pm

[Physics Department: General Exam](#)

Abhishek Rajput
(Chairs: Nathan Wiebe and Martin Savage),
University of Washington

Monday, September 27, 2021

Fall BBQ at the College Club of Seattle

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)

We are just two weeks away from the start of on-campus instruction during our autumn quarter. All university personnel are required to be vaccinated against Covid-19 (or have documented and approved medical or religious exemptions). The reports of declining efficacy of mRNA vaccines, breakthrough infections, and enhanced infectiousness of the delta variant, has been a source of obvious and growing concern for many people, especially for those with young children or immunocompromised dependents. I am thankful that in our area both vaccination rates and masking compliance are high, and that our Physics department is housed in a reasonably modern and well-ventilated building. I hope that concerns about in-person instruction will rapidly decline once third doses are available for those of us who have received mRNA vaccines, and I look forward to seeing and talking with many department members in person instead of continuing the innumerable Zoom sessions of the past year!

Multiple renovation projects are underway in our 27 year old building, including office and conference room renovations for the recently established Inqubator for Quantum Simulation group, a new lecture room for small classes or exams, a renovated "hbar lounge," and replacement of carpeting and chairs in many offices. This is only the start of needed updating which will continue for several years.

I am pleased to convey the news that the American Association of Physics Teachers has chosen to rename its highest honor as the [Lillian McDermott Medal](#), with the citation that the this medal "recognizes those who are passionate and tenacious about improving the teaching and learning of physics and have made intellectually creative contributions in this area". (Previously, this annual award was known as the Robert A. Millikan medal.)

Finally, congratulations to Assistant Professor Armita Nourmohammad, who has been selected for an NSF CAREER award for her work on "Emergence of Functional Organization in the Adaptive Immune System".

Milestones & Arrivals

Undergraduate Program Advisor Margot Nims is Retiring: After over 35 years helping physics undergraduates, and generally being amazing, Margot Nims will be retiring in September. You can send well wishes to her at margot@phys.washington.edu, send a card

SOCIAL MEDIA

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to her c/o the Department (Box 351560, UW, Seattle WA 98195), and/or post on the [KudoBoard](#) that SPS has set up.

[Professor Martin Savage](#) celebrated 25 years with the University of Washington.

[Professor Gerald Seidler](#) celebrated 25 years with the University of Washington.

[Professor Stephen Sharpe](#) celebrated 35 years with the University of Washington.

[Professor, Graduate Coordinator, Marcel Den Nijs](#) celebrated 40 years with the University of Washington.

Research Awards & Grants

- ❖ [Assistant Professor Armita Nourmohammad](#) received
 - 900K for an NSF CAREER award for Emergence of Functional Organization in the Adaptive Immune System,
 - \$180k from the National Science Foundation for CAREER: Emergence of functional organization in the adaptive immune system, and
 - \$370k from the National Health Institute for Learning a molecular shape space for the adaptive immune system.
- ❖ [Professor Martin Savage](#) received \$1.4 million from the US Department of Energy for the InQubator for Quantum Simulations of Quantum Systems.
- ❖ [Professor Xiadong Xu](#) received \$820k from the US Department of Energy for Programmable Quantum Materials (Pro-QM).
- ❖ [Professor Jens Gundlach](#) received \$960k from the National Institutes of Health (NIH) for High Accuracy Nanopore Sequencing.
- ❖ [Associate Professor Shih-chieh Hsu](#) received \$250k from the National Science Foundation for Collaborative Research: FASER and FASERnu at the Large Hadron Collider, and \$150k from the National Science Foundation for Accelerating Searches for Beyond the Standard Model Physics and the ATLAS Pixel Detector.
- ❖ [Associate Professor Gray Rybka](#) received \$450k and \$350k from the US Department of Energy for Experimental Particle-Astrophysics and The Generation 2 Axion Dark Matter Experiment (ADMX-G2).
- ❖ [Assistant Professor Alvaro Chavarria](#) received \$180k from the National Science Foundation for Collaborative Research: The Search for Light Dark Matter with DAMIC.

Department Resources & News

[How to reactivate your U-PASS:](#) If it has been more than 60 days since you last tapped your U-PASS on an ORCA card reader, it is likely inactive. In preparation for a return to onsite work, use UW Transportation's [web form](#) to request reactivation.

[Set up your UW NetID recovery options:](#) Add your mobile number and email address so if you forget your password or get locked out, you can regain access to your UW NetID.

If interested in restarting the [Condensed Matter Journal Club](#), with biweekly talks by students or postdocs on current topics of interest, fill out this [survey](#). To see examples of past presentations, check out the CM journal club [website](#).

While most staff members have the access needed to restart their onsite work in the coming weeks, the same cannot be said of students. And while the official start day for most of our undergraduates will not be on us until the 29th, many things will be starting before then including orientation of new graduate students on site and other activities. To accommodate this, we are planning to resume normal hours (M-F, 7am-9:30pm) of operation in all wings of Physics Astronomy beginning the morning of **Monday, September 20th, 2021**.

Society of Physics Students: SPS is excited about rebuilding the undergraduate community as we return to campus in the fall. If you have ideas for ways to reconnect, would like to get involved in planning activities, or simply want to get on the mailing list for future events, please contact uwspsofficers@gmail.com.

Assorted Talks & Meetings

September 13-15, 2021: Registration open [here](#) for the APS Virtual Career Fair.

January 21-23, 2022: Central Washington University, in Ellensburg, is the Pacific Northwest Regional site for the 2022 American Physical Society [Conferences for Undergraduate Women in Physics \(CUWiP\)](#). CUWiP is a wonderful opportunity to gain information, resources, and motivation to support the pursuit of a physics major and a career in physics, as well as to meet with women in physics of all ages to share experiences, advice and ideas. **To attend you must apply [HERE](#) by Monday October 4th.** Space is limited, with priority to undergraduate physics majors who have not previously attended a CUWiP conference. Prospective physics majors are also encouraged to apply.

There will be a free charter bus arranged by CWU for students to get to and from Ellensburg, leaving Friday morning and returning Sunday afternoon. The bus will make stops at the airport and train station for out-of-area students, plus at various Puget-Sound area colleges and universities, including UW Seattle, that are sending students. We do not recommend driving your own vehicle over the pass in January. For more information, see <https://cuwip.cwu.edu/travel-to-conference>.

Conference applications should be reviewed and invitations to register sent by the end of October, with a November 10 deadline to respond to your invitation. Please mark your calendars for a tentative UW meeting date of November 3 at 12:30 pm to answer any questions you may have about attending CUWiP and allow fellow UW attendees to meet each other. Unfortunately, we do not have enough funds to cover everyone's registration fee. If the \$45 fee (payable when you register, not when you apply) is a significant barrier to your participation, please contact Prof. Olmstead (ufaphys@uw.edu). The fee covers transportation, food, lodging, and programs from Friday afternoon through Sunday lunch.

Funding Announcements

Applications open for [Space Grant Graduate Fellowships](#) from the Washington NASA Space Grant Consortium. US citizens only. Deadline **September 17, 2021**.

Applications for the next cycle of [Royalty Research Fund](#) grants are due to the college by **September 23, 2021**. Note: teaching faculty are eligible to be PI on an RRF grant, while acting faculty or faculty with temporary appointments may be paid for up to 2 months on RRF grants even though they are not eligible to be PI or Co-I.

Applications open for [2022-2023 Radcliffe Fellowships](#). Deadline **September 30, 2021**.

Applications open for the autumn 2021 round of Royalty Research Fund grants. See [here](#) and [here](#). Deadline **September 27, 2021**.

Applications open for [Hertz Foundation Graduate Fellowships in Applied Physical Sciences](#). Deadline **September 29, 2021**.

Applications open for the [Kavli Institute for Theoretical Physics Graduate Fellowship Program](#). Students may apply, or be nominated by their advisor. Deadline **October 1, 2021**.

Applications open for the 2022 [DOE Office of Science Early Career Research Program](#). Pre-application deadline **October 21, 2021**, full applications due **January 20, 2022**.

Applications open for [Two Sigma PhD Fellowships](#) and [Undergraduate Fellowships](#). Deadline **November 5, 2021**. See also [here](#) and [here](#).

Applications open for [DOE Office of Science Graduate Student Research Awards](#), supporting thesis research at DOE national labs. Deadline **November 10, 2021**.

Job Opportunities

- Applications open for two Distinguished Postdoctoral Fellowships in National Security Science and Engineering at Sandia National Laboratories. More information [here](#) and [here](#). Application deadline October 15, 2021.
- Applications open for [NRC Research Associateship Programs](#) and [Air Force Science and Technology Fellowships](#). The National Academies of Sciences, Engineer, and Medicine administers postdoctoral and senior research awards at multiple federal research labs. Application deadline for next review cycle: November 1, 2021.
- Applications open for [National Academy of Education dissertation](#) and [postdoctoral fellowships](#). Deadlines: October 7, 2021 (dissertation fellows) and November 17, 2021 (postdoctoral fellows).
- [Assistant Professor](#) in Chemistry and Biochemistry, University of California San Diego Division of Physical Sciences United States.
- [Research Assistant Professor of Physics and Astronomy](#), University of Nebraska-Lincoln.
- [Assistant Researcher](#) in Experimental Fusion and Plasma Physics, Department of Physics and Astronomy, University of California Los Angeles.
- [Assistant Professor of Physics](#), University of Wooster.

Selected Publications

"Coherent strong-coupling of terahertz magnons and phonons in a Van der Waals antiferromagnetic insulator", Q. Zhang, Q. Jiang, K. Hwangbo, J.-H. Chu, D. Xiao, X. Xu, et al., <https://arxiv.org/abs/2108.11619>.

"Characterizing stochastic cell cycle dynamics in exponential growth", D. Huang, T. Lo, H. Merrikkh, P. Wiggins, <https://arxiv.org/abs/2108.10988>.

"Sensitivity to the initial conditions of the time-dependent density functional theory", A. Bulgac, I. Abdurrahman, G. Wlazłowski, <https://arxiv.org/abs/2108.10858>.

"Mulan: a part-per-million measurement of the muon lifetime and determination of the Fermi constant", David Hertzog, et al., <https://arxiv.org/abs/2108.09182>.

"The angular correlation between the fission fragment intrinsic spins", A. Bulgac, <https://arxiv.org/abs/2108.07268>.

"Unified formalism for electromagnetic and gravitational probes: densities", A. Freese, G. Miller, <https://arxiv.org/abs/2108.03301>

"Long-range transport of 2D excitons in dynamic acoustic lattice", A. Ripin, J. Zhu, X. Xu, M. Li, et al., <https://arxiv.org/abs/2108.01773>.

UW Coronavirus Response Information

[Masks required for all individuals in all UW facilities.](#)

Widespread vaccinations are *the* way out of the pandemic. While no vaccine is 100% effective, evidence clearly demonstrates that those who are fully vaccinated continue to have strong protection against COVID-19, including the Delta variant, with high protection against serious illness or hospitalization even in breakthrough cases. [Roughly 97% of cases in Washington](#) over the last few months, including from the Delta variant, have been among

people who have not been vaccinated. Please, if you are able, **get vaccinated immediately**. And since personal conversations are one of the best ways to overcome hesitancy, UW Medicine has tips for [talking with friends and loved ones about getting vaccinated](#).

[Husky Coronavirus Testing](#) will continue at least through autumn quarter, and any students or personnel coming to campus this fall are encouraged to enroll in this free service.

[Covid vaccination attestation is mandatory](#). Confirm whether you are fully vaccinated, or claim an exemption, by using this [Workday guide](#).