



The Physics Observer

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In This Issue

[Welcome](#)

[Chair's Corner](#)

[Milestones & Arrivals](#)

[Research Awards & Grants](#)

[Department Resources & News](#)

[Assorted Talks & Meetings](#)

[Funding Announcements](#)

[Job Opportunities](#)

[Selected Publications](#)

[UW Coronavirus Response Info](#)

UPCOMING

EVENTS

July 14-16, 2022 - 8:00 am - 8:00 pm:

[Physics Department: Summitting the Unknown: New Physics, Celebrating the Legacy of Ann Nelson,](#)

Masha Baryakhtar, Patrick Fox, Seyda Ipek, David B. Kaplan, Devin Walker, & Neal Weiner

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)

After two years of virtual commencement ceremonies, it was very nice to be able to host a live in-person department graduate celebration last month and congratulate our 200+ graduating bachelors, masters, and PhD degree recipients.

In a few days the department will host the July 14-16 workshop "[Summitting the Unknown: New Physics, New Opportunities, New Voices](#)," dedicated to the legacy of Ann Nelson. Immediately thereafter we will also be hosting the 10-day "Snowmass" meeting of 600+ high energy physicists, July 17-26, which concludes a decadal community planning process for all of high energy physics.

As I write this note on July 4, our national Independence Day, I am inevitably thinking about issues beyond the department and the university. I am wondering how my friends and colleagues who are Ukrainian physicists, and their families, are doing. And likewise for the few Russian physicists I know who are still in Russia. I am thinking back on some of the events and societal changes that I've witnessed during my lifetime, and wondering if we will be (or are already) seeing their recurrence: the bitter divisiveness in the US during the civil rights and Vietnam war periods, the times when only a few Soviet physicists could visit the Aspen Center for Physics (with their KGB minders), and even duck-and-cover drills in elementary schools. At a societal level, it seems as if we are experiencing a time-reversal phenomena.

Finally, it is with sadness that I note the passing of my colleague, emeritus professor Jim Bardeen. The NY Times has a nice [obituary](#).

Milestones & Arrivals

[Emeritus Professor James Bardeen](#), who helped elucidate the properties and behavior of black holes, setting the stage for what has been called the golden age of black hole astrophysics, died on June 20 in Seattle at age 83.

[Associate Professor Lukasz Fidkowski](#) celebrated 5 years with the UW.

[Associate Professor Gray Rybka](#) celebrated 15 years with the UW.

Thursday, July 14, 2022 - 9:00am, PAT C-520:

Physics Department: Final Exam: Data-driven modeling and control of uncertain quantum dynamics

Andy Goldschmidt (Advisor: Jose Kutz), University of Washington

July 17-26, 2022 - 9:00 am - 5:00pm

Snowmass Community Summer Study Workshop, Seattle CSS Local Organizing Committee

Wednesday, July 20, 2022 - 7:30pm, Kane Hall 130:

Frontiers of Physics: The Surprising Expansion History of the Universe, Adam Riess (2011 Nobel Laureate in Physics), Johns Hopkins University and the Space Telescope Science Institute

Thursday, July 21, 2022 - 7:30 pm:

Physics Department: Seattle Snowmass 2022: Physics Slam

Jorge Torres, Heather Harrington, & Noah Bray-Ali

Friday, July 22, 2022 - 10:00 am, PAT C-610C:

Physics Department: Probing electronic correlation and topology in twisted multilayer graphene

Minhao He (Advisor: Xiaodong Xu), University of Washington

Research Awards & Grants

- ❖ Associate Professor Kai-Mei Fu received \$48K from the US Department of Energy for quantum entanglement between a solid-state spin and trapped ion via a photonic link.
- ❖ Assistant Professor Matthew Yankowitz received \$140k from the National Science Foundation for tunable topological states in twisted van der Waals heterostructures.
- ❖ Professor Jens Gundlach received \$880K from the National Institutes of Health (NIH) for high accuracy Nanopore Sequencing.
- ❖ Director of CENPA and Professor David Hertzog received \$956K from the US department of energy for the US Participation in KATRIN under “Experimental Nuclear Physics”.
- ❖ Professor Subhadeep Gupta received \$10k from the US Army Research Office for students to attend the 2022 APS-DAMOP Conference.
- ❖ Professor Gordon Watts received \$50k from the National Science Foundation for the 2022 Seattle Snowmass Summer Study.

Department Resources & News

New after-hours support from SafeCampus: Concerning situations can happen any time. Find a full list of UW and community resources that offer after-hour support for safety and well-being concerns for yourself or others.

Use eduroam Wi-Fi network when you travel: Because the UW is a member of a network developed for the international research and education community, you get free Wi-Fi access with your UW credentials at thousands of locations across the globe.

Assorted Talks & Meetings

August 4-5, 2022, Washington DC, Advancing Graduate Leadership conference, sponsored by the APS, for women and gender minority graduate students and postdocs: The in-person AGL Conference will feature professional development training, networking, and a celebration of women and gender minorities’ roles in exploring cutting edge science and in shaping our disciplinary culture. Facilitators will include physicists from academia, industry, national laboratories, and non-profit organizations, bringing a diverse range of personal and professional backgrounds allowing participants to draw from a variety of experiences.

Funding Announcements

Proposals solicited for Keck Foundation science and engineering awards, \$1-2M. Limited submission: pre-proposals due to OR by 7/15/2022. See [here](#).

Job Opportunities

- Physicist Research Scientist, Lawrence Berkeley National Laboratory, Berkeley, California
- Quantum Research Scientist, Modeling and Error Correction, Google Quantum AI, Los Angeles or Goleta, California
- Rubin Observatory/LSS Computational Physics Developer, Fermi National Accelerator Laboratory, Batavia, Illinois

Wednesday, July 27, 2022
- 2:00 pm, PAT C-520:

Physics Department: Final
Exam: The Axion Universe

Huangyu Xiao (Advisor:
Stephen Sharpe),
University of Washington

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Selected Publications

- Atomically imprinted graphene plasmonic cavities, X. Xu, et al., <https://arxiv.org/abs/2206.12754>.
- Exotic dark matter search with the Majorana Demonstrator, M. Buuck, J. Detwiler, A. Hostiuc, N. Ruof, C. Wiseman, et al., <https://arxiv.org/abs/2206.10638>.
- Intercell Moiré exciton complexes in electron lattices, X., J. Zhu, H. Park, Y. Wang, D., X. Xu, et al., <https://arxiv.org/abs/2206.08424>.
- Ferroelectricity going 2D, D. Cobden, et al., <https://arxiv.org/abs/2206.07938>.
- Fluctuation-driven thermal transport in graphene double-layers at charge neutrality, A. Andreev, et al., <https://arxiv.org/abs/2206.07718>.
- High accuracy steady states obtained from the Universal Lindblad Equation, M. Rudner, et al., <https://arxiv.org/abs/2206.02917>.
- Collision of localized shocks in AdS5 as a series expansion in transverse gradients, S. Waeber and L. Yaffe, <https://arxiv.org/abs/2206.01819>.
- Abundances of uranium and thorium elements in Earth estimated by geoneutrino spectroscopy, J. Detwiler, S. Enomoto, et al., <https://arxiv.org/abs/2205.14934>.
- Towards analytical calculation of the magnetic flux measured by magnetometers, W.-J. Yeo, S. Taulu, et al., <https://arxiv.org/abs/2205.13637>.

UW Coronavirus Response Information

[Rapid antigen tests now available](#): Expanding COVID-19 testing options as a part of a broader COVID-19 testing strategy, the UW is making FDA-authorized, over-the-counter rapid antigen self-test kits available to UW students and personnel at no cost. Learn where you can pick up your test.