



The Physics Observer

October 9, 2019

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UPCOMING EVENTS

- Wednesday October 9, 2019, 7:30pm, Kane Hall 130:

[Frontiers of Physics Public Lecture: The Many Worlds of Quantum Mechanics](#), Sean Carroll

- Saturday, October 19, 2019 - 7:30pm, Kane Hall 120:

[Physics Slam!](#)

- October 25th, 4pm, PAT C520:

[Friday Fling!](#)

- Monday December 9, 2019, 9-10am, HUB:

[Laboratory Safety Awards & Innovations Event](#)

- January 17-19, 2020, Washington State University

[2020 APS Conference for Undergraduate Women in Physics](#)

- Sat-Mon January 18-20, 2020:

[Thoulessfest.](#)

Welcome

This is the third issue of the Physics Observer, 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)

This evening Sean Carroll will give a Frontiers of Physics Public Lecture on "The Many Worlds of Quantum Mechanics". Once again, the response to our public lecture series has been phenomenal with Kane 130, the largest lecture hall on campus, fully booked. I am told that our lecture series has the most impressive track record of any UW public lecture series, filling all available seats in Kane time after time.

Yesterday, I was delighted to learn that Jim Peebles, from Princeton, is one of the 2019 Nobel prize recipients for theoretical discoveries in physical cosmology. Many physicists (especially theorists) have long thought that Jim's contributions were Nobel worthy. Jim is an exceptional physicist in many ways. I doubt there is anyone else who could make the analysis of a relativistic tornado seem easy — something I witnessed Jim do when posing a graduate General exam problem!

Milestones

- ❖ Professor [Henry Lubatti](#) completed his 50th year of service at the University of Washington.
- ❖ Research Scientist for Lecture Demo [John Davis](#) retired September at the University of Washington, after 40 years of service.
- ❖ Research Engineer for CENPA [John Amsbaugh](#) completed his 40th year of service at the University of Washington.
- ❖ Professor [David Kaplan](#) completed his 25th year of service at the University of Washington.
- ❖ Professor [Gordon Watts](#) completed his 20th year of service at the University of Washington.
- ❖ Professor [Anton Andreev](#) completed his 15th year of service at the University of Washington.
- ❖ Instrument Maker [Peter Hirtle](#) completed his 15th year of service at the University of Washington.
- ❖ Research Scientist [Bryna Hazelton](#) completed her 10th year of service at the University of Washington.

PHYSICS COLLOQUIA

- October 14, 2019, PAA 102, 4:00pm to 5:00pm

Majorana zero modes: a new kind of ‘particle’, and where it can be found, Charlie Marcus (UCPH and Microsoft)

ABC PHYSICS

- Thursday, October 10, 2019, 12:30pm to 1:30pm, PAT C-520:

Topology, and Orbital Orders in Moiré systems, Cenke Xu, UCSB Physics

- Thursday, October 17, 2019, 12:30pm to 1:30pm, PAT C-520:

Probing quantum dynamics in strongly-driven optical lattices, David Weld, UC Santa Barbara

- Thursday, October 31, 2019, 12:30pm to 1:20pm, PAT C-520

Phase Transitions to Nonlinear Heat Transport - From Equilibrium Statistical Mechanics to Systems Far from Equilibrium, Robert Ecke (Los Alamos National Laboratory)

GENERAL EXAMS

- Tuesday, October 22, 2019 - 12:00pm, PAT C-520

Kevin C. Smith (Advisor: David Masiello)

- Thursday, October 24, 2019 - 1:00pm, PAT C-607

Liudmila Zhukas (Advisor: Boris Blinov)

SEMINARS

See [Here](#)

CONTACT US

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Research Awards and Grants

- ❖ Arka Majumdar, Alan Zhan and Shane Colburn awarded patent No. 10,365,416, Low-Contrast Metasurfaces, on July 30, 2019.
- ❖ Research Associate Katherine McCormick (AMO group) has been awarded an Intelligence Community (IC) postdoctoral research fellowship to work on Magnetic Field Sensitive Atomic Collisional Resonances with Subhadeep Gupta.

Funding and Meeting Announcements

There are still multiple opportunities for involvement at the 2020 AAAS Annual Meeting, which will be held in Seattle, Washington from February 13-16, 2020. Poster abstracts must be submitted before **October 17, 2019**. Information about E-poster submissions can be found [HERE](#). Information about the 2020 AAAS Annual Meeting can be found at <https://meetings.aaas.org/>.

[The Gordon and Betty Moore Foundation Fundamental Physics Innovation Awards](#) are open to both theorists and experimentalists, and to researchers who – with a goal of advancing fundamental physics – want to improve their baseline understanding of, or advance the frontiers of, either novel precision technologies or of issues in the physics of fundamental particles and interactions. Applications will be accepted on a rolling basis; the next review date is scheduled for **Friday, November 15 at 11:59 p.m. ET**.

The U.S. Department of Energy’s Office of Science is now accepting applications for the Office of Science Graduate Student Research (SCGSR) program 2019 Solicitation 2. The SCGSR program provides doctoral dissertation/thesis research opportunities for graduate students at DOE national laboratories. Details about the program, research areas, and online application can be found at <https://science.osti.gov/wdts/scgsr/>. Applications are due **5:00pm Eastern Time on November 14, 2019**. Talk with the chair if you are considering applying to this program.

Job Opportunities

- ❖ [The American Institute of Physics](#) is seeking qualified scientists to apply for the 2020-2021 AIP State Department Fellowship by **Oct. 15**.
- ❖ Stanford University is launching a new fellows program for postdoctoral researchers focused on incubating new directions in foundational scientific research through an interdisciplinary community of exceptional postdoctoral scholars from around the world who are driven by a sense of wonder about the natural world. Interested applicants must apply online (stanfordsciencefellows.stanford.edu) by **November 1, 2019**.
- ❖ [Whitman College](#), a liberal arts college in Washington State, is conducting a tenure track search for a position in physics at the assistant professor level.
- ❖ [Academic Coordinator/Lecturer in Department of Physics](#), University of California Berkeley
- ❖ [Part-Time Instructor Pool in Biological, Chemical, and Physical Sciences](#), University of California Berkeley
- ❖ [Lecturer Search in Mathematical and Physical Sciences](#), University of California Davis

- ❖ [Jr Specialist/Asst Specialist in Experimental Particle Physics](#), University of California Davis
- ❖ [Tenure-Track Assistant Professor in MCB / SCRB / OEB / CCB / Physics / Statistics / Engineering](#), Harvard University

Selected Publications

- ❖ "Student conceptual resources for understanding mechanical wave propagation", L. M. Goodhew, A. D. Robertson, P. R. L. Heron, and R. E. Scherr, <https://journals.aps.org/prper/abstract/10.1103/PhysRevPhysEducRes.15.020127>
- ❖ "Tuning Inelastic Light Scattering via Symmetry Control in 2D Magnet CrI₃", B. Huang, J. Cenker, E. Ray, T. Song, X. Xu et al., <https://arxiv.org/abs/1910.01804>
- ❖ "A tensor network approach to 2D bosonization", S. Shukla, T. Ellison, L. Fidkowski, <https://arxiv.org/abs/1909.10552>
- ❖ "Cyclotron Radiation Emission Spectroscopy Signal Classification with Machine Learning in Project 8", A. Esfahani, R. Cervantes, M. Fertl, E. Machado, E. Novitski, W. Pettus, H. Robertson, G. Rybka, <https://arxiv.org/abs/1909.08115>
- ❖ "New and Old Fermionic Dualities from 3d Bosonization", K. Aitken, C. Choi, A. Karch, <https://arxiv.org/abs/1909.04036>
- ❖ "Design and Optimization of Ellipsoid Scatterer-based Metasurfaces via the Inverse T-Matrix Method", M. Zhelyeznyakov, A. Zhan, A. Majumdar, <https://arxiv.org/abs/1908.10466>