



# The Physics Observer

January 9<sup>th</sup>, 2020

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## UPCOMING EVENTS

- January 17-19, 2020, Washington State University:  
[2020 APS Conference for Undergraduate Women in Physics](#)
- Sat-Mon January 18-20, 2020:  
[TIQM Inaugural Workshop](#)
- February 14-16, 2020:  
[AAAS Annual Meeting](#)
- March 24-27, 2020:  
[Axions Beyond Gen 2](#)
- May 30-June 1, 2020  
[Summitting the Unknown: Celebrating the Legacy of Ann Nelson](#)

## PHYSICS COLLOQUIA

- Monday, January 13, 2020 - 4:00pm to 5:00pm, PAA102  
[Anomalies: From Magnets to the Nuclear Force](#), Shu-Heng Shao, Institute of Advanced Study, Princeton

## 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 next two months will be extremely busy with a steady stream of faculty candidates visiting as part of our search for three new faculty members. We will be having colloquia every week on both Monday and Wednesday afternoons. Speakers this month are listed below. I urge everyone, faculty and students, to attend these colloquia.

Also, put into your calendars the special meetings listed below which we will be hosting: the TIQM Inaugural Workshop in February, Axions Beyond Gen 2 in March, and Summitting the Unknown: Celebrating the Legacy of Ann Nelson at the end of May.

## Milestones & Arrivals

- ❖ Associate Director of CENPA, Gary Holman, completed his 10<sup>th</sup> year of services at the University of Washington.
- ❖ Arthur Barnard joined the department as an Assistant Professor.
- ❖ Geoff Diederich joined the department as a Research Associate.

## Research Awards and Grants

- ❖ Assistant Professor [Alvaro Chavarria](#) received 275K US DOE grant for development of selenium imaging detectors toward a definitive search for neutrinoless double beta decay.
- ❖ Assistant Professor [Lukasz Fidkowski](#) received 337K NSF grant for interplay of topological order and symmetry in and out of equilibrium
- ❖ Associate Professor [Jason Detwiler](#) received 20K US DOE grant for surface alpha mitigation and active veto R&D for tonne-Scale 76Ge-Based neutrinoless double-beta decay searches.
- ❖ Professor [David Hertzog](#) received (3) 7K Universities Research Association, Inc. (URA) grants for:
  - Proposal for Upgrades to the Calorimeter and Data Analysis Systems of the Muon g-2 Experiment,
  - URA Visiting Scholars Program Proposal by Brynn MacCoy, and
  - Detector operations, data quality monitoring, and systematic uncertainties in the Muon g-2 experiment.

## Funding and Meeting Announcements

The National Science Foundation (NSF) [Mathematical Sciences Graduate Internship \(MSGI\) Program](#) provides opportunities for mathematical sciences doctoral students to participate in internships at federal national laboratories and research facilities. Application Deadline: **January 13, 2020 5:00 PM EST**. More information [here](#).

- Wednesday, January 15, 2020 - 4:00pm to 5:00pm, PAA102

Anomalies: From Magnets to the Nuclear Force,  
Natalie Paquette, Caltech

- Wednesday, January 22, 2020 - 4:00pm to 5:00pm, PAA102

Mark Rudner (Title TBA),  
Mark Rudner, Niels Bohr Institute, Copenhagen

- Monday, January 27, 2020 - 4:00pm to 5:00pm, PAA102

Hoi Chun Po (Title TBA),  
Hoi Chun (Adrian) Po, MIT

- Wednesday, January 29, 2020 - 4:00pm to 5:00pm, PAA102

Katelin Schutz (Title TBA),  
Katelin Schutz, MIT

### General & Final Exams

- Monday, January 27, 2020 - 10:00am, PAT C421

General Exam: Giant Tunneling

Magnetoresistance in van der Waals Layered Antiferromagnet: Tiancheng Song (Advisor: Xiaodong Xu)

- Tuesday, January 28, 2020 - 11:00am, MoIES215

General Exam: Maria L Viitaniemi (Advisor: Kai-Mei Fu)

### SEMINARS

See [Here](#)

### CONTACT US

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UBC & University of Washington Collaborative Research Mobility Award: Are your faculty collaborating with faculty at the University of British Columbia, or would they like to? Funding is available to support such collaborations. Sponsor due date is **February 10, 2020**. More information [here](#).

2019 Call for Proposals of the Thomas Jefferson Fund is now open until **February 24th 2020**. This program, launched by the Embassy of France in the United States and the FACE Foundation, aims to encourage and support cooperation among the most promising young French and American researchers, and foster forward-looking collaborative research projects. Each selected French-American project will receive up to \$20,000 over a period of two years. Interested parties are invited to get more information and to apply [here](#).

DARPA is proud to host the 2020 Electronics Resurgence Initiative (ERI) Summit & MTO Symposium, scheduled for **August 18 – 20, 2020** in Seattle, Washington. ERI is delivering promising results that will not only enhance national security but also contribute to the development of the larger microelectronics sector. To ensure that these results transition to the community, the 2020 Summit will showcase performer technical achievements and demonstrations while highlighting leading voices from end users in the semiconductor and defense sectors. As with previous Summits, the 2020 event will also feature informative poster and networking sessions, as well as a series of collaborative workshops where attendees are encouraged to share new ideas. More information [here](#).

### Job Opportunities

- ❖ Adjunct Faculty in Physics, Pennsylvania State University. See <https://professorpositions.com/adjunct-faculty-in-physics,i4948.html>.
- ❖ Assistant Professor in Theoretical Biophysics, University of California San Diego. See <https://professorpositions.com/assistant-professor-in-theoretical-biophysics,i5884.html>.
- ❖ Associate / Full Professor in Theoretical Biophysics, University of California San Diego. See <https://professorpositions.com/associate-full-professor-in-theoretical-biophysics,i5888.html>.
- ❖ Assistant Scientist in Experimental High Energy Physics, University of Florida. See <https://professorpositions.com/assistant-scientist-in-experimental-high-energy-physics,i5887.html>.
- ❖ Assistant Professor of Physics, specialization in experimental neutrino physics and astroparticle physics, University of Wisconsin Madison. See <https://professorpositions.com/assistant-professor-of-physics,i5161.html>.
- ❖ Assistant Professor of Physics, with specialization in Plasma Physics, University of Wisconsin Madison. See <https://professorpositions.com/assistant-professor-of-physics,i5883.html>.
- ❖ Assistant Teaching Professor / Lecturer in Physics, Pennsylvania State University. See <https://professorpositions.com/assistant-teaching-professor-lecturer-in-physics,i5876.html>.
- ❖ Lecturer Fulltime - Physics, Physical Sciences Division, School of STEM, UW Bothell. See <https://professorpositions.com/lecturer-in-physics,i5880.html>.
- ❖ Professor of Biophysics / Experimental Condensed Physics, University of Illinois. See <https://professorpositions.com/professor-of-biophysics-experimental-condensed-physics,i5885.html>.

### Selected Publications

- ❖ “Valley Phonons and Exciton Complexes in a Monolayer Semiconductor”, M. He, P. Rivera, N. Wilson, X. Xu et al., <https://arxiv.org/abs/2001.01769>.
- ❖ “Optimal evolutionary control for artificial selection on molecular phenotypes”, A. Nourmohammad et al, <https://arxiv.org/abs/1912.13433>.
- ❖ “Excited-Band Bloch Oscillations for Precision Atom Interferometry”, K. McAlpine, D. Gochnauer, S. Gupta, <https://arxiv.org/abs/1912.08902>.
- ❖ “An Exactly Solvable Model for a 4+1D Beyond-Cohomology Symmetry Protected Topological Phase”, L. Fidkowski, J. Haah, M. Hastings, <https://arxiv.org/abs/1912.05565>.
- ❖ “Quantum Computer Systems for Scientific Discovery”, M. Savage et al, <https://arxiv.org/abs/1912.07577>.