



The Physics Observer

November 1, 2019

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UPCOMING EVENTS

- 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.

PHYSICS COLLOQUIA

- Monday, November 4, 2019 - 4:00pm to 5:00pm, PAA 102

Collagen: a fascinating responsive material building block from Nature, Nancy Forde (SFU)

- Monday, November 25, 2019 - 4:00pm to 5:00pm, PAA 102

TBA, Di Xiao

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)

More meetings and events to highlight. First, our second annual Physics Slam was a great success earlier this month. Check out the video of the event [here](#). The UW Physics and Astronomy Career Development Organization will be holding their annual Networking Days conference **November 15-16**. See below for more information. This year's APS Conference for Undergraduate Women in Physics (CUWiP) is taking place **January 17-19** at Washington State University in Pullman WA. Some travel support is available. Interested students should contact Marjorie Olmstead. For more information see <https://events.wsu.edu/cuwip/>.

Finally, the next annual meeting of the American Associate for the Advancement of Sciences (AAAS) will be here in Seattle, **February 14-16**. The Physics section is looking to promote student attendance and is offering a number of registration fee waivers. Interested students should contact Marcel den Nijs. The meeting includes many topical lectures on, e.g., quantum cloud computing, geo-engineering and our climate future, and AI advances and aspirations, as well as a wide variety of career workshops. For more information see <https://aaas.confex.com/aaas/2020/meetingapp.cgi/>.

Milestones

- ❖ Research Engineer, CENPA, [David Peterson](#) completed his 10th year of service at the University of Washington.

Research Awards and Grants

- ❖ Affiliate professor (and ex-UW postdoc) [Bira van Kolck](#) has been awarded [the Hermann Feshbach Prize in Theoretical Nuclear Physics of the American Physical Society](#).
- ❖ [David Hertzog](#) continues to receive 1.24M US DOE grant for experimental nuclear physics.
- ❖ [Kai-Mei Fu](#) received 900K US DOE grant for quantum entanglement between a solid-state spin and trapped ion via a photonic link.
- ❖ [Shih-Chieh Hsu](#) received 300K NSF grant for Collaborative Research: advancing science with accelerated machine learning.
- ❖ [Shih-Chieh Hsu](#) also received a 3K DOE grant for a US ATLAS Fundamental Computer Skills Boot camp.
- ❖ [Gordon Watts](#) received 181K NSF grant for the proposed NSF center "Institute for Research and Innovation in Software in High Energy Physics" (IRIS-HEP).
- ❖ [Henry Lubatti](#) received 23K grant from Brookhaven National Laboratory for ATLAS muon upgrade construction off-project.
- ❖ [Andreas Karch](#) received 400K grant from Simons Foundation for ultra-quantum matter.
- ❖ [Boris Spivak](#) received 40K grant from Los Alamos National Laboratory for the theory of fluctuations and onset of hot spots in burning media.
- ❖ [Leslie Rosenberg](#) received 69K grant from the Heising-Simons Foundation for the Beyond Gen2 Workshop.

SEMINARS

See [Here](#)

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- ❖ [Aurel Bulgac](#) received 100K NNSA grant for the center of excellence in low energy nuclear science.
- ❖ [Subhadeep Gupta](#) received 34K ORISE grant for an ultra-precise magnetometer using narrow Feshbach resonances.

Funding and Meeting Announcements

[CDO Networking Days conference](#) is on **November 15th-16th, 2019**. This is a UW Physics & Astronomy grad-student-led conference that connects industry scientists with our PhD's. We currently have confirmed attendance by Terrapower, 1Qubit, Microsoft Data Science, Microsoft Data Centers, Unlearn.AI, and Boston Consulting Group. More are expected. There will be a good alumni presence as well. Inquiries: cdophys@uw.edu.

Applications open for Google PhD Fellowships. Areas of interest to the sponsor include computational neuroscience and quantum computing. More information at <https://ai.google/research/outreach/phd-fellowship/>. Deadline **November 30, 2019**. This is a limited submission opportunity. If interested in applying, contact Marcel den Nijs.

Apply for the APS Congressional Science Fellowship! [The APS Congressional Science Fellowship](#) provides a stipend to work on Capitol Hill for a year, helping legislators effectively interpret scientific knowledge for use in public policy decisions, while learning about the legislative process. You must have a PhD and be an APS member to qualify. Application deadline: **December 15, 2019**.

Applications open for Two Sigma PhD Fellowships, offering full tuition and stipend. Areas of interest to the sponsor include applications of machine learning, simulation & big data techniques in physics, including particle physics, astrophysics, and condensed matter. More information: [link](#). Deadline: **December 30, 2019**. This is a limited submission opportunity. If interested, contact Marcel den Nijs well in advance of the deadline.

[DoD SMART](#) is offering full tuition scholarship for service program. This program is an opportunity for students pursuing an undergraduate or graduate degree in STEM disciplines to receive a full scholarship and be gainfully employed by the Department of Defense upon degree completion. Deadline to apply is **December 3, 2019**.

Job Opportunities

- ❖ Seattle University Physics Department wants UW Physics people (particularly postdocs) to know about their current opening for an assistant professor of physics, to start September 2020. The job can be applied for at <https://seattleu.csod.com/ats/careersite/JobDetails.aspx?site=2&id=1043>.
- ❖ Western Washington University is currently searching for postdocs and graduate students for two new assistant professors in our department, one in [experimental physics](#) (broadly defined), and the other in [planetary geophysics](#).
- ❖ Postdoc positions in theoretical physics at Nordita, Stockholm: <http://www.nordita.org/positions>
- ❖ Texas A&M University is seeking qualified applicants for both tenure track and lecturer positions in Physics and Astronomy. See <https://apply.interfolio.com/70401>, <https://apply.interfolio.com/70311>, <https://apply.interfolio.com/70312>.

Selected Publications

- ❖ “Extended Search for the Invisible Axion with the Axion Dark Matter Experiment”, L. Rosenberg, G. Rybka, et al., <https://arxiv.org/abs/1910.08638>.
- ❖ “Color correlations in the proton”, G. Miller, <https://arxiv.org/abs/1910.03006>.
- ❖ “Single-shot three-dimensional imaging with a metasurface depth camera”, S. Colburn, A. Majumdar, <https://arxiv.org/abs/1910.08638>.

General & Final Exams

- ❖ Friday, November 1, 2019, 11:00am, PAT C-610

- [Final Exam: Probing Sulfur and Phosphorus Electronic Structure with Experimental Developments and Theoretical Calculations of Tender X-ray Emission Spectroscopy](#), William M Holden (Advisor: Gerald Seidler)
- ❖ Monday, November 4, 2019 - 11:00am, MOL 315
[General Exam: Finite temperature full multiple scattering calculation of ultrafast x-ray absorption spectroscopy](#), Tun Sheng Tan (Advisor: John Rehr)
- ❖ Thursday, November 7, 2019 - 2:00pm, PAT C607
[General Exam: F=ma of a worm brain: discovering governing equations using biomechanical and control theoretic modeling](#), Charles S Fieseler (Advisor: Jose Kutz)
- ❖ Thursday, November 14, 2019 - 9:30am, PAT C520
[General Exam: Debye Mechanism of Giant Microwave Absorption in Superconductors](#), Michael David Smith (Advisor: Anton Andreev)
- ❖ Thursday, November 14, 2019 - 2:30pm, NPL 178
[General Exam: Nicholas William Ruof](#) (Advisor: Jason Detwiler)
- ❖ Friday, November 15, 2019 - 10:00am, NPL 178
[Final Exam: Magnetic Field Determination for Run 1 of the Fermilab Muon g-2 Experiment](#), Rachel E Osofsky (Advisor: Alejandro Garcia)
- ❖ Monday, November 18, 2019 - 11:00am, PAT C-520
[Final Exam: Advancing Atom Interferometry with a Bloch-bands Approach](#), Katherine McAlpine (Advisor: Subhadeep Gupta)
- ❖ Tuesday, November 19, 2019 - 12:00pm, PAT C-520
[Final Exam: Heteronuclear Feshbach Resonances in Ultracold Mixtures of Ytterbium and Lithium](#), Alaina M Green (Advisor: Subhadeep Gupta)