

The Physics Observer

August 8, 2019

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UPCOMING EVENTS

- August 8, 2019, 3:45 pm, NPL 178:

"CENPA: Precision Measurements of Neutron Scattering Lengths of Helium Isotopes Using Neutron Interferometry,"

Fred Wietfeldt, Tulane University

- Tues-Fri, August 13-16, Walker-Ames Room, Kane Hall:

Dark Matter @ LHC Workshop

- September 26, 2019, 3:00 pm, PAT C-520:

EPIC: Empowering Prevention & Inclusive Community

- 3-6 pm, Sunday, September 29:

Start of Year department barbecue. Hold the date, invitations will be sent shortly. Location: College Club of Seattle, 11 E. Alison St., Seattle 98102

Welcome

This is to the inaugural issue of the Physics Observer, a semimonthly 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 share this newsletter with anyone who may be interested. Readers wishing to subscribe, or unsubscribe, may do so [here](#). Information for future editions may be sent to the editor, [Alexis Hall](#).

Chair's Corner (L. Yaffe)

As the newly installed department chair, I have been getting up to speed on administrative matters in the department while also spending time talking to as many students, faculty and staff as possible. To those of you who have already shared with me their perspectives, concerns and suggestions, my thanks. To those to who have not yet had a chance to chat, my door is open. I look forward to seeing many of you at the Start of Year BBQ described in upcoming events.

As this new biennium gets underway, in many respects we are off to a good start with new faculty arriving in the coming months, a search for multiple future faculty hires in theoretical physics approved and getting underway, our largest ever group of Physics majors (nearly 200) just graduated, and a new batch of incoming students arriving shortly.

It is with great sadness, however, that I report the tragic loss of Professor Ann Nelson, my friend and colleague, in a hiking accident in the Cascades. Ann joined our faculty in 1996 and was a member of the National Academy of Sciences and the American Academy of Arts and Sciences. She was also a passionate advocate of inclusion and diversity in Physics. Further information may be found in articles at the [Seattle Times](#), [KIRO 7](#) and the [Mountaineers](#). Notice of memorial services should be forthcoming soon.

Arrivals

- ❖ Lecturer [Amal al-Wahish](#) began teaching for the department this summer and will be continuing this coming year.
- ❖ Assistant Professor [Armita Nourmohammad](#) will be arriving this Autumn after spending this past year at the Max Planck Institute for Dynamics and Self-Organization.
- ❖ Assistant Professor [Matthew Yankowitz](#) will be joining the department in September and setting up his condensed matter lab in the basement.
- ❖ [Pascal Rivera](#), recent alumni and student of Xiaodong Xu, welcomed the arrival of a new baby this past week.

Milestones

- ❖ Professor [Lillian McDermott](#) retired in June after 48 years at the University of Washington. Despite retirement, she remains active in the physics education group.
- ❖ Professor [Henry Lubatti](#) has just completed his 50th year of service at the University of Washington.

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

"Frontiers of Physics: The Many Worlds of Quantum Mechanics."

Sean Carroll, California Institute of Technology

- Sat-Mon, January 18-20, 2020: Thoulessfest. Mark your calendars, more details in due course.

PHYSICS COLLOQUIUM

- September 30, 2019 - 4:00pm, PAA 102

"Cavity Quantum Electrodynamics with Broad Quantum Emitters," Arka Majumdar, University of Washington

PHD FINAL EXAMS

- August 19, 2019 - 11:30 am, PAB B101

"Development of Laboratory-Based X-ray Spectroscopies for Materials Research,"

Evan Patrick Jahrman (Advisor: Gerald T. Seidler)

GENERAL EXAMS

- August 12, 2019 - 10:30 am, PAB 205:

Sean Gasiorowski (Advisor: A. Goussiou)

- August 16, 2019 - 11:00 am, PAT C-520

Emily E Clark (Advisor: Jose Kutz)

- September 30, 2019 - 11:00 am, PAT C-421:

Jun Hui See Toh (Advisor: Subhadeep Gupta)

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- ❖ Professor Martin Savage was elected to the Washington State Academy of Sciences.
- ❖ Graduate students Micah Buuck (advisor J. Detwiler) and Yelena Bagdasarova (advisor A. Garcia) passed their final PhD exams.
- ❖ Graduate student Scott Zeng (advisor: K. Torii) passed his general exam.

Research Awards and Grants

- ❖ Assistant professor Jiun-Haw Chu was awarded a Presidential Early Career Award for Scientists and Engineers (PECASE) for his work on superconductivity in strain-tuned materials.
- ❖ Jens Gundlach and collaborators received a patent for "Nanopore-based analysis of protein characteristics".
- ❖ 138K NSF grant to Deep Gupta for precision contrast interferometry with Ytterbium Bose-Einstein condensates.
- ❖ 377K NSF grant to Gerald Seidler for instrument development for benchtop x-ray emission spectroscopy.
- ❖ 902K NSF grant to Paula Heron for research and curriculum development to leverage student conceptual resources.
- ❖ 100K NSF grant to Krishna Venkateswara for sensors for low-frequency improvements in advanced LIGO.
- ❖ 12K grant from PNNL to Gerald Seidler for nuclear theory student research experience.
- ❖ 20K grant from Brookhaven National Lab to Shih-Chieh Hsu for jet substructure and the inner tracker pixel detector.
- ❖ 100K grant from NNSA to Aurel Bulgac for a center of excellence in low energy nuclear science.
- ❖ 91K grant from the Army Research Office to Xiaodong Xu as part of a multidisciplinary university research initiative (MURI) grant for ab-initio solid-state quantum materials: design, production, and characterization at the atomic scale.

Funding Announcements

Nominations are open for the \$150,000 Johnson & Johnson WiSTEM²D Scholars Award, open to women in STEM disciplines. See <https://www.jnj.com/wistem2d-university-scholars> for details.

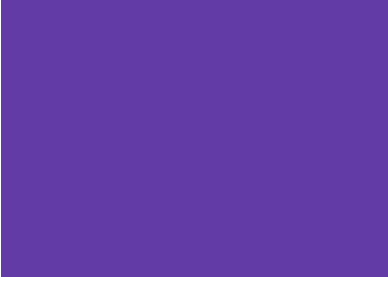
Applications are open for the 2020 Universe Travel awards (800 Swiss francs) for postdocs and PhD students. See <https://www.mdpi.com/journal/universe/awards/697> for details.

Job Opportunities

The Department of Physics and Astronomy at Western Washington University in Bellingham is looking for a non-tenure track faculty member to teach full or part time. Contact the chair, [Janelle Leger](#), if interested.

Selected Publications

- ❖ "Confinement in nuclei and the expanding proton," Gerald Miller, <https://arxiv.org/abs/1907.00110>
- ❖ "Precision beta decay as a probe of new physics," Alejandro Garcia et al., <https://arxiv.org/abs/1907.02164>
- ❖ "Debye mechanism of giant microwave absorption in superconductors," M. Smith, A. V. Andreev and B. Z. Spivak, <https://arxiv.org/abs/1907.08857>

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- ❖ "A supersymmetric theory of baryogenesis and sterile sneutrino dark matter from B mesons," G. Alonso-Alvarez, G. Elor, A. E. Nelson and H. Xiao, <https://arxiv.org/abs/1907.10612>
 - ❖ "Constraints on light dark matter particles interacting with electrons from DAMIC at SNOLAB," A. Chavarria, P. Mitra, A. Piers et al, <https://arxiv.org/abs/1907.12628>