



# The Physics Observer

August 7<sup>th</sup>, 2020

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## UPCOMING EVENTS

- January 25-28, 2021:  
[Axions Beyond Gen 2](#)
- July 8-10, 2021:  
[Summitting the Unknown, Celebrating the Legacy of Ann Nelson](#)
- July 11-20, 2021:  
[Snowmass 2021: High Energy Physics Community Planning](#)

## SOCIAL MEDIA

- Instagram: [@uwphysics](#)
- Facebook: Link [here](#).
- YouTube: Link [here](#).

## CONTACT US

- [physrecp@uw.edu](mailto:physrecp@uw.edu)
- [amhall2@uw.edu](mailto:amhall2@uw.edu)

## 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)

Planning is underway for what will be an unusual autumn quarter: a virtual welcome and on-boarding of the entering class of graduate students and nearly all physics classes to be taught remotely, necessitating substantial redesign of some labs. Experimental research is back in operation with very careful lab occupancy, scheduling, distancing, and hygiene plans.

I am sorry to report that Emeritus Professor Lillian C. McDermott passed away on July 8, 2020. Lillian was the founder of our physics education group, a pioneer in the field, and only retired last year after having worked at the UW for a remarkable 52 years. See our [news item](#) for more information.

## Milestones

- [Professor Alejandro Garcia](#) has worked at University of Washington for 35 years.
- [Associate Professor Boris Blinov](#) has worked at University of Washington for 15 years.
- [Professor Xiaodong Xu](#) has worked at University of Washington for 10 years.
- [Adjunct Professor Tom Jarboe](#), a leading fusion expert, has retired from the University of Washington.

## Research Awards & Grants

- [Assistant Professor Armita Nourmohammad](#) received 38K from the Royalty Research Fund for learning the shape space of protein universe to predict function.
- [Professor Jens Gundlach](#) received 698K from the National Institutes of Health for high accuracy nanopore sequencing. He also received 350K and 136K from the National Science Foundation for probing fundamental physics with gravitational experiments and torsion-balance searches for ultra-light dark matter.
- [Assistant Professor Matthew Yankowitz](#) received 60K from the US Army Research Office for band structure engineering of Moiré van der Waals heterostructures with high pressure.
- [Associate Professor Paul Wiggins](#) received 175K from the Vanderbilt University for replication resolved in the living cell: replisome dynamics stability and structure.
- [Professor Anna Goussiou](#) received 57K from Brookhaven National Laboratory for US ATLAS software development.
- [Professor Emeritus Thompson Burnett](#) received 25K from Stanford University for Gamma Large Area Space Telescope (GLAST) computing.

## Department Resources & News

[This](#) online safety training is required for all employees before returning to on-campus work. All critical personnel authorized for on-campus work must complete this training.

[Update for Husky OnNet now available](#). Download a critical security update for the F5 BIG-IP Edge software, the technology behind Husky OnNet that you use to connect to the UW network from off-campus.

[Learn how to construct a meaningful test](#). These guidelines can help instructors create effective tests that assess their students' understanding of course content.

[Explore what it means to be an effective mentor](#). As part of a collection of resources for mentors, the UW Graduate School has developed a guide for faculty to enhance their knowledge of the mentoring process.

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## Assorted Talks & Meeting Announcements

A new series of online seminars on quantum simulation for nuclear physics has started, on **Thursdays at 9am** with information [here](#).

The INT is running weekly online S@INT seminars on **Thursdays at 10:30 am**. See upcoming and past talks [here](#).

The UW is hosting a global journal club series for the XAFS community. The schedule of talks is at [tinyurl.com/XAFStalks](http://tinyurl.com/XAFStalks). Contact Gerald Seidler ([seidler@uw.edu](mailto:seidler@uw.edu)) for more information.

The [2020 Fall Meeting of the Division of Nuclear Physics of the American Physical Society](#) will be held **Oct. 29 - Nov. 1, 2020**. The meeting originally scheduled to be held at the Hyatt Regency Hotel in New Orleans, Louisiana will now be a virtual meeting due to Covid-19 pandemic.

The [2020 Materials Research Society Spring/Fall Meeting & Exhibit](#) is also going virtual. For nearly 50 years, researchers from around the world have converged in Boston for the preeminent materials event of the year—the MRS Fall Meeting. Due to the state of the COVID-19 pandemic, MRS will convene the joint 2020 MRS Spring/Fall Meeting & Exhibit, originally scheduled for **November 28 – December 4**, as a fully virtual event.

The [51<sup>st</sup> IEEE Semiconductor Interface Specialists Conference](#) (SISC) will be held this year in a virtual format. The SISC provides a forum for device engineers, solid-state physicists, and materials scientists to discuss issues of common interest including semiconductor/insulator interfaces, the physics of insulating thin films, and connections between materials science, device physics, and state-of-the-art technology. The virtual conference will be held **December 16 – 19, 2020**.

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## General & Final Exams

- [Final Exam: Constraining the Neutrino Mass Using the Cyclotron Radiation Emission Spectroscopy](#)
  - Ali Ashtari Esfahani (Advisor: Gray Rybka), University of Washington August 4<sup>th</sup>, 2020 - 1:30pm. Link [here](#).
- [Final Exam: Exploring the phases of 2+1 dimensional gauge theory through bosonization, holography & more](#)
  - Andrew Baumgartner (Advisor: Andreas Karch) August 11th, 2020 - 11:00am. Link [here](#).
- [Final Exam: Engineering Interfacial Effects and Layered Behavior in 2D Materials](#)
  - Nathan P Wilson (Advisor: Xiaodong Xu), University of Washington August 11th, 2020 - 1:00pm. Link [here](#).
- [General Exam: Neutral Excitons Coupled to Optical Nanocavities](#)
  - David Rosser (Advisor: Arka Majumdar), University of Washington August 12th, 2020 - 10:00am. Link [here](#).
- [General Exam](#)
  - Alexandru Hostiuc (Advisor: Jason Detwiler), University of Washington August 13th, 2020 - 1:00pm. Link [here](#).
- [General Exam: Numerical Investigation of Optimal Vortex Whips at Low Reynolds Number](#)
  - Khang D Nguyen (Advisor: Robert Breidenthal) August 14th, 2020 - 2:30pm. Link [here](#).

- Final Exam: Experiments with Trapped Ions: Entanglement, Novel Traps, and Quantum Jumps
  - Jennifer F Lilieholm (Advisor: Boris Blinov), University of Washington August 20th, 2020 - 12:00pm. Link [here](#).

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## Job Opportunities

Research Assistant Professor of Physics and Astronomy, Vanderbilt University. More information [here](#).

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## Selected Publications

“Dynamics of B-cell repertoires and emergence of cross-reactive responses in COVID-19 patients with different disease severity,” Z. Montague, J. Otwinowski, A. Nourmohammad, et al., <https://arxiv.org/abs/2007.06762>.

“High-Fidelity Simultaneous Detection of Trapped Ion Qubit Register,” L. Zhukas, B. Blinov, et al., <https://arxiv.org/pdf/2006.12801>.

“Higgs-confinement phase transitions with fundamental representation matter,” A. Cherman, T. Jacobson, S. Sen, L. Yaffe, <https://arxiv.org/pdf/2007.08539>.

“Toward a valid instrument for measuring physics quantitative literacy,” S. Brahmia, A. Olsho, A. Boudreaux, C. Zimmerman, et al., <https://arxiv.org/pdf/2007.08586>.

“Results on low-mass weakly interacting massive particles from a 11 kg-day target exposure of DAMIC at SNOLAB,” A. Chavarria, P. Mitra, A. Piers, et al., <https://arxiv.org/pdf/2007.15622>.

“Magnetic Order and Symmetry in the 2D Semiconductor CrSBr,” X. Xu, et al., <https://arxiv.org/pdf/2007.10715>.

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## UW Coronavirus Response Information

The University of Washington will provide more definitive guidance, including a revised course schedule, about the degree to which instruction will be online or in person no later than **Friday, August 7<sup>th</sup>**. You can get answers to frequently asked questions about COVID-19 and UW’s pandemic response [here](#).

To resume limited in-person instruction on the Seattle campus for autumn quarter, King County must be in [Phase 3 of the state’s Safe Start process](#), and our plans must be aligned with guidelines released by Governor Inslee for colleges and universities. Phase 3 allows groups of up to 50 to meet, while maintaining 6 feet of physical distancing and adhering to other public health practices. Below are operational guidelines for learning spaces. Additional guidelines for building operations can be found at the [Facilities website](#).

View the **Learning Spaces COVID-19 Prevention Operational Guidelines** for the Seattle campus below or [download them as a PDF](#). Guidelines last updated July 1, 2020.

Check [this](#) webpage for updates on the status of UW’s campus. Right now, we are in Phase 2. This means that:

- [Masks are required](#) on all campuses.
- Telework is strongly encouraged for all non-critical personnel, and all in-person work must adhere to all appropriate safety measures and unit [COVID-19 Prevention Plans](#).
- In-person instruction is not allowed except for essential clinical instruction that has been pre-approved.
- Gatherings of more than five people are not permitted.