



# The Physics Observer

Dec 3, 2021

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## UPCOMING

### EVENTS

December 3, 2021 -

12:00pm Zoom

[Physics Department: Final  
Exam: Modeling Complex  
Multicomponent Materials  
with First-Principles Based  
Statistical Mechanics and  
Machine Learning](#)

David Sommer (Advisor:  
Scott Dunham), University  
of Washington

## 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)

I hope everyone had a pleasant Thanksgiving. The end of the quarter is nearly here and I expect most everyone is looking forward, as I am, to some relaxation and rejuvenation during the holiday break. Of course, the Omicron Covid variant will also likely soon be arriving in our area. How this may impact our operations next quarter is uncertain, but current plans are to continue with on-campus instruction (with masking and vaccination) in the same manner which has worked quite well this autumn quarter.

I wish everyone happy holidays, safe travels, and a peaceful end of year.

## Milestones & Arrivals

[Professor David Cobden](#) celebrated 20 years with the University of Washington.

## Awards & Grants

- ❖ [Professor Mo Li](#) has been named an [Optica Fellow](#) for his contributions to nanophotonics, optomechanics and integrated acousto-optics.
- ❖ [Professors David Cobden](#), [Di Xiao](#) and [Xiaodong Xu](#) are among those included on Clarivate's 2021 list of [Highly Cited Researchers](#).
- ❖ [Assistant Professor Armita Nourmohammad](#) with the help of [graduate student Michael Pun](#) has received a \$20K award for UW Azure Cloud Computing Credits.
- ❖ [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.
- ❖ [Professor Gerald Seidler](#) received \$640K from the US Department of Energy for Redox Chemistry in Nuclear Materials Storage Matrices under Ambient and Accelerated Aging Conditions.
- ❖ [Professor Xiaodong Xu](#) received \$100K from the US Department of Defense for Magnetic van der Waals Heterostructure Photo-Spintronics.

December 3, 2021 -

2:00pm Zoom

[Physics Department: Final Exam: Novel methods in trapped-ion quantum computing: single-photon-sensitive time-resolving camera, sympathetic cooling, and qubits](#)

Liudmila Zhukas

(Advisor: Boris Blinov),  
University of Washington

December 7, 2021 -

10:30am in PAT C-520

[Physics Department: General Exam](#)

Roland Carlos Farrell

(Advisor: Silas Beane),  
University of Washington

December 8, 2021 -

2:30pm on Zoom

[Physics Department: Final Exam: Pions in Neutron-rich Matter: Implications for Neutron Stars and Supernovae](#)

Bryce H Fore (Advisor:  
Sanjay Reddy), University  
of Washington

December 10, 2021 -

11:00am in PAT C-421

[Physics Department: Final Exam: An exploration of data-driven system](#)

- ❖ [Associate Professor Jiun-Haw Chu](#) received \$52K from the Air Force Office of Scientific Research for Magnetic topological critical materials.
- ❖ [Professor Miguel Morales](#) received \$320K from the National Science Foundation for HERA: Unveiling the Cosmic Dawn.
- ❖ [Research Scientist Fernando Vila](#) received \$60K from the US Department of Energy for the Consortium for Operando and Advanced Catalyst Characterization via Electronic Spectroscopy and Structure.

## Department Resources & News

[Giving for Good, UWCFD 2021 Campaign](#): There's still time to give to this year's featured nonprofit, the Low-Income Housing Institute. Learn how your contribution to the CFD will support critical housing needs and how to get involved in the campaign.

[Find out where to get outdoor Wi-Fi across the UW](#): Outdoor Wi-Fi keeps expanding, and these maps make it easier to find a signal, even on a cold, rainy day.

[Digital whiteboard now available for easier online collaboration](#): Use Google Jamboard with others to draw, write, post graphics and bring your ideas to life.

[Register for a free, public seminar about leveraging undergraduate experiences at the UW](#): University of Guelph assistant professor Dan Grunspan shares a cultural evolutionary model for pedagogical change that stresses how individuals and their ideas flow between universities.

## Assorted Talks & Meetings

[VAMOS seminar series](#): High-quality talks in AMO physics, frequently including strong overlaps with condensed matter and quantum information. Join the [email list](#) to be notified of seminars and locations (usually C520) of in-person viewings on a big screen -- so you can watch, chat, and ask questions together.

Abstract submissions open for the [2022 APS April Meeting](#), New York, **April 9-12, 2022**. The deadline to submit an abstract is **December 20, 2021**.

## Funding Announcements

Applications open for the [2022 Ford Foundation fellowship programs](#), funding predoctoral (27K/yr for 3 years), dissertation (28K for one year), and postdoctoral (50K for one year) fellowships. Deadlines **December 9 or 16, 2021**.

Letters of intent solicited for [NSF Science and Technology Centers \(STC\): Integrative Partnerships](#). Internal UW **deadline December 23, 2021**.

[NSF Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowships](#) (MPS-Ascend), supporting postdocs who will broaden the participation of underrepresented groups in MPS fields. Application **deadline January 6, 2022**.

Applications open for [DOE Science Undergraduate Laboratory Internships \(SULI\)](#) and [Visiting Faculty Program \(VFP\)](#) 2022 summer internships. See [here](#) for more information. **Deadline January 12, 2022**.

## Job Opportunities

- [Assistant Professor in Physics and Astronomy](#) at York University Department of Physics and Astronomy.

[identification and machine learning for plasma physics](#)

Alan Kaptanoglu

(Advisor: Steven Brunton),  
University of Washington

**December 10, 2021 -**

**1:00pm on Zoom**

[Physics Department: Final Exam: Donor Qubits in ZnO Nanowires](#)

Maria L Viitaniemi

(Chair: Kai-Mei Fu),  
University of  
Washington

**December 13, 2021 -**

**2:30pm**

[InQubator for Quantum Simulation \(IQUS\): TBA](#)

Sinéad M. Griffin,

Materials Science  
Division and Molecular  
Foundry, Berkeley Lab

## [SOCIAL MEDIA](#)

[Instagram](#)

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[Vimeo](#)

[Pinterest](#)

- [Assistant Professor of Physics and Astronomy](#) at University of British Columbia Department of Physics and Astronomy.
- [Professor of Physics](#) at New York University Abu Dhabi.
- [Assistant Professor in Particle Physics](#) at University of California Davis.
- [Assistant Professor of Physics](#) at University of Wisconsin Madison Department of Physics.
- Assistant Professor of Physics, multiple openings at University of Tennessee, Knoxville, in quantum [materials](#), [information](#) and [computation](#).
- [Faculty Position in Astrophysics in Observational and Theoretical Studies of Satellite Galaxies](#) at Rutgers University, Department of Physics and Astronomy.
- [Postdoctoral Position in Experimental Dark Matter and Neutrino Physics](#) at University of California Davis.
- [School Program Instructor](#) at AstroCamp in Idlywild, CA.

### At CERN Switzerland:

- [Applied Physicist in R&D of Advanced Gaseous Detector Technologies](#)
- [Applied Superconductivity Scientist](#)
- [Senior Applied Fellowship in Experimental/Theoretical Physics](#)
- [Project Leader of the CERN Neutrino Platform](#)
- [Senior Applied Fellowship in Experimental/Theoretical Physics](#)
- [Junior Fellowship in Experimental/Theoretical Physics](#)
- [Senior Research Fellowship in Theoretical and Experimental Physics](#)
- [Applied Physicist \(Computing\)](#)
- [PhD Position in Theoretical Physics](#)

### Selected Publications

“Detecting Entrainment in Fermi-Bose Mixtures”, S. Gupta, M. Forbes, et al., [arXiv:2111.12335](#).

“The Next Generation Global Gravitational Wave Observatory: The Science Book”, S. Reddy, M. Baryakhtar, et al., [arXiv:2111.06990](#).

“Two-tone Doppler cooling of radial two-dimensional crystals in a radiofrequency ion trap”, A. Kato, A. Goel, R. Lee, Z. Ye, B. Blinov, et al., [arXiv:2111.05829](#).

“Confinement in Two-Dimensional QCD and the Infinitely Long Pion”, C. Weller and G. Miller, [arXiv:2111.03194](#).

### UW Coronavirus Response Information

**[Preventing Covid-19 during travel and gatherings](#):** Even with widespread vaccination levels in our community, travel can create pathways for COVID-19 to spread by bringing you into regions with lower vaccination rates and into contact with people who have not yet been vaccinated. Learn how to travel and gather with loved ones more safely.

#### Before you travel

- Get tested for COVID-19 within 72 hours of travel and schedule the test with enough time to get your results before departing. [There are many no-cost testing options in our area](#), and rapid tests are available at many pharmacies.
- Follow [current CDC COVID-19 travel guidance](#) and [take steps to protect yourself and others](#), like continuing to wear a mask indoors, washing your hands and watching your distance in crowded places.
- Get the flu vaccine to reduce your risk of catching both diseases at once, and to protect other people from an illness that usually claims tens of thousands of lives each winter.

**During Winter Break:** Wherever you are, follow the [CDC's holiday guidance](#), which includes:

- Continuing to wear a mask in public indoor settings, regardless of your vaccination status
- Avoiding crowded, poorly ventilated spaces
- Gathering outdoors whenever possible
- Staying home if you feel sick or have COVID-19 symptoms
- Getting tested if you have COVID-19 symptoms or have been in close contact with someone who has COVID-19.
- Getting tested before gatherings, and again 5–7 days after events

If you test positive or are exposed, follow the University's COVID-19 public health requirements and guidance.

**After traveling for breaks:**

- If you traveled, get tested for COVID-19 as soon as possible after returning to the UW. If you're enrolled in Husky Coronavirus Testing, your daily check-in will ask about travel outside of Washington.
- If you test positive or are exposed, follow the University's [COVID-19 public health requirements and guidance](#).
- If you are not fully vaccinated, follow [CDC guidelines for self-quarantine and testing](#).
- For questions, contact the EH&S COVID-19 Response and Prevention Team at [covidehc@uw.edu](mailto:covidehc@uw.edu) or 206-616-3344.

**[Moderna and Pfizer vaccine boosters available for ages 18+](#):** UW Medicine is now providing boosters of the Moderna and Pfizer-BioNTech COVID-19 vaccines — as well as the Johnson & Johnson vaccine — to all patients ages 18 or older. See if you're eligible to schedule your booster.

**[How UW facilities got 2,000 air purifiers installed by autumn quarter:](#)** Amid the obstacles that come with mass orders and supply chain disruptions, the UW Facilities team was able to install 2,000 air purifiers at all three UW campuses and more before the start of autumn quarter.

**[UW COVID-19 Employee Emergency Fund expands support for employees with pandemic-related hardships:](#)** Eligible employees who have already received EEF support may reapply if they have experienced a new financial hardship due to COVID-19. The program also continues to accept new applications.