



# The Physics Observer

Jan 5, 2023

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## UPCOMING EVENTS

Friday, January 6, 2023 -  
3:00-5:00pm, Kane  
(Walker-Ames):  
[Physics Department:  
Holiday Party](#)

Friday, January 14, 2023 -  
Monday, January 16  
2023 (PAA A102):  
[TIQM Winter 2023  
Workshop](#)

Wednesday, January 18,  
2023 - HUB  
[Lillian McDermott  
memorial symposium](#)

Friday-Sunday, January  
20-22, 2023:

## 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, [physrecp@uw.edu](mailto:physrecp@uw.edu).

## Chair's Corner (L. Yaffe)

2022 is now history. Externally, it was a challenging year with some positives (improving Covid situation, a successful election, and some progress on climate action here in the U.S.) along with serious negatives (war in Ukraine and associated economic fall-out, geopolitical tensions, and many long-standing forms of inequality). But within the Physics department, 2022 was a good year. We were able to hire four new faculty who will be arriving in 2023, and we filled several key staff positions. Our incoming class of PhD students was, for the first time ever, essentially gender balanced. And it was a banner year for research funding with a record \$26M in research grants.

The department benefited from many donors whose contributions greatly help our graduate student recruitment, undergraduate student support, faculty retention, and department events. I want to thank all our donors: those making regular payroll donations, those supporting specific events, as well as those making very generous gifts and bequests.

January will be unusually busy with multiple meetings hosted by the department: a Thouless Institute for Quantum Matter winter workshop, a memorial symposium in honor of Lillian McDermott, and an APS sponsored conference on undergraduate women in physics. More information on these below.

## Milestones & Arrivals

- ★ Welcome [Jeffery Jenkins](#), the new staff member in Lecture Demo.
- ★ Meet our new faculty member, Assistant Professor [Justin Kaidi](#).
- ★ Thank you [Elise Novitski](#) for 5 years with the department.

## Grant Announcements

- ❖ [Assistant Professor Matthew Yankowitz](#) received \$60K from the US Army Research Office (ARO) for research of magnetic topological critical materials.
- ❖ [Associate Professor Jiun-Haw Chu](#) received \$57K from the Air Force Office of Scientific Research (AFOSR) for research on the band structure engineering of moiré van der Waals heterostructures with high pressure.
- ❖ [Professor Anna Goussiou](#) received \$35K from the US Department of Energy (DOE) for research in US Atlas Software Development.

[APS Conference for Undergraduate Women in Physics \(CUWiP\)](#)

Saturday, January 21, 2023 - Kane 120  
[UW Physics Slam 2023](#)

## **GENERAL EXAMS**

Friday, January 13, 2023 - 10:00am - C520  
(Christopher Munley)

Thursday, January 26, 2023 - 12:30 pm - C520 ([Ivan Chernyshev](#))

## **SOCIAL MEDIA**

[Instagram](#)

[Facebook](#)

[YouTube](#)

[Twitter \(@physicsuw\)](#)

[Vimeo](#)

[Pinterest](#)

## **Department Resources & News**

- The physics Department will be hosting an event to honor Lillian McDermont's legacy on January 18th.

- The Physics Slam event hosted by CUWIP will take place on January 21, 8-9:30pm, Tickets [here](#).

## **Assorted Talks & Meetings**

January 14-16, [Thouless Institute for Quantum Matter winter workshop](#), UW Physics

January 18, [Lillian McDermott memorial symposium](#), UW Physics

January 20-22, [Conference on Undergraduate Women in Physics](#), UW Physics

March 5-10, 2023, [APS in-person March Meeting](#), Las Vegas

March 20-22, 2023, [APS virtual March Meeting](#)

April 15-18, 2023, [APS in-person April Meeting](#), Minneapolis

April 24-26, 2023, [APS virtual April Meeting](#)

## **Funding Announcements**

Applications solicited for [DOE NNSA Stewardship Science Graduate Fellowship](#), US citizens only. Deadline January 11.

[DOE Scholars program](#), supporting internships for summer or longer period at multiple DOE facilities, for undergraduate or graduate students. Must be a US citizen. [Application](#) deadline January 23, 2023.

[NRC research fellowships](#) at [multiple federal facilities](#) for postdocs and senior researchers. Winter application cycle deadline February 1.

## **Job Opportunities**

- [Assistant professor](#), Whitman College
- [Director of course development](#), University of Wisconsin-Madison
- [Director of introductory course program](#), University of Wisconsin-Madison

## **Selected Publications**

Confronting interacting dark radiation scenarios with cosmological data, M. Loverde, et al., <https://arxiv.org/abs/2212.13264>

Neutrinoless double beta decay, V. Cirigliano, J. Detwiler, C. Wiseman, et al., <https://arxiv.org/abs/2212.11099>

Conformality and percolation threshold in neutron stars, L. McLerran, et al., <https://arxiv.org/abs/2212.10165>

Dark photon superradiance: Electrodynamics and multimessenger signals, M. Baryakhtar, et al., <https://arxiv.org/abs/2212.09772>

Current-voltage characteristics of superconductor-normal metal-superconductor junctions, T. Liu, A. Andreev, B. Spivak, <https://arxiv.org/abs/2212.05625>

Properties of donor qubits in ZnO formed by indium ion implantation, C. Zimmermann, V. Niaouris, E. Hansen, S. D'Ambrosia, K.-M. Fu, <https://arxiv.org/abs/2212.05230>

Toward precision Fermi liquid theory in flatland, S. Beane, R. Farrell, W. Marshall, et al.,  
<https://arxiv.org/abs/2212.05177>

Background rejection in highly pixelated solid-state detectors, A. Chavarria,  
<https://arxiv.org/abs/2212.05012>

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## **UW Coronavirus Response Information**

- Current pandemic information on the [UW Covid-19 tracking dashboard](#).

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