



# The Physics Observer

May 3, 2024

## In This Issue

[Welcome](#)  
[Chair's Corner](#)  
[Research Awards & Grants](#)  
[Assorted Talks & Meetings](#)  
[Funding Announcements](#)  
[Selected Publications](#)

## EVENTS

**Friday, May 3, 2024 - 2:30pm, PAA A-118 and/or PAT C-520**  
[Physics Department: Supporting underrepresented groups and first-generation students in STEM](#)  
**Climate and Diversity Committee, UW Physics**

**Monday, May 6, 2024 - 4:00pm, PAA A-102**  
[Physics Colloquia: Simulating the most violent explosions in the universe: fundamental physics and multi-messenger astronomy](#)  
**Rodrigo Fernandez, University of Alberta**

## 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)

This is my penultimate newsletter missive, as my term as department chair will wrap up at the end of next month. Looking back on my term, the past almost-five years have been eventful, challenging, sometimes rewarding, and never dull. During this time the department brought on board ten new tenure-track faculty, nine research faculty, and more postdocs than I can count. We lost one faculty member to a terrible accident, had two departures, and several retirements. We had a handful of staff retirements but succeeded in hiring new staff in student services, fiscal and IT support, the instrument shop, and the front office. We invested in multiple building infrastructure upgrades, including some refreshed offices, new furniture and carpet, a new classroom and “hbar” lounge, and even new picnic tables outside the hbar lounge – which I’ve been pleased to see getting much use during recent weeks.

And then there was the Covid pandemic, which started six months into my term as chair. Despite the huge disruptions this caused, including an abrupt transition to remote teaching, research activities continued non-stop leading to a steady stream of highly notable publications, growing total research funding, and multiple major outside awards. The department hosted numerous meetings, including highly successful TIQM (Thouless Institute for Quantum Matter) workshops and the giant (700+ in-person) “Snowmass” particle physics community planning meeting in 2022. Our Frontiers of Physics Public Lecture Series has thrived, even through the pandemic, drawing very large audiences and bringing great speakers to the UW, including next week’s FPLS speaker, Nobel laureate John Mather.

I want to thank everyone, staff, faculty and students, who strive for excellence and contribute to this department in so many different ways.

## Milestones & Arrivals

- ★ Assistant Professor [Matthew Yankowitz](#) celebrates 5 years with UW!
- ★ Scientific Instructional Technician [Alexis Mendoza](#) celebrates 5 years with UW!
- ★ Please welcome [Cheree White](#) the new Payroll Coordinator in the front office!

Wednesday, May 8,  
2024 - 4:00pm, PAA

A-102

Physics Colloquia: TBA

Bjoern Schenke,

Brookhaven National Lab

Wednesday, May 8,  
2024 - 7:30pm, Kane  
Hall 130

Frontiers of Physics:

Opening the Infrared

Treasure Chest with JWST

John C. Mather (2006  
Nobel laureate in Physics),  
NASA's Goddard Space  
Flight Center

Monday, May 13,  
2024 - 4:00pm, PAA  
A-102

Physics Colloquia: TBA

Manuel Endres,

California Institute of  
Technology

Monday, May 20,  
2024 - 4:00pm, PAA  
A-102

Physics Colloquia:

Quantum black holes and

Quantum phases of

gravity: Glimpses into the

microstructure of gravity

Sameer Murthy, King's  
College London

Wednesday, May 22,  
2024-3:30pm, PAA-A102

Physics 2024 Awards

Ceremony

Friday May 31, 2024  
-11:30am, Physics

/Astronomy Courtyard  
Spring BBQ

## Awards & Grants

- Professor Miguel Morales received 152K from NSF for MWA AAG.
- Professor Xiaodong Xu received 250K from AFOSR for Chern Magnet.
- Professor Kai-Mei Fu received 248K from NSF for Semiconductor Spins.
- Professor Gupta received 186K from AFOSR for Fermi Dynamics.
- Professor Gerald Miller received 30K from ACWIS.
- Professor Xiaodong Xu received 219K from MIT for Ab Initio QM.
- Affiliate Professor Margaret Cheung received 50K for NW-Brave.
- Professor Gerald Seidler received 30K from ANL for ANL asymm spectrometer.

## Assorted Talks & Meetings.

- ❖ May 8, 2024, Frontiers of Physics: Opening the Infrared Treasure Chest with JWST, John Mather, Seattle, Washington.
- ❖ June 3-7, 2024, APS DAMOP meeting, Fort Worth.
- ❖ June 9-22, 2024, Quantum Connections School, Stockholm, Sweden.
- ❖ June 20-22, 2024, APS Northwest Section Annual Meeting, UW Bothell. Abstract submission deadline: May 24.
- ❖ July 8-19, 2024, Prospects in Theoretical Physics summer school, Princeton.
- ❖ July 15-26, 2024, US Quantum Information Summer School, ORNL, Tennessee.
- ❖ July 15-26, 2024, 36th National Nuclear Physics Summer School, Bloomington IL.
- ❖ July 22-26, 2024, PCCM summer school on Condensed Matter Physics, Princeton.
- ❖ August 19-23, 2024, Quantum Information and Physics workshop, Princeton.

## Funding Announcements

- Applications solicited for APS Innovation Fund proposal, supporting collaborative research with grants up to 50K. Deadline **May 6, 2024**.
- Applications solicited for NSF Accelerating Computing-Enabled Scientific Discovery (ACED) proposals supporting cross-disciplinary research. Deadline **May 13, 2024**.
- Applications solicited for DOE Office of Science Undergraduate Laboratory Internships (SULI) awards, supporting research work at a DOE national lab. Deadline **May 22, 2024**. Info & assistance workshop on April 16, 11am-noon; registration required.

## Job Opportunities

- Professor/Associate Professor, Physics/Astronomy, UC-Riverside
- Lecturer, United States Coast Guard Academy
- Assistant/Associate Professor, University of Central Florida
- Senior Computational Physicist, Lawrence Livermore National Laboratory
- Visiting Assistant Professor, Pacific Lutheran University
- University Professor, particle theory, Johannes Gutenberg Univ. Mainz
- Associate/Full Professor, experimental condensed matter, UC Riverside

**EXAMS**

Tuesday, May 7, 2024 -

3:00pm, PAT C-520

**General Exam**

Arnab Manna

Thursday, May 16,

2024 - 12:30pm, PAT

C-421

**General Exam**

Matthieu Chalfour

Monday, May 20, 2024

- 11:00am, PAT C-520

**General Exam**

Jonathan Destefano

Wednesday, May 22,

2024 - 10:00am, PAT

C-607

**Final Exam: Discovery**

**of the Fractional**

**Quantum Anomalous**

**Hall Effect in Moire**

**MoTe<sub>2</sub>**

Eric Anderson

Friday, May 24, 2024 -

9:00am, PAT C-520

**Final Exam: Deriving**

**Scattering Amplitudes**

**from Hadron Spectra:**

**Novel Quantization**

**Conditions in Lattice**

**QCD and Their**

**Applications**

Zachary Thomas Draper

Friday, May 24, 2024 -

11:00am, PAT C-607

**Final Exam: Engineering**

**Dynamically Tunable**

**Strain in 2D Materials**

**and their Device**

**Heterostructures**

Jordan Fonseca

Friday, May 24, 2024 -

12:30pm, PAB B-143

## **Selected Publications**

Neutrino many-body flavor evolution: the full Hamiltonian, V. Cirigliano, Y. Yamauchi, et al., <https://arxiv.org/abs/2404.16690>.

Local probe of bulk and edge states in a fractional Chern insulator, H. Park, C. Hu, J.-H. Chu, X. Xu, et al., <https://arxiv.org/abs/2404.07157>.

Quantum Simulating Nature's Fundamental Fields, M. Savage, et al., <https://arxiv.org/abs/2404.06298>.

Higher Landau-Level Analogues and Signatures of Non-Abelian States in Twisted Bilayer MoTe<sub>2</sub>, D. Xiao, et al., <https://arxiv.org/abs/2404.05697>.

Exact evaluation of large-charge correlation functions in non-relativistic conformal field theory, S. Beane, et al., <https://arxiv.org/abs/2403.18898>.

Qu8its for Quantum Simulations of Lattice Quantum Chromodynamics, M. Illa, M. Savage, et al., <https://arxiv.org/abs/2403.14537>.

**General Exam**

Nikita Zemlevskiy

Friday, May 24, 2024 -  
1:00pm, PAT C-520

**Final Exam:**

**Interferometric**

**Instrumentation and**

**Power Spectrum**

**Measurements of the**

**Epoch of Reionization**

**with the Hydrogen**

**Epoch of Reionization**

**Array**

Dara Storer

Tuesday, May 28, 2024  
- 10:00am, CENPA

Conference Room NPL

178

**Final Exam:**

**Superconducting**

**Resonator Development**

**for the Axion Dark**

**Matter eXperiment**

Tom Braine

Tuesday, May 28, 2024  
- 2:30pm, PAB B-042

**Final Exam: Increasing**

**Sensitivity to the Epoch**

**of Reionization 21cm**

**Signal by Characterizing**

**(Analyzing?) Precision**

**Instrument Digital**

**Systems**

Pyxie Star

Wednesday, May 29,  
2024 - 3:00pm, PAT  
C-421

**General Exam**

Matt Kafker

Thursday, May 30,  
2024 - 2:00pm, PAT  
C-520

**General Exam**

Dmitriy Nickolaevich Kim

Friday, May 31, 2024 -  
11:00am, PAT C-520

**Final Exam: Microwave  
absorption in disordered  
vortex lattices of type II  
superconductors**

[Yuankang Liu](#)

Wednesday, June 5,  
2024 - 12:30pm, PAT  
C-520

**General Exam**

[Kade Cicchella](#)

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