



The Physics Observer

Apr 1, 2024

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EVENTS

Wednesday, April 3,
2024 - 10:30am, PAT
C-520

[InQubator for Quantum Simulation \(IQUS\): Efficient preparation of Tensor Network States \(Note unusual time\)](#)

[Ignacio Cirac](#), Max Planck Institute for Quantum Optics

Monday, April 8, 2024
- 4:00pm, PAA A-102

[Physics Colloquia: Problem solving isn't just solving for x: Developing coherence, insight, and understanding](#)

[Eric Kuo](#), University of Illinois Urbana-Champaign

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.

Chair's Corner (L. Yaffe)

I considered starting my message this month by offering congratulations to one of my colleagues for their receipt of a Nobel prize — as an April's fools joke. But that would be a bit unkind, plus it is the wrong time of year for Nobel announcements. Maybe next autumn!

On a serious note, I do want to call attention to the nice research summary piece in the March 25 issue of Nature, about how "[Weird new electron behaviour in stacked graphene thrills physicists](#)", which highlights work of Professor Xiaodong Xu and other colleagues.

Also notable is the award of the [International Commission on Physics Education \(ICPE\) Medal](#) for 2021 to Professor Paula Heron, which will finally be presented this summer at the 4th World Conference on Physics Education in Krakow, Poland.

Finally, I am looking forward to the next Frontiers of Physics public lecture on May 8, which will be on "[Opening the Infrared Treasure Chest with JWST](#)" by Nobel Laureate John Mather. Be sure to register when event invitations are sent out shortly. (And if not already on the mailing list, you may sign up [here](#).) Also note the upcoming Seattle Town Hall discussion on "[How does ordinary life materialize out of an extraordinary cosmos?](#)" with our former faculty member Matthew Strassler, 7:30pm on April 17.

Milestones & Arrivals

★ Building Coordinator [Jason Alferness](#) celebrates 25 years with UW!

Awards & Grants

- Assistant Professor Alvaro Chavarria received 145K from U. Chicago for DAMIC-M construction.
- Professor Jason Detwiler received 51K from ORNL for Legend 1000 buyout.
- Professors Miguel Morales and Matt McQuinn received 169K from NASA for Solar System-scale VLB.
- Professor Gordon Watts received 29K from BNL for IRIS-HEP buyout.

Monday, April 15,
2024 - 4:00pm,
PAA-A102

Physics Colloquia: The
Coulomb Barrier for
Women+ in Physics
Saskia Mordijck,
William & Mary

Monday, April 22,
2024 - 4:00pm, PAA
A-102
Physics Colloquia: TBA
Dimitri Kharzeev, Stony
Brook University and
Brookhaven National Lab

Wednesday, April 24,
2024 - 4:00pm, PAA
A-102
Physics Colloquia: TBA
Antonin Portelli,
University of Edinburgh

Monday, April 29,
2024 - 4:00pm, PAA
A-102
Physics Colloquia: TBA
Jainendra Jain, Penn
State University

Tuesday, April 30,
2024 - 9:00am, PAT
C-520
Particle Theory: Pacific
Northwest Particle Theory
Meeting

Monday, May 6, 2024
- 4:00pm, PAA A-102
Physics Colloquia: TBA
TBA, TBA

Wednesday, May 8,
2024 - 4:00pm, PAA
A-102
Physics Colloquia: TBA
Bjoern Schenke,
Brookhaven National Lab

- Professor Gordon Watts received 291K from Princeton for IRIS-HEP.
- Professor Aurel Bulgac received 110K from NNSA for COE LOWE/CENTAUR.
- Associate Professor Armita Nourmohammad received 30K from ISB.
- Associate Professor Jiun-Haw Chu received 57K from UAB for MTC Materials.

Assorted Talks & Meetings.

- ❖ April 3-6, 2024, APS April meeting: Quarks to Cosmos, Sacramento, CA.
- ❖ April 4, 2024, GPSS Interdisciplinary Graduate Research Symposium, 1-4pm, Hub ballrooms.
- ❖ April 17, 2024, “How does ordinary life materialize out of an extraordinary cosmos?” Matthew Strassler, 7:30pm, Seattle Town Hall.
- ❖ 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.
- ❖ Various dates, DOE virtual “office hours” in advanced scientific computing, basic energy sciences, biological & environmental research, fusion energy sciences, high energy physics, nuclear physics, and accelerator R&D.

Funding Announcements

- Applications solicited for Northwest Nanotechnology Infrastructure seed grants, up to \$10K. Deadline **April 15, 2024**.
- Applications solicited for DOE Office of Science Graduate Student Research (SCGSR) awards, supporting research work at a DOE national lab. Deadline **May 1, 2024**. Info & assistance workshop on April 18, 11am-1:30pm; registration required.
- 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

- Lecturer, Physics/Astronomy, UBC
- Visiting Assistant Professor, Trinity College
- Tenure Track Position, Toronto Metropolitan University
- Computational Physicist/Engineer, Lawrence Livermore National Laboratory

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

EXAMS

Friday, April 26, 2024 -
2:00pm, PAT C-520
General Exam
Caio Nascimento

Tuesday, May 2, 2024 -
10:00am, PAT C-520
General Exam
Charles Cardot

SOCIAL MEDIA

Instagram

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Selected Publications

Might normal nuclear matter be quarkyonic?, L. McLerran, G. Miller, et al.,
[arXiv:2403.15375](https://arxiv.org/abs/2403.15375).

Achieving quantized transport in Floquet topological insulators via energy filters, R. Zhang, M. Rudner, et al., [arXiv:2402.18776](https://arxiv.org/abs/2402.18776).

Direct measure of DNA bending by quantum magnetic imaging of a nano-mechanical torque-balance, Z. Kazi, I. Shelby, R. Nirodi, J. Turnbull, P. Wiggins, K.-M. Fu, et al., [arXiv:2402.17964](https://arxiv.org/abs/2402.17964).

Anti-screening and nonequilibrium layer electric phases in graphene multilayers, M. Rudner, et al., [arXiv:2402.14918](https://arxiv.org/abs/2402.14918).

Bolometric detection of Josephson radiation, C. Marcus, et al., [arXiv:2402.09314](https://arxiv.org/abs/2402.09314).

Beating bandwidth limits for large aperture broadband nano-optics, J. Fröch, A. Wirth-Singh, A. Majumdar, et al., [arXiv:2402.06824](https://arxiv.org/abs/2402.06824).

One-loop analysis of β decays in SMEFT, M. Dawid, V. Cirigliano, W. Dekens, [arXiv:2402.06723](https://arxiv.org/abs/2402.06723).

Gravitational index of the heterotic string, G. Turiaci, et al., [arXiv:2402.03297](https://arxiv.org/abs/2402.03297).