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Yale *Physics*



Upcoming Events

No events this week

Enjoy the rest of winter break! Classes start February 1st.

[More events](#)

News

Priyamvada Natarajan (Professor of Astronomy) Not-So-Dark Matter and Cosmology

If you've ever read a schlocky sci-fi novel or tuned into an episode of *Cosmos*, you've probably heard of dark matter, the mysterious sister to ordinary baryonic matter that makes up some eighty-five percent of our universe. So-called because it doesn't interact with EM radiation or normal matter, dark matter has only ever been observed indirectly via its



gravitational influence. What is it made of? No one is quite sure—candidate explanations range from new elementary particles to primordial black holes. Nearly all of the major schools of thought in the astrophysics community subscribe to a “cold dark matter” model, in which the constituent particles move slowly and larger structures emerge hierarchically from the bottom up. But, while the consensus CDM model has been very successful, there are still some inconsistencies with observation—and another big one has just emerged.

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Meg Urry (Israel Munson Professor of Physics) insights into the Universe (including inequality in STEM)

A few million light years away, a black hole at the center of a galaxy spins at immense speeds, turning matter into light; on the screen in front of us, the scientist who figured that out made an edgy joke about how terrible adulthood is. We sat (virtually) in Professor Meg Urry’s office, listening intently as she tells stories about her career, her research, and her life. Hanging on the wall were three framed pictures, including a black and white portrait of who appears to be Isaac Newton. Seems fitting for one of the most acclaimed astrophysics experts in the world. Throughout our discussion, the conversation kept returning to the same thought—what is the driving force behind science? For Urry, it is about bringing different ideas and perspectives into conversation with one another. It is about diversity and representation—who is at the table, what they brought, and how they got there. Urry’s own journey is a case study into the sociology of science.

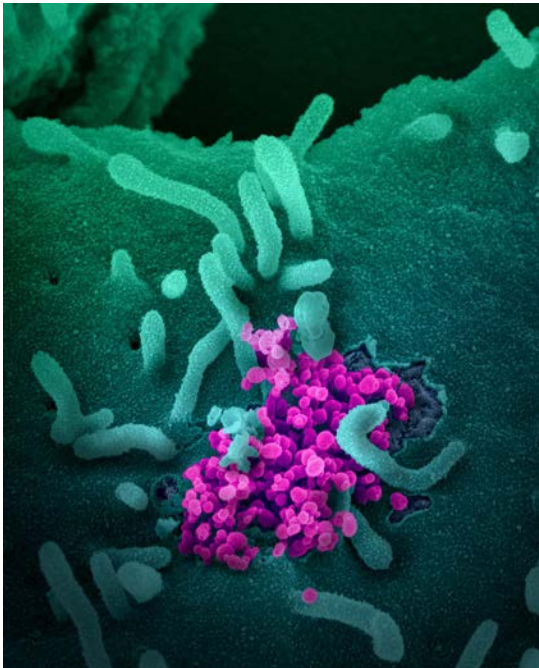
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Mariel Pettee (Graduate Student) gives advice to Women in STEM



Mariel Pettee never decided to be one thing or another. She simultaneously researches the Higgs-Boson particle and finds the time to choreograph a musical about Elon Musk and the colonization of Mars. “I [thought] that when I got to college,” she said, “maybe one of those two interests would reveal itself to be more important in my life. I think instead I just found that I was able to charge ahead and do both as much as I wanted to.”

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COVID-19 Update - December 14th update

December 14, 2020: Update from the University COVID-19 Coordinator about vaccine eligibility for 75+ individuals.

Please check [Yale COVID-19 Statistics](#) for current statistics. The current COVID-19 Alert Level is **Orange: Moderate Risk** (see the site for an explanation).

- [COVID-19 Workplace Guidance website](#)
- [Yale College COVID-19 Announcements and FAQs](#)
- [Graduate School for Arts and Sciences 2020-2021 Academic Year FAQs for Graduate Students](#)
- [Further information on Yale's response](#)
- [Yale Physics COVID-19 site](#)

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Community



Climate and Diversity Committee

Marial Pettee, one of our graduate students, was featured in [Yale Scientific Magazine](#).

If interested in joining the [CDC](#), please contact [Helen Caines](#), Chair of CDC. You may contact the whole committee at physics-cdc@mailman.yale.edu

External Opportunities

Faculty positions

[Tenure Track Faculty Position in Nuclear Science and Engineering](#) - MIT (Deadline: January 31, 2021)

[Faculty and Associate Faculty Positions](#) - Perimeter Institute (No deadline)

Grants

[OPRA Association Physics Grants](#) - OPRA (The Association for Advancement of Research on Open Problems in Nuclear & Particle Physics). Deadline: April 15, 2021.

Fellowships

[Perimeter Scholars International Program](#) (PSI) - Perimeter Institute (Final Application Deadline: February 1, 2021).

Undergraduate Research

[Summer Research Experience for Undergraduates in Nanoscience and Engineering](#) at Vanderbilt Institute of Nanoscale Science and Engineering (Deadline February 15, 2021).

[REU Program in the Department of Physics and Materials Research Center](#) at the University of Chicago (Deadline: February 15, 2021)

[REU Program In Neutrino Physics](#) at The Center for Neutrino Physics, Virginia Tech (Application Cycle December 1, 2020 - February 1, 2021)

UCLA 2021 [BIG SUMMER PROGRAM](#) (Deadline: March 1, 2021 - Next review: January 18, 2021)

[REU Program in Physics & Astronomy](#) at WSU (Deadline: February 19, 2021)



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For further information, or to contribute to the newsletter, please send email to [Daphne Klemme](#).

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