

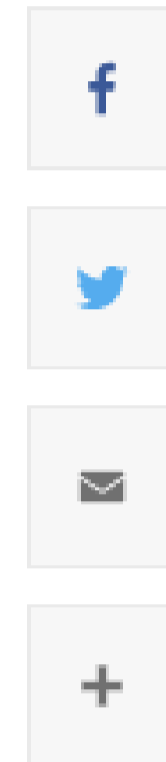
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2022 Bethe Lectures: Harnessing quantum matter for future technologies

By [Kate Blackwood](#), College of Arts and Sciences

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Matter can arrange itself in ingenious ways; in addition to the solid, liquid and gas phases that are familiar in classical physics, electronic phases of matter – some of them exotic and some useful – are made possible by quantum mechanics.

In the Fall 2022 Hans Bethe Lecture, physicist Charles Kane, the Christopher H. Browne Distinguished Professor of Physics at the University of Pennsylvania, will explain how mysterious features of quantum mechanics can be harnessed for future technologies. Kane's talk, "[The Emergence of Topological Quantum Matter](#)" is Wednesday, Oct. 19 at 7:30 p.m. in Schwartz Auditorium, Rockefeller Hall with a [livestream provided by CornellCast](#).



Charles Kane

"Professor Charlie Kane's research provides us with transformative new ideas on how topological matter can emerge with the help of symmetry," said [Chao-Ming Jian](#), assistant professor of physics in the College of Arts and Sciences (A&S) and faculty host for the lecture. "These ideas have led to the prediction of new classes of topological quantum materials, such as insulators that conduct electricity only on their surface."

As part of the Hans Bethe Lecture series, Kane will give a physics colloquium, "Symmetry, Topology and Electronic Phases of Matter," Monday, Oct. 17 at 4 p.m. in Schwarz Auditorium, Rockefeller Hall, and an Applied and Engineering Physics/Laboratory of Atomic and Solid State Physics seminar, "Topology of the Fermi Sea," Tuesday, Oct. 18 at 4 p.m. in 700 Clark Hall.

[Read the full story on the College of Arts and Sciences website.](#)

Physical Sciences & Engineering

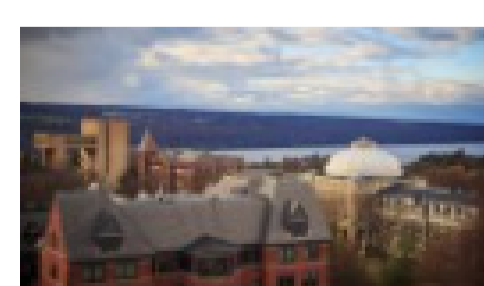
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