

TITLE OF TALK

What are Quantum Materials anyway?

Panel Discussion

December 8, 2021, 12 - 1 pm EST

Zoom



Paul Stevenson, PhD
Department of Physics
College of Science

PANELISTS:

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To register: <https://eventregistration.northeastern.edu/event/cd2406d0-471a-44b7-b08c-aed8c3086239/summary?RefId=WB-EVT>

Good question! And, why do you care?! Because quantum materials have the potential to revolutionize the way we live. Quantum materials contain unusual magnetic and electrical properties that could allow us to harness energy in new ways, create more efficient technology, and advance medical breakthroughs.

Join Prof. Paul Stevenson and colleagues to learn about how physicists are researching ways to further understand quantum materials and their potential benefits. Our researchers will help deconstruct the complexity of quantum science and explain the potential advancements and impact on daily lives.

The conversation will explore new research including:

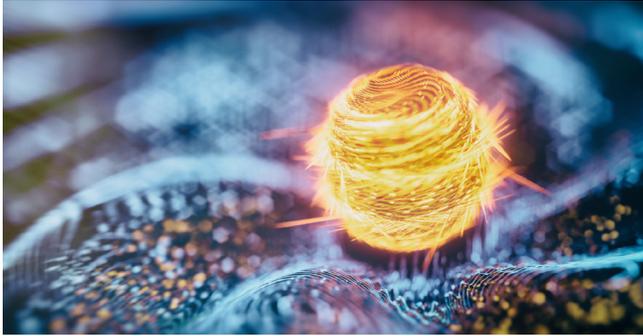
- MRI at the *nanoscale*, a powerful new tool for studying chemical and biological dynamics.
- The potential of quantum networks for secure communication and computing.



RESEARCH IN THE DEPARTMENT OF PHYSICS

The Department of Physics at Northeastern University is top-ranked and houses a broad array of research programs, in both theoretical and experimental areas. Our research brings together researchers from multiple disciplines to focus on complex systems, network theory, and electronic materials.

- **The Physics Department houses more than 30 experimental labs and theory research groups**, that study key fundamental and applied research challenges including particle physics, condensed matter and materials physics, biological physics, nanophysics and quantum materials, and network science.



- **The Network Science Institute is world-renowned** and discovers fundamentally new ways to measure, model, predict, and visualize meaningful interactions and interconnectivity of social, physical, and technological systems. The institute includes the Center for Complex Research, the Emergent Epidemics Lab, and the Laboratory for the Modeling of Biological Socio-technical Systems.
- **The Nanomedicine Innovation Center generates cutting-edge research in nanomedicine**, develops innovation education and training, and places an emphasis on diversity and broadening participation. It is home to state-of-the-art facilities and resources and has established partnerships within academia, industry, government, and hospitals with a local, national, and global impact.

THE NORTHEASTERN COLLEGE OF SCIENCE

Northeastern University is an R1 Research University with 37 research institutes and centers, and hundreds of labs and faculty researchers working toward solutions for global challenges of health, security, and sustainability. Research in the College of Science addresses the greatest challenges of our planet and beyond. The College is home to six departments, 15 research institutions and centers, and more than 150 research labs and groups. With a funding portfolio of more than \$87M, our research is supported by the National Institutes of Health, the National Science Foundation, and a varied host of government, scientific, and private institutions.

PARTNERSHIP OPPORTUNITIES

The College of Science Research Centers and institutes are home to the most exciting, groundbreaking efforts in discovery. Opportunities to support research in the college include:

- **INVEST in Faculty:** The college seeks funding to recruit promising PhDs directly into tenure-track positions. Through this innovative plan, the college seeks to build a more equitable faculty by identifying the most talented PhDs early in their careers and nurturing them appropriately with mentorship and research support.
- **Graduate Fellowships:** In the college's new Connected PhD, students understand how this degree opens an extraordinary array of career options. Students carry out groundbreaking cross-disciplinary research and connect with outside work experience that may set up their next steps. The College of Science seeks fellowship funding to support the strategic thinkers who will populate this exciting new program.
- **Undergraduate Research:** The college is committed to providing its undergraduate students with a Northeastern research opportunity. Support will create additional opportunities for students to work alongside faculty and graduate student mentors, and gain valuable experience in fundamental and applied fields across the college.
- **Summer Research Program:** The new College of Science Summer Research Program will bring a diverse set of top undergraduates to Northeastern, where they will partake in valuable research, professional, and entrepreneurship training. Support will enable the college to place promising students in faculty research groups and area companies.