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Department of Chemistry

Student Seminar Series

9:45 a.m. Tuesday, September 25, 2012 • 331 Smith Hall

Professor

Robert Cava

Department of Chemistry
Princeton University

Stories about the Discoveries of Eight New Superconductors

Website:

<https://www.princeton.edu/chemistry/faculty/profiles/cava/>

Abstract

The discovery of eight new superconductors is described, illustrating different facets of the new materials discovery process. Though the primary interest in superconductors is in the condensed matter physics community, the examples presented will illustrate how understanding chemical concepts familiar to solid state chemists can sometimes lead to their discovery. Thus I argue that a hybridized view, combining physics and chemistry, is one way of approaching the discovery and characterization of new materials. Finally, I will comment on some broader aspects of interdisciplinary research in new materials.

Robert Cava is a solid-state chemist currently affiliated with Princeton University where he holds the title of Russell Wellman Moore Professor of Chemistry.



In his career, he has published more than 500 peer-reviewed papers, 36 of them in *Nature* and eight of them in *Science*. These papers have been cited more than 30,000 times.

In recognition of his contributions to science and teaching, he was elected to the National Academy of Sciences (2001) and named a Fellow of the American Institute of Physics (1988). His ability to connect with students has earned him several teaching awards, including the fall 2002 Excellence in Teaching Award.

Previously, Professor Cava worked as a staff scientist at Bell labs from 1979–1996, where earned the title of Distinguished Member of the Technical Staff.

His work focuses on high-temperature superconductors, thermoelectrics, and geometrically frustrated magnets.

Host:
Rajan Vatassery