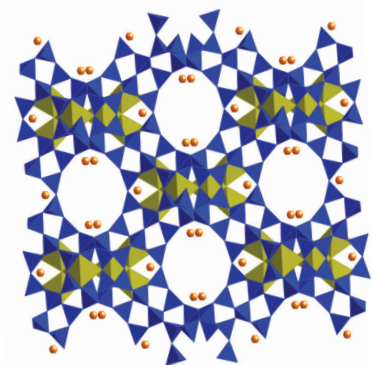
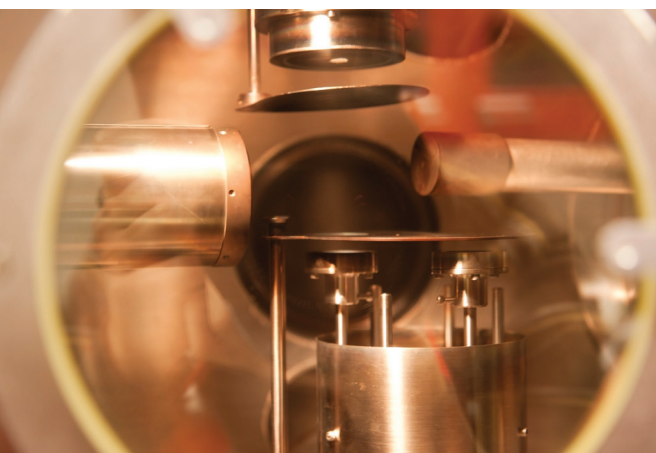
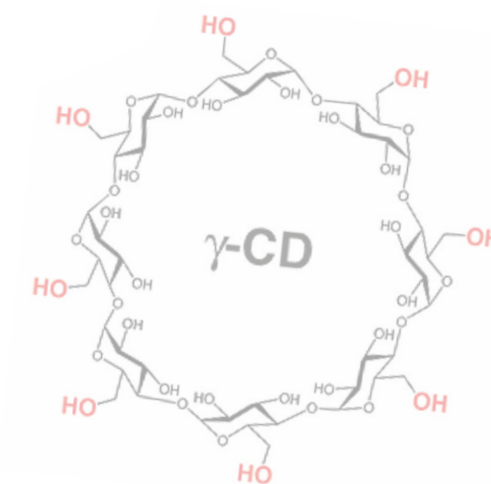
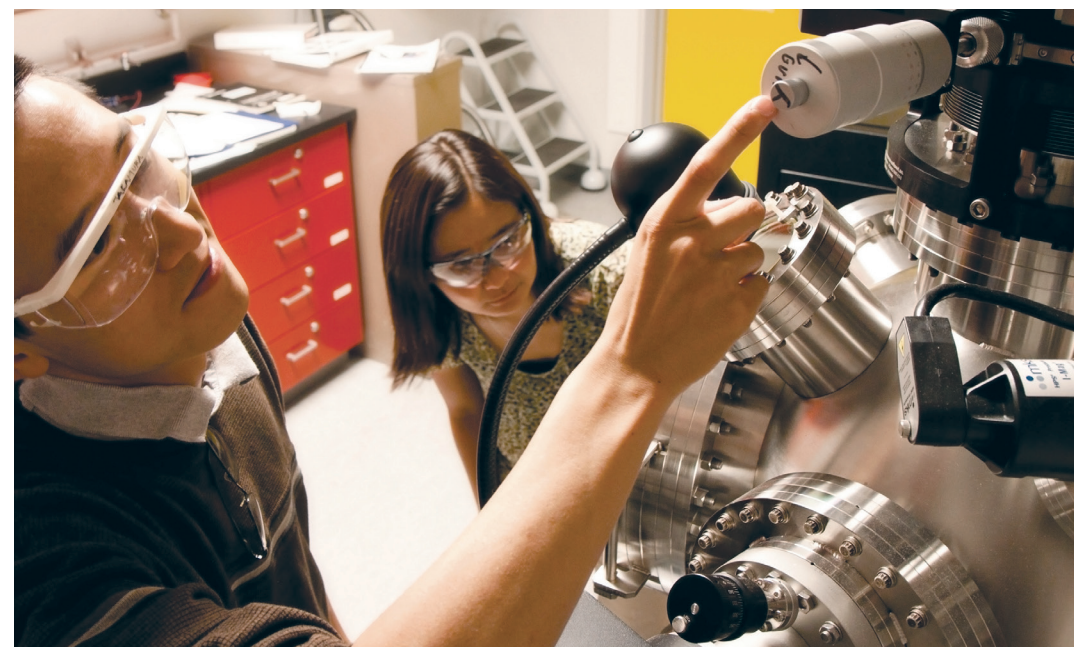


Mathematical and Physical Sciences
UC Davis
One Shields Ave
Davis, CA 95616



UC Davis: New Faculty Solid State Science



NANOMATERIALS

Creative and interdisciplinary research is a hallmark of NEAT (Nanomaterials in the Environment, Agriculture and Technology), a consortium of UC Davis faculty from multiple departments. NEAT researchers seek to understand the fundamentals of materials, especially at the nanoscale, and use this understanding in areas ranging from solar cells, batteries and catalysts in energy applications, to environmental and soil science, to biology, food and medicine.

FACILITIES

At UC Davis, faculty and students can access more than 170 state-of-the-art research facilities. Core facilities include NMR instrumentation for spectroscopy and imaging, the Keck Spectral Imaging Facility, the Crocker Nuclear Laboratory, and the Peter A. Rock Thermochemistry Laboratory.

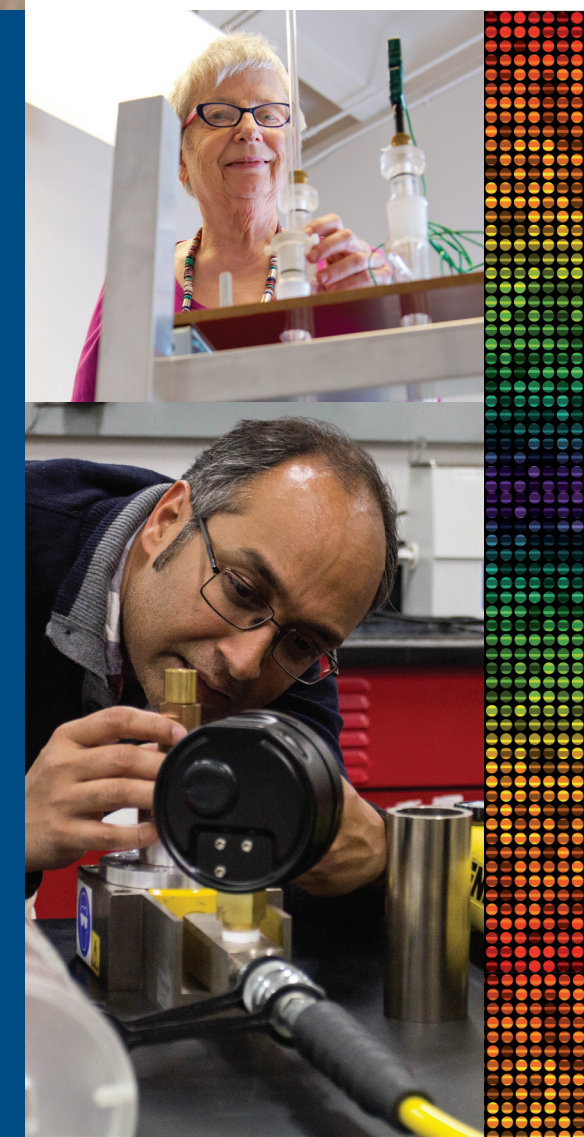
More about our facilities:
ls.ucdavis.edu/our-college/mps/solid-state

FUTURE

With plans to build new research and teaching facilities and to invest in faculty support and graduate student recruitment, UC Davis is deeply committed to excellence and continued growth in solid state science. We invite you to explore our expertise and leadership in solid state science and encourage you to reach out to our faculty with ideas for collaboration and support for their research.

The University of California, Davis is building one of the world's strongest research programs in solid state science, an exciting field that forms the basis for development and applications of new materials technologies and includes a broad range of study from quantum mechanics, metals, ceramics and polymers to electronic, magnetic and optical materials and nanostructures. Discoveries in this field lead to new solutions for improved human health, advances in information technology, and alternative energy sources.

UCDAVIS



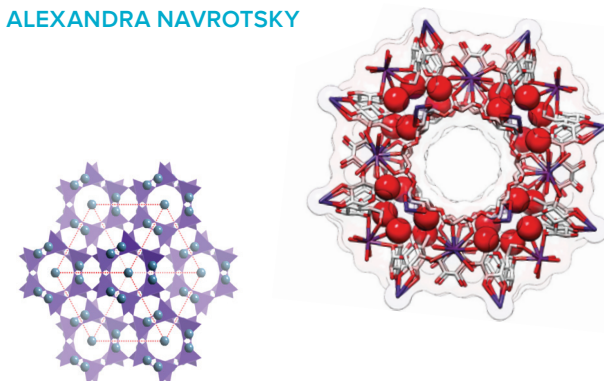
UC Davis: World Leader in Solid State Science

AS INTERIM DEAN of the Division of Mathematical and Physical Sciences in the College of Letters and Science, it gives me great pleasure to announce an amazing increase in our faculty in solid state science. This fall, we welcome three appointments in materials chemistry, four in experimental condensed matter physics, and one each in chemical engineering, and materials science and engineering. These wonderful new assistant professors add strength and diversity to our faculty and complement existing major efforts in solid state theory and experimentation in our departments across several colleges. Their research, fundamental in nature, has applications in fields including energy, electronics, environment and health. We welcome them and look forward to their and our future success.

— **ALEXANDRA NAVROTSKY**
Interim Dean, Mathematical and Physical Sciences
Interdisciplinary Professor of Ceramic, Earth, and
Environmental Materials Chemistry

“This is really a quantum leap in what we do in solid state science.”

— **ALEXANDRA NAVROTSKY**



Our expertise in solid state science attracts world-renowned researchers. Notably, in 2016 UC Davis hired nine young solid state scientists who show exceptional promise of significant future achievement.

Our new hires join more than 30 faculty who are recognized leaders in solid state science. They provide expertise in chemistry, physics, materials science, chemical engineering, biomaterials, ceramics and ceramic engineering, nanotechnology, mineralogy and metallurgy.

Other faculty engaged in solid state science:

EXPERIMENTAL

Ricardo Castro, Materials Science and Engineering
William Casey, Chemistry
Shirley Chiang, Physics
Nicholas Curro, Physics
Charles Fadley, Physics
Bruce Gates, Chemical Engineering
Ting Guo, Chemistry
Susan Kauzlarich, Chemistry
Sangtae Kim, Materials Science and Engineering
Kirill Kovnir, Chemistry
Denise Krol, Materials Science and Engineering
Gang-yu Liu, Chemistry
Kai Liu, Physics
Subhash Mahajan, Materials Science and Engineering
Alexandra Navrotsky, multiple departments and
Nanomaterials in the Environment, Agriculture and
Technology (NEAT) Organized Research Unit
Frank Osterloh, Chemistry
Atul Parikh, Materials Science and Engineering
Subhash Risbud, Materials Science and Engineering
Sabyasachi Sen, Materials Science and Engineering
Sarah Stewart, Earth and Planetary Sciences
Yayoi Takamura, Materials Science and Engineering
Klaus Van Benthem, Materials Science and Engineering

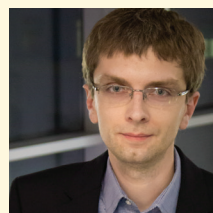
THEORETICAL

Daniel Cox, Physics
Davide Donadio, Chemistry
Roland Faller, Chemical Engineering
Ching-Yao Fong, Physics
Warren Pickett, Physics
Sergey Savrasov, Physics
Richard Scalettar, Physics
Rajiv Singh, Physics
Lee-ping Wang, Chemistry
Gergely Zimanyi, Physics

CONTACT

UC Davis Division of Mathematical and Physical Sciences
Phone: (530) 754-8918
Fax: (530) 752-7957
ls.ucdavis.edu/our-college/mps

NEW FACULTY



ALEXANDER DUDNIK (Chemistry)
Ph.D. Organic Chemistry
University of Illinois at Chicago, 2011
Dudnik merges organic and polymer chemistries and materials science to address current scientific challenges in sustainable energy, functional electronic materials and human health. His research

includes developing transition metal-catalyzed cross-coupling reactions for concise synthesis of conjugated polymers, synthesis of three-dimensionally conjugated covalent organic frameworks, and new catalytic approaches to controlled precision polymer synthesis.



MOHAMMAD HAMIDIAN (Physics)
Ph.D. Physics
Cornell University, 2011

An experimental condensed matter physicist, Hamidian's research centers on strongly correlated electronic quantum matter and visualization methods of electronic structure, broken symmetries,

topological order and quantum criticality. He performed the first direct visualization of heavy fermion formation and discovered an exotic phase of matter known as d-form factor density wave in the cuprate high temperature superconductors.



KRISTIE KOSKI (Chemistry)
Ph.D. Physical Chemistry
University of California, Berkeley, 2008

Koski is an interdisciplinary scientist with interests spanning physics, chemistry, and materials science and engineering. Her current research focuses on two-dimensional layered nanomaterials,

including developing new synthetic growth methods and novel chemical methods/techniques for electro-optical tailoring, optical property measurements, non-invasive measurements of biological materials, and direct applications.



COLEMAN KRONAWITTER
(Chemical Engineering)
Ph.D. Mechanical Engineering
University of California, Berkeley, 2012

Kronawitter's research emphasizes chemical and materials aspects of new energy technologies, with particular focus on understanding chemical

transformations driven by electrocatalytic and catalytic processes.



ROOPALI KUKREJA
(Materials Science and Engineering)
Ph.D. Materials Science and Engineering
Stanford University, 2014

Kukreja develops ultrasensitive tools to directly measure spin currents in magnetic materials, particularly the cuprate superconductors. She conducts X-ray

experiments that focus on magnetic properties of materials and participates in the fabrication of exotic materials used in these experiments.



EDUARDO DA SILVA NETO (Physics)
Ph.D. Physics
Princeton University, 2013

Da Silva Neto led a resonant X-ray scattering study that detected charge ordering in electron-doped cuprate superconductors for the first time, a surprising experimental finding. He now

heads a large collaborative effort to perform a comprehensive X-ray study of the charge density wave order in the electron-doped cuprates.



VALENTIN TAUFOUR (Physics)
Ph.D. Physics
CEA Grenoble, Joseph Fourier University, France, 2011

Taufour designs and studies new magnetic materials, including superconducting materials such as ferromagnetic uranium superconductors. He has expertise in

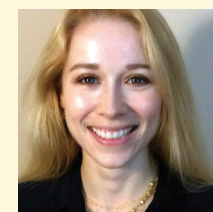
measurements at both low-temperature (30 mK) and high hydrostatic pressure (up to 10 GPa).



JESÚS VELÁZQUEZ (Chemistry)
Ph.D. Chemistry
State University of New York at Buffalo, 2012

Velázquez explores and designs well-defined dimensionally reduced materials, including monolayers, bilayers, nanocrystalline thin films and free-standing mesoporous monoliths. The target materials have immediate applications in

nanoelectronics, solar fuels and environmental remediation.



INNA VISHIK (Physics)
Ph.D. Applied Physics
Stanford University, 2013

Vishik is interested in both the basic science of quantum materials and applications of novel materials to renewable energy and next-generation electronics. Her studies include unconventional superconductors

and correlated electron systems with ultrafast optical pump-probe techniques.