

Physics

GRADUATE STUDIES AT UC MERCED

PROGRAM HIGHLIGHTS

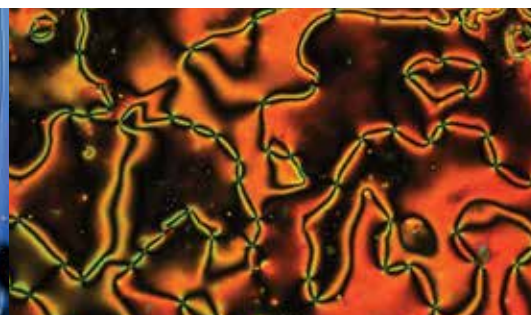
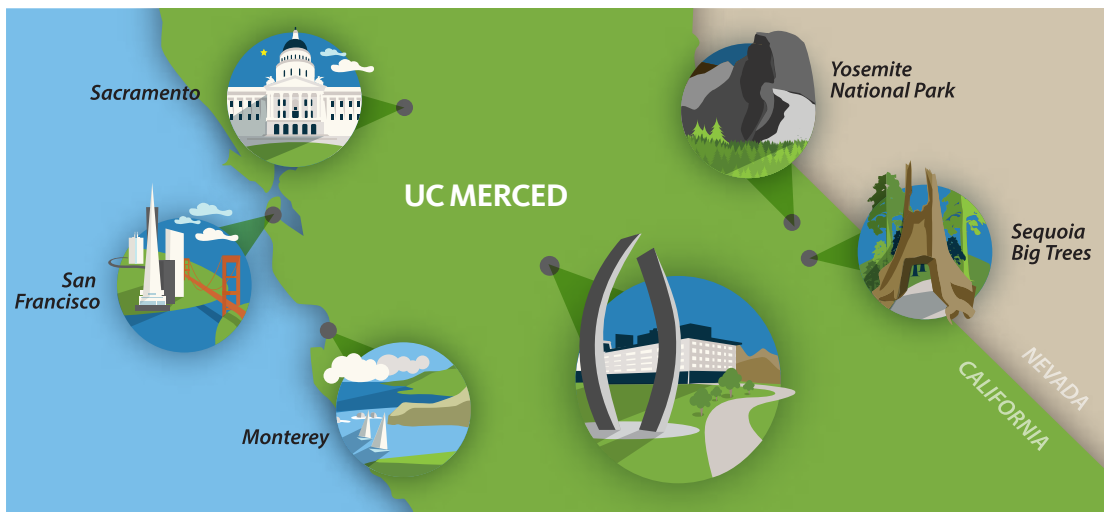
Our research program is strongly focused on interdisciplinary collaborations, which allows us to work in both established research areas such as condensed matter, atomic, molecular and optical (AMO), statistical physics and nanoscience, while pursuing emerging fields, including soft matter, metamaterials, quantum information, solar energy and biological physics.

The researchers in our group have access to major facilities, such as state-of-the-art laser systems, an electron microscopy facility, a nanofabrication facility and NMR on campus. Other large facilities, such as synchrotron light sources located at Stanford and Berkeley, are a short drive away and are routinely used by students and faculty members.

RESEARCH AREAS

UC Merced offers a unique academic atmosphere that fosters interdisciplinary research – connecting physical sciences research to life sciences, materials sciences and engineering. Our graduate students have the opportunity to pursue doctoral degrees while working on a broad range of research topics.

- ▶ Experimental condensed matter: nanoparticle-based metamaterials, strongly correlated systems, magneto-optical phenomena
- ▶ Theoretical condensed matter and atomic physics: superfluids, superconductivity, ultra-cold atoms, quantum optics, superconducting quantum computing, nanomechanics
- ▶ Experimental atomic, molecular and optical physics: photonic and electronic quantum information systems, ultrafast lasers
- ▶ Experimental biophysics and soft matter: single-molecule studies, ensembles of molecular motors, biomaterials, liquid crystals
- ▶ Theoretical biophysics and soft-matter physics: biopolymers, disordered proteins, motors, elasticity
- ▶ Theoretical statistical physics and nonlinear dynamics: non-equilibrium systems, swarming, chaos
- ▶ Thermodynamically efficient solar energy conversion: non-imaging optics, energy materials



FUNDING OPPORTUNITIES

All doctoral students in good standing are eligible for year-round financial support, including payment of fees and tuition. Teaching assistantships normally provide initial funding that can be supplemented by research money, fellowships or other forms of financial assistance.

In addition, travel fellowships and application fee waivers are available for qualified applicants.

TO APPLY

Apply online at graduatedivision.ucmerced.edu. Applications are due by Jan. 15, and early submission is encouraged.

FOR MORE INFORMATION, GO TO

physics.ucmerced.edu or contact the graduate group Chair Professor Linda Hirst at lhirst@ucmerced.edu.

UCMERCED

GRADUATE DIVISION
Physics



CHIH-CHUN CHIEN

Theoretical condensed matter, superfluids and superconductors, non-equilibrium physics of ultra-cold atoms, energy transport, novel hybrid quantum systems

e: cchien5@ucmerced.edu

w: sites.google.com/site/chienchihchun

RAYMOND CHIAO

Nonlinear and quantum optics, experiment and theory; detection of gravitational radiation

e: rchiao@ucmerced.edu

w: faculty1.ucmerced.edu/rchiao

SAYANTANI GHOSH

Experimental condensed matter physics, magnetism, metamaterials, nanoscience and quantum systems

e: sghosh@ucmerced.edu

w: faculty1.ucmerced.edu/sghosh

AJAY GOPINATHAN

Theoretical biophysics and soft condensed matter physics

e: agopinathan@ucmerced.edu

w: faculty1.ucmerced.edu/agopinathan

LINDA HIRST

Experimental soft condensed matter physics, biophysics, liquid crystals, nano-materials and colloids

e: lhirst@ucmerced.edu

w: faculty.ucmerced.edu/lhirst

DUSTIN KLECKNER

Experimental soft condensed matter, fluids and colloids

e: dkleckner@ucmerced.edu

w: faculty.ucmerced.edu/dkleckner

BIN LIU

Experimental soft condensed matter physics, biophysics, complex fluids, origami mechanics

e: bliu27@ucmerced.edu

w: binliulab.com

CARRIE MENKE

Physics education research and program assessment

e: cmenke@ucmerced.edu

w: faculty.ucmerced.edu/cmenke

KEVIN MITCHELL

Nonlinear dynamics and chaos, with applications to AMO (atomic, molecular and optical) physics and fluid dynamics

e: kmitchell@ucmerced.edu

w: faculty.ucmerced.edu/kmitchell

MICHAEL SCHEIBNER

Light-matter interactions, nanostructured materials, coupled quantum systems and quantum information

e: mscheibner@ucmerced.edu

w: faculty.ucmerced.edu/mscheibner

JAY SHARPING

Ultrafast laser technology and applications in physics, chemistry and biology

e: jsharping@ucmerced.edu

w: faculty.ucmerced.edu/jsharping

LIN TIAN

Theoretical quantum optics, quantum information processing and quantum simulation in condensed matter systems

e: ltian@ucmerced.edu

w: faculty.ucmerced.edu/ltian

ROLAND WINSTON

Solar power and renewable energy, elementary particle physics, nonimaging optics

e: rwinston@ucmerced.edu

w: ucsolar.org

JING XU

Experimental biophysics, quantitative biology, optical trapping, single-molecule ensemble experiments, molecular motors

e: jing.xu@ucmerced.edu

w: faculty.ucmerced.edu/jxu

