Overview
Merced nAnomaterials Center for Energy and Sensing (MACES) is a NASA-funded center for graduate research and training at the University of California, Merced, focusing on cross-disciplinary training for the future technology workforce. MACES brings together faculty research groups from different areas in science and engineering (including at our partner campus at University of California, Santa Cruz) to work with NASA on fundamentals and technology in nanomaterials for space exploration. MACES graduate students build laboratory and modeling skills in their research and are prepared for a variety of STEM careers on graduation. We invite applications from highly motivated students.

Benefits to Students
• MACES fellowships (around $27,000/year plus payment of fees and tuition) and research/travel funding
• NASA internships at research centers (Ames, Langley, Glenn, and Jet Propulsion Laboratory)
• Collaborations with NASA scientists and engineers
• Interdisciplinary cutting-edge research projects
• State-of-the-art research instrumentation
• Field trips and training events
• Mentoring by faculty and senior graduate students
• Multidisciplinary coursework
• Professional development workshops
• Outreach activities to public and local schools
• Networking opportunities with NASA and industry

How To Apply
You are encouraged to contact directly MACES faculty of interest. Apply through one of the affiliated graduate programs at UC Merced:
• physics: http://physics.ucmerced.edu
• chemistry and chemical biology: http://chemistry.ucmerced.edu
• mechanical engineering: http://me.ucmerced.edu
• applied mathematics: http://appliedmath.ucmerced.edu
• materials and biomaterials science & engineering: http://mbse.ucmerced.edu

General admissions information: http://graduatedivision.ucmerced.edu/admissions
Requirements: general GRE scores (might be waived for fall 2020), undergraduate GPA > 3.0, bachelors and/or masters degree in science or engineering, and TOEFL/IELTS for international applicants.

Merced nAnomaterials Center for Energy and Sensing (MACES). Contacts: web http://maces.ucmerced.edu, email maces@ucmerced.edu for more information.
MACES Center Director
Jennifer Lu | Materials Science and Engineering
Email: jennifer.lu@ucmerced.edu
Polymeric-enabled hierarchical platforms for green energy and soft robotics.

Roberto Andresen Eguiluz | Materials Science and Engineering
Email: randreseneguiluz@ucmerced.edu
Biomaterials, mechanotransduction, (bio)tribology, cell mechanics, force spectroscopy, surface science.

Mehmet Baykara | Mechanical Engineering
Email: mehmet.baykara@ucmerced.edu
Nanomechanics, nanotribology, scanning probe microscopy, surface science.

Ryan Baxter | Chemistry and Chemical Biology
Email: rbaxter@ucmerced.edu
Kinetic study of radical reactions to produce useful materials from simple precursors for green energy.

Sayantani Ghosh | Physics
Email: sghosh@ucmerced.edu
Nano-assembled smart materials, plasmonics, and hybrid photovoltaics.

Linda S. Hirst | Physics
Email: lhirst@ucmerced.edu
Liquid crystal materials, nanocomposites, and active matter.

Boaz Ilan | Applied Mathematics
Email: bilan@ucmerced.edu
Mathematical modeling of solar energy devices.

Min Hwan Lee | Mechanical Engineering
Email: mlee49@ucmerced.edu
Solid-state fuel cells and electrocatalysis.

Ashlie Martini | Mechanical Engineering
Email: amartini@ucmerced.edu
Tribology for light-weight, energy-efficient, and long-lasting mechanical components in space vehicles.

Son Nguyen | Chemistry and Chemical Biology
Email: son@ucmerced.edu
Nanomaterials for photocatalysis, spectroscopic and mechanistic studies.

James Palko | Mechanical Engineering
Email: jpalko@ucmerced.edu
Transport processes in materials for energy storage and thermal management applications.

Michael Scheibner | Physics
Email: mscheibner@ucmerced.edu
Quantum-enhanced sensing materials and technology, resource sustainability, extreme environments.

David Strubbe | Physics
Email: dstrubbe@ucmerced.edu
Ab initio calculation of optoelectronic and mechanical properties of 2D materials and photovoltaics.

Tao Ye | Chemistry and Chemical Biology
Email: tye2@ucmerced.edu
Biosensors, surfaces and interfaces for biomaterials, and scanning probe microscopy.

MACES Research Thrusts

Impact
The University of California, Merced is the 10th and newest campus of the UC system, the first American research university founded in the 21st century. MACES was created in 2015 to enhance research and education in the Central Valley, particularly for historically underrepresented groups, in collaboration with NASA, UC Santa Cruz, and other nearby institutions. Our graduate student fellows develop innovative functional nanomaterial technologies for aeronautical and space missions.