UNIVERSITY OF CALIFORNIA, IRVINE

THE DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

Is Proud to Host a Seminar by:

MIVERNA GROUP LEADER AND SCHMIDT SCIENCE FELLOW BERIT H. GOODGE

For Chemical Physics of Solids

Max Planck Institute in Dresden Germany

Thursday, May 18, 2023

2:00-3:20 PM

Location:

McDonnell Douglas Engineering Auditorium

Advancing Materials Discovery at Through Atomic-Scale Lattice and Electronic Insights

Abstract: A foundational goal of contemporary materials design is understanding how the interactions between atomic lattice, orbitals, charges, and spins drive their functional properties in order to more efficiently engineer new compounds with tunable behaviors. The superconducting nickelates are a premier example of how breakthroughs in materials synthesis and characterization techniques over the past decades have enabled the realization and discovery of new materials families. With the ability to directly probe both lattice and electronic structure down to the atomic scale, scanning transmission electron microscopy (STEM) and electron energy loss spectroscopy (EELS) offer unique insights to build a holistic understanding of both the intrinsic physical properties in these materials as well as extrinsic effects which arise from their multistep synthesis. Here I will illustrate how close collaboration between materials theory, growth, and characterization both advances our understanding of this emerging family of superconductors and informs new strategies for improved synthesis.

Bio: Berit H. Goodge is a Minerva Group Leader and Schmidt Science Fellow at the Max Planck Institute for Chemical Physics of Solids in Dresden, Germany. She earned her BA in physics from Carleton College and her MSc and PhD in Applied Physics from Cornell University, after which she was a Presidential Postdoctoral Fellow in chemistry and physics at the University of California Berkeley. She has been recognized as a Kavli Institute at Cornell for Nanoscale Science Webb Fellow, a Microscopy and Microanalysis Student Scholar, an American Physical Society Division of Materials Physics Ovshinky Student Awardee, and a Materials Research Society Graduate Student Silver Awardee.