



Spanning Fundamental and Applied Renewable Energy R&D

Materials, Chemical, and Computational Science (MCCS) group capabilities span from foundational scientific understanding and state-of-the-art computational modeling and simulation to industry-relevant applied R&D for renewable energy and energy efficiency.

Group Stats*



436
employees



>80
partnerships



79
postdocs



48
patents



341
peer-reviewed
journal articles



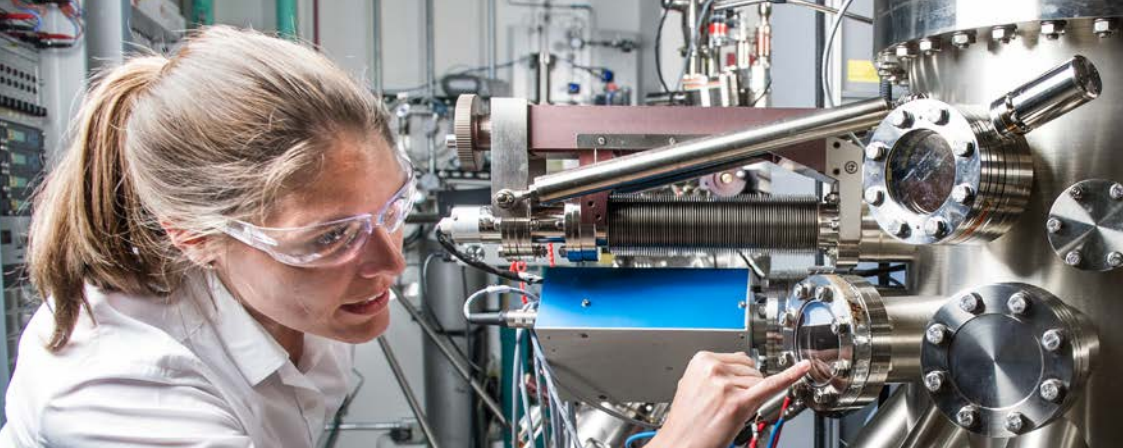
48
grad
students



15
journal
articles

*Data as of
Sep 30, 2023





"I love being at NREL because it allows me to **work on important scientific problems** alongside an entire lab of dedicated and talented people."

Kirstin Alberi
Center Director

Join our team and make an impact in these exciting research and development (R&D) areas.

Chemistry and Nanoscience

Investigate molecular and nano processes to convert renewable sources into chemical and electrical energy, develop high-efficiency crystalline PV, and measure PV cell/module performance.

Computational Science

Use advanced computing capabilities to address scientific and engineering challenges in fields ranging from condensed matter physics to nonlinear dynamics.

Materials Science

Provide fundamental and applied materials science discovery for various renewable energy technologies and advancing PV reliability.

Research Operations

Build and strengthen MCCC's R&D infrastructure to expand research impact.

National Center for Photovoltaics

Focus on technology innovations that drive industry growth in U.S. photovoltaic manufacturing through capabilities in PV research, development, deployment, and outreach.

Solar Program

Accelerate research in photovoltaics, concentrating solar power, solar grid and systems integration, and market acceleration.

Hydrogen & Fuel Cells Program

Develop, integrate, and demonstrate hydrogen production, delivery, and storage, and fuel cell technologies.

Basic Energy Sciences (BES)

Balance use-inspired and discovery R&D to provide underpinning knowledge and understanding for energy conversion and technologies.

Energy Storage

Develop transformative energy storage solutions requiring diverse technology solutions, driven by system-level needs.

Advanced Research Projects Agency-Energy (ARPA-E)

Advance innovative, early stage energy technologies focused on developing entirely new ways to generate, store, and use energy.

Advanced Scientific Computing Research (ASCR)

Use supercomputers to push innovation forward and study systems that would otherwise be impractical or impossible to investigate by traditional means.

Learn more about our work



nrel.gov/research/areas.html

Video: Learn about what it's like to be a postdoc



youtube.com/watch?v=dmE7-M723oo

Photos by Dennis Schroeder (front) NREL 40257; (back) NREL 39015