

Facilities

Students can synthesize, process, and characterize renewable energy materials, as well as perform non-destructive, in-situ microscopy under a range of extreme conditions. Computational investigations and diagnostic studies can also be explored.

1. Center for Solar and Electronic Materials
2. Class 1000 Clean Room & Process Lab
3. Colorado Fuel Cell Center
4. Electron Microscopy Laboratory
5. Golden Energy Computing Organization
6. Microintegrated Optics for Advanced Bioimaging and Control
7. Multifunctional Microscope for Characterization of Renewable Energy Materials
8. New Synthesis Laboratory
9. Nuclear Magnetic Resonance Laboratory
10. PECVD Cluster Tool
11. REMRSEC Characterization Laboratory
12. RF/DC Sputter Machine
13. Sun Constellation Cluster
14. Thermal Evaporator



2015 Award Recipients
Robert Johnson, Kira Ragazzo, and Jordan Hoyt

Application Process

To apply for this summer research opportunity, complete the application at

<http://remrsec.mines.edu/reu.htm>

Due to the competitive nature of this opportunity, the following guidelines have been established:

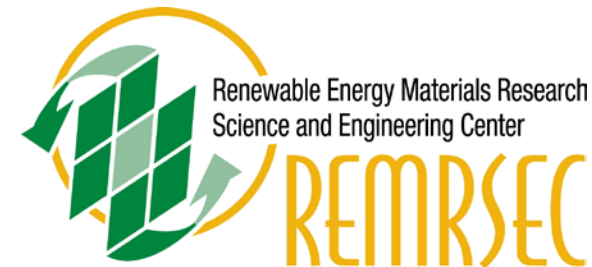
1. The Review Committee will only consider complete applications. Incomplete applications will not be considered under any circumstances.
2. A complete application consists of a student's
 - a. Online Portfolio
 - b. Academic Transcripts
 - c. Two Letters of Recommendation
3. Participants will be selected on a rolling basis. Thus, early applicants identified as strong candidates will be immediately matched to faculty mentors and research opportunities.
4. Applications may not be accepted or reviewed after January 31, 2016.



REMRSEC Award: DMR 1461275

Additional Information

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RENEWABLE ENERGY

Research Experiences for Undergraduates (REU)

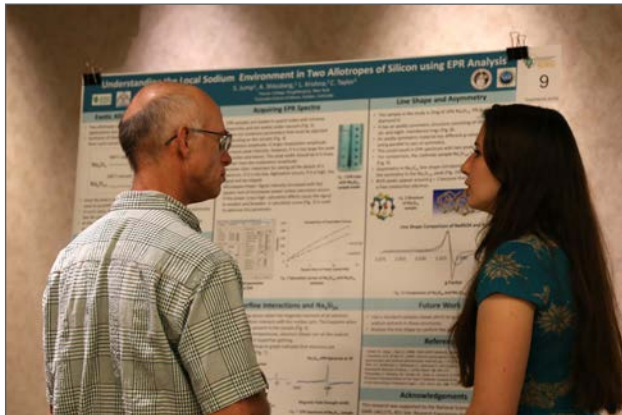
May 23, 2016 to July 29, 2016
(Arrive May 21 and Depart July 30)



Sponsored by the
National Science Foundation
and the
Colorado School of Mines
Golden, Colorado

Program Description

The REMRSEC REU program invites exceptional undergraduate math, science, and engineering students to participate in a ten-week summer research program addressing fundamental materials issues related to the science and technology of renewable energy. These highly interdisciplinary studies focus on multiple areas that are open to all materials science, engineering, physics, chemistry, mathematics, and computer science majors that will complete their undergraduate degree in December 2016 or later.



Stephanie Jump presents at 2015 Poster Session.

Program Goals

The goals of this REMRSEC REU program are to provide students an interactive, encouraging, and multi-level research experience that can be drawn upon when making decisions about advanced education and future careers in renewable energy, in addition to nurturing a greater sensitivity of our place and role in the world in which we live.

Selection

Selections are based on a student's academic standing, faculty recommendations, and a strong personal statement of interest. Due to the competitive nature of this REU, application materials will be carefully reviewed and ranked. A minimum overall Grade Point Average of 3.00 out of 4.00 is required. Students from underrepresented groups and institutions are strongly encouraged to apply.

Intellectual Merit

An interdisciplinary team of approximately 30 faculty from Colorado School of Mines, as well as staff from the Center for Oil Shale Technology and Research, the Colorado Energy Research Institute, and the National Renewable Energy Lab, mentor students.

Research projects address:

- Clathrates in Renewable Energy
- Hybrid Energy Systems for Oil Shale Production
- Microstructural Design of Composite Membranes for Energy Storage and Delivery
- Optimizing Computational Tools for Energy Science
- Performance of Next-Generation Photovoltaic Devices
- Social and Ethical Implications of Climate Change, Renewable Energy, Sustainability, and Education

Weekly technical seminars span:

- Catalysts in Fuel Cells
- Challenges and Opportunities with Biofuels
- Computational Energy Science
- Energy Storage Materials
- Photovoltaics

Professional development sessions cover:

- Being a Role Model, Finding a Mentor
- Careers in Renewable Energy
- Ethics & the Responsible Conduct of Research
- Graduate School & Fellowship Opportunities
- Learning, Teaching, & Working Across the Generations

"Snapshots" sessions allow students to:

- Enhance and improve public speaking and communication skills.
- Informally share research results in an open learning environment.

Broader Impacts

Students participate in research discussions, laboratory tours, social activities, and an end-of-summer joint poster session with other nearby REU students in the National Nanotechnology Infrastructure Network (NNIN) program at the University of Colorado in Boulder and the Science Undergraduate Laboratory Internship (SULI) program at the National Renewable Energy Laboratory in Golden.

Top 10 REU Features

1. Receive a **\$5000** stipend.
2. Perform cutting-edge research in **renewable energy** with a community of internationally recognized scientists and engineers.
3. Utilize our **travel funds** to present your summer research at upcoming national conferences.
4. Enjoy your journey ... **we pay up to \$600 of your roundtrip travel expenses** from your home institution to the Colorado School of Mines.
5. **Dormitory-style housing is provided for REU students** that is convenient to your research center, restaurants and shops in downtown Golden, large supermarkets and shopping malls, and public transportation.
6. **Develop** hands-on experience with energy storage systems, fuel cells, photovoltaic modules, and other renewable energy devices.
7. **Attend** scientific luncheons and seminars that address computational and experimental techniques used in materials science, research presentation skills, intellectual property rights & patents, and scientific report writing.
8. **Enjoy** organized recreational activities in the majestic Rocky Mountains.
9. **Learn** tips on selecting a graduate school, research advisor, and thesis topic while exploring careers in renewable energy.
10. **Tour** private companies and national labs actively involved in renewable energy and alternative energy technologies.



2015 REU Participants