2021 REU Program Announcement

The goal of this NSF REU Summer Program is to immerse U.S. scholars in a highly interdisciplinary and meaningful research environment in the field of engineered structures. Designing for safety embodies quantifying potential load conditions, monitoring for anomalies during operations, and digesting this information and translating them to actionable knowledge for improving current/future system designs. The Program is tentatively planned as an in-person experience. Sample research areas include:

- Cyber-modeling & digital surrogates
- Composite materials & testing
- Nanocomposite materials & sensors
- Risk assessment & decision-making
- Signal processing & analysis
- Structural design & optimization
- Structural health monitoring
- Topology optimization

Eligibility

- U.S. citizen or permanent resident
- Enrolled undergraduate student (transfer students are eligible)
- GPA 3.0 or higher
- Major in science, technology, engineering, or mathematics (STEM)

Summer Program Information

- Program Dates: June 20, 2021 to August 14, 2021
- Duration: 8 weeks
- Priority Application Deadline: January 15, 2021
- Funding: Stipend of $4,000 + travel, lodging, and meals
- Housing: Campus housing included and pre-arranged

To find out more and apply?
Visit: http://armor.eng.ucsd.edu/apply/reu

Contact Information:
REU Director: Prof. Ken Loh
Department of Structural Engineering, UC San Diego
E-mail: kenloh@ucsd.edu
About UC San Diego Structural Engineering

Students scholars in the 2021 REU Program at UC San Diego will conduct research in and be housed in the Department of Structural Engineering. The Department, and its faculty and students, conduct cutting edge research in aerospace, biological, civil, geotechnical, mechanical, and naval/marine structures by integrating engineering mechanics, computational modeling simulations, experimental testing, and practical design concepts.

REU Program Details

REU student scholars will work in pairs and be assigned - based on their interests – to work with a faculty mentor and graduate students in Structural Engineering. Students will also be immersed in a plethora of enrichment activities, such as:
- Research and laboratory training
- Research facility tours
- Graduate school preparation
- Technical and professional development seminars
- Social activities with other undergrads
- Faculty and graduate student lunches
- Summer Undergraduate Research Symposium

2021 REU Research Topics

Computational Emphasis:
- Structural failure prediction and forecast
- Machine learning and data-driven computing
- Topology optimization methods

Experimental Emphasis:
- Composite damage characterization
- Stimuli-responsive materials
- Post-wildfire mudflows