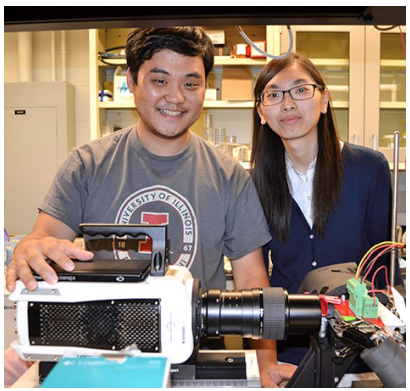
OVERVIEW

The Center for Power Optimization of Electro-Thermal Systems (POETS) offers a 10-week summer research program that provides undergraduate students with an opportunity to explore careers in research. The goal of POETS REU program is to encourage students to pursue graduate studies in engineering. Students gain an experience that will help strengthen their knowledge, skills and understanding of research methodologies as well as prepare for graduate school. The POETS REU program places students in researchs labs at one of its four universities: Howard University, Stanford University, University of Arkansas, and University of Illinois. While at a POETS institution, REU students work on a POETS research project under the guidance and mentorship of a faculty member and graduate student or post-doctoral mentor. In addition to research, students will participate in weekly research seminars and professional development workshops, engage in a variety of social and professional events and communicate their research progress at multiple venues including POETS' annual meeting in the Fall of 2021.

ELIGIBILITY

Undergraduates majoring in science, technology, engineering or mathematics (STEM) disciplines are welcome to apply to the POETS REU program. Students should have an average GPA of 3.0/4.0 or higher. U.S. citizenship or permanent residency is required. Students from underrepresented minority groups, women or veterans are strongly encouraged to apply.

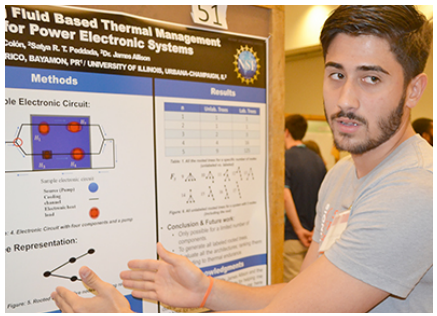


PROGRAM FEATURES

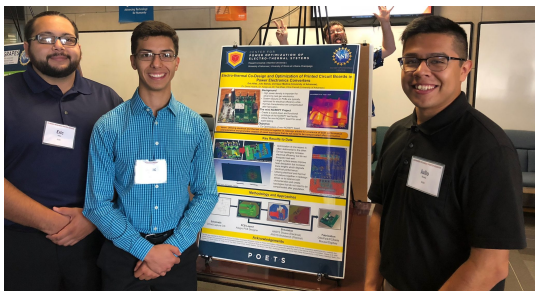
The POETS REU program is preparing for an in-person REU, in compliance with local safety precautions, with remote options if required. We intent to offer a wide variety of unique features to maximize students' summer experience:

- Authentic research with **f**aculty/peer mentoring
- Weekly research talks, professional development webinars, and several presentation opportunities
- $6000 stipend
- Airfare, ground transportation costs, on campus housing, and meal plans will be covered during the internship if in person experience.
- All expenses paid trip to POETS Annual Meeting in Fall 2022
- External conference travel allowance

WHAT ARE PAST PARTICIPANTS SAYING?



-"I really like the [Illinois] campus, the facility, and the POETS group has been great" - Ian Rivera-Colon, Interamerican University of Puerto Rico



" The entire experience over there was amazing! We are immensely interested in attending the University of Arkansas." - Julio Banda, San Antonio Community College

Applications are being accepted on a rolling basis

Final Application Deadline:

February 18th, 2022

LEARN MORE

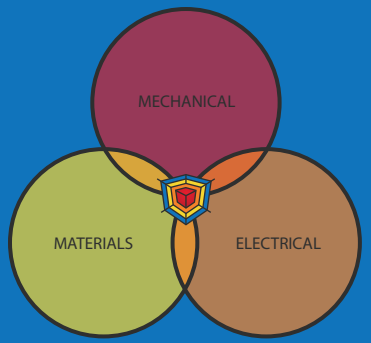
POETS-ERC.ORG/REU

POETS RESEARCH VISION AND IMPACT

For any mobile system, size and weight are primary considerations. Increasing performance of modern mobile systems frequently demands substantial increases in power density, but electrical power density is subject to thermal limits. Power density limits exist because of the fundamental mismatch between the ability of a system to generate heat in local electronics, and the capacity to dissipate that heat in a given local volume. An engineered systems approach can break these limits and intertwine electrical and thermal power flows at small scales.

The focus of the NSF Engineering Research Center on Power Optimization of Electro-Thermal Systems (POETS) is overcoming the challenge of increasing power density in mobile systems as they become ubiquitous in fulfilling societal needs.

The vision of POETS is to be the pre-eminent research and education organization driving the integrated, optimized, concurrent movement of thermal and electrical power in tightly constrained environments.



A SYSTEMS APPROACH

POETS ambitious, innovative approach involves integrating traditionally separate research efforts in mechanical, electrical and materials engineering.

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

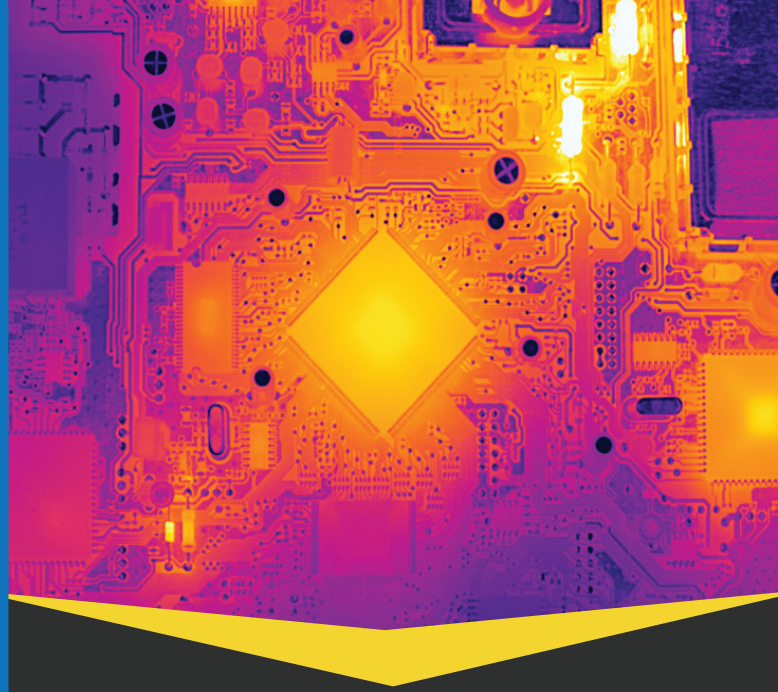
Stanford University

1867
HOWARD UNIVERSITY

UNIVERSITY OF ARKANSAS

POETS-ERC.ORG/REU

AN NSF SPONSORED CENTER



CENTER FOR
POWER OPTIMIZATION OF ELECTRO-THERMAL SYSTEMS

P/O/E/T/S

RESEARCH EXPERIENCE FOR UNDERGRADUATES