The Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT) is an NSF/DOE Engineering Research Center. Its research goal is to develop the tools and knowledge needed to adapt to the energy needs of the future, which include greater abilities to predict, monitor, convert, and control energy flows. The Research Experience for Undergraduates (REU) Program pairs participants with graduate mentors to work on one of the center’s projects. Below are some of the most recent projects.

### Past Summer Projects

- **HVDC Transmission Modeling**
- **Development of Real-time, fast-acting Grid Instability Estimator**
- **Apply Static VAR Compensators to Control Reactive Power**
- **Privacy Protection with Smart Meters**
- **Estimating power consumption and incentives need to change demand**
- **Load Identification by Monitoring Household Power Supply**
- **DC-DC Buck Converter Efficiency Analysis**
- **Frequency Analysis and Mapping to determine where to place fast acting energy storage devices**
- **Ultra-small DC-AC Inverter Testing**
- **Transmission Line Fault Modeling using Hardware-based Model**
- **Frequency Analysis and Mapping to determine where to place fast acting energy storage devices**
- **Ultra-small DC-AC Inverter Testing**
- **Transmission Line Fault Modeling using Hardware-based Model**

---

**Dates:** June 4th – July 27th, 2018  
**Length:** 8 Week Program  
**Salary:** $520 per Week  
**Travel Stipend:** Up to $500  
**Housing:** Provided at No Cost  
**Apply:** [http://curent.utk.edu/reu](http://curent.utk.edu/reu)

**Applicants should be:**  
- US Citizen or Permanent Resident  
- GPA of 3.0 or Greater  
- Sophomore, Junior or Non-graduating Senior  
- Computer Science, Engineering, Physics, and Related Majors

**Eligible Applicants must provide:**  
- Completed Online Application  
- Unofficial College Transcript  
- Two letters of recommendation  
- Personal Statement

**Contacts**

- **Anne Skutnik**  
  CURENT Summer Program Coordinator  
  University of Tennessee Campus Contact  
  askutnik@utk.edu

- **Elizabeth Herkenham**  
  Rensselaer Polytechnic Institute  
  [http://eng.rpi.edu/academics/educational-outreach](http://eng.rpi.edu/academics/educational-outreach)

- **Claire Duggan**  
  Northeastern University  
  [https://stem.neu.edu/summer/reu/](https://stem.neu.edu/summer/reu/)