Consortium for Integrating Energy Systems in Engineering and Science Education (CIESESE)

By

Dr. Eduardo I. Ortiz-Rivera (UPRM)
eduardo.ortiz7@upr.edu

CONSORTIUM PARTNERS

Universidad del Turabo/Puerto Rico Energy Center (PREC), Gurabo, PR (Lead)
University of Puerto Rico – Mayaguez, PR, University of Texas – El Paso, TX
Miami Dade College – Miami, FL, University of New Mexico – Albuquerque, NM
National Energy Technology Laboratory – Morgantown, WV, Sandia National Laboratory – Albuquerque, NM
Current US Energy Objectives (December 2016)

**Secure and Resilient**
- Energy systems should be secure from and resilient to natural disruptions as well as man-made attacks. Security must be addressed along the entire energy service value chain from supply (energy resources, materials, and technologies) to operations (distribution, storage, and end-use of fuels/electricity).

**Economically Competitive**
- Energy systems should provide energy services that are abundant, sustainable, and affordable—taking into account the full market impacts and life-cycle costs of the energy-service value chain.

**Environmentally Responsible**
- Clean energy systems should minimize air, water, and land pollutant emissions; GHG emissions; bio fuels impacts; and disruption of water and land resources.

Source: US DoE QTR, pp 19
The Consortium for Integrating Energy Systems in Engineering and Science Education (CIESESE) is a DoE sponsored project with the goal of increasing the pipeline of graduates ready to pursue a career in energy relevant fields (source: www.prec.pr).

Among the activities of the consortium is the participation of faculty and students, from Engineering and Physical Sciences, in Energy Systems Research in collaboration with National Laboratories.

The primary goals of the CIESESE Sponsored Research Program are the following:

1. Enable year-long research experiences in energy systems.
2. Enable summer research opportunities for undergraduate and graduate students.
3. Increase number of students performing research on energy systems related topics.
Members

CIESESE Lead Institution

CIESESE Sponsor Agency

TURABO
UNIVERSIDAD DEL TURABO
SISTEMA UNIVERSITARIO
ANA G. MÉNDEZ

The University of New Mexico
Meeting December 11-14, 2016 at SNL

Pictures at the SNL PV Laboratory, and the SNL Solar Platform Laboratory
Sponsorship at UPRM

Outreach Activities on Energy Systems
minds2create.ece.uprm.edu

Journal of Undergraduate Research
http://joustcontact.wixsite.com/joust-uprm

Lead by Dr. Eduardo I. Ortiz-Rivera, INEL

Lead by Dr. Mauricio Cabrera, ININ

Lead by Dr. Manuel Jimenez, ICOM
10-week Summer Research Internship
@ Sandia National Laboratories
a U.S. Department of Energy Laboratory

Search Job ID: 655770

Who: Undergraduate Students enrolled in Science, Math or Engineering
Universidad del Turabo
Miami Dade College
University of New Mexico
UPR - Mayaguez
The University of Texas at El Paso

From these Universities:

Where: Albuquerque, NM


<table>
<thead>
<tr>
<th>Benefits</th>
<th>Requirements</th>
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<tbody>
<tr>
<td>o Generous Stipend, airfare, lodging allowance</td>
<td>o GPA: 3.2/4.0</td>
</tr>
<tr>
<td>o Participate in state-of-the-art research projects</td>
<td>o U.S. Citizen – Ability to obtain a DOE security clearance,</td>
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<tr>
<td>o Mentoring</td>
<td>o Good oral and written communication skills</td>
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<tr>
<td>o Professional development seminars</td>
<td>o Ability to contribute in a team environment</td>
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<td></td>
<td>o General knowledge of Project Management</td>
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<td>o General knowledge and good</td>
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<td></td>
<td>understanding of a suite software, including</td>
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<td>MS Office</td>
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**10-week Summer Research Internship**  
@ Sandia National Laboratories  

a U.S. Department of Energy Laboratory


**Search Job ID:** 655772

<table>
<thead>
<tr>
<th>Who:</th>
<th>Graduate Students enrolled in Science, Math or Engineering</th>
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<tr>
<td>From these Universities:</td>
<td>Universidad del Turabo, Miami Dade College, University of New Mexico, UPR - Mayaguez, The University of Texas at El Paso</td>
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<td>Where:</td>
<td>Albuquerque, NM</td>
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</table>


**Benefits**
- Generous stipend, airfare, lodging allowance
- Participate in state-of-the-art research projects
- Mentoring
- Professional development seminars

**Requirements**
- GPA: 3.5/4.0
- U.S. Citizen – Ability to obtain a DOE security clearance.
- Good oral and written communication skills
- Ability to contribute in a team environment
- General knowledge of Project Management
- General knowledge and good understanding of a suite software, including MS Office
Undergraduates
(Bachelor/Associate)

10-week Summer Research Internship
@ National Energy Technology Laboratory
a U.S. Department of Energy Laboratory


Who:  Undergraduate Students enrolled in Science, Math or Engineering
Universidad del Turabo  Miami Dade College
From these Universities:  University of New Mexico  UPR - Mayaguez
The University of Texas at El Paso
Where:  Morgantown, West Virginia

Research Area:  Energy Systems – See https://www.netl.doe.gov/research

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After applying, send an email to Ms. Suhillie Rodriguez (srodriguez@suagm.edu) informing her that you have applied to NETL for summer 2017.
10-week Summer Research Internship
@ National Energy Technology Laboratory
a U.S. Department of Energy Laboratory


Who: Graduate Students enrolled in Science, Math or Engineering

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Where: Morgantown, West Virginia

Research Area: Energy Systems – See https://www.netl.doe.gov/research

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<tr>
<td>○ Generous Stipend, airfare, lodging</td>
<td>○ GPA: 3.2/4.0</td>
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<td>allowance</td>
<td>○ U.S. Citizen – Ability to obtain a DOE security clearance.</td>
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<td>○ Participate in state-of-the-art research</td>
<td>○ Good oral and written communication skills</td>
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<td>projects</td>
<td>○ Ability to contribute in a team environment</td>
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<tr>
<td>○ Mentoring</td>
<td>○ Completed 1st year of College, and taken chemistry.</td>
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<tr>
<td>○ Professional development seminars</td>
<td>○ Depending on project, academic knowledge of upper division courses may be required.</td>
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After applying, send an email to Ms. Suhelie Rodriguez (srodriguez@suagm.edu) informing her that you have applied to NETL for summer 2017.
10-week Summer Research Internship
@ UNM, UPR, UT, or UTEP

Apply by March 1, 2017: http://ciesese.prec.pr

Who: Undergraduate Students enrolled in Science or Engineering

Partnering Universities:
- Universidad del Turabo
- Miami Dade College
- University of New Mexico
- UPR – Mayaguez
- The University of Texas at El Paso
- UPR-M (Mayaguez, Puerto Rico)
- UTEP (El Paso, Texas)
- Except the student’s own institution.

Where: UT (Gurabo, Puerto Rico), UNM (Albuquerque, NM) UPR-M (Mayaguez, Puerto Rico), or UTEP (El Paso, Texas)


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<tr>
<td>$8,000 Stipend, airfare, lodging allowance</td>
<td>GPA: 3.0/4.0</td>
</tr>
<tr>
<td>Participate in state-of-the-art research projects</td>
<td>Science/Engineering majors completed at least sophomore year.</td>
</tr>
<tr>
<td>Mentoring</td>
<td>Completed 1-year of STEM courses with lab: Chem, Biol, Phys</td>
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<tr>
<td>Professional development seminars</td>
<td>Programming skills</td>
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<td>Knowledge of MS Office</td>
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<td>Research statement and letter of recommendation from a faculty</td>
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Graduates
(MS / PhD)

10-week Summer Research Internship
@ UNM, UPR, UT, or UTEP

Apply by March 1, 2017: http://ciesese.prec.pr

Who: Graduate Students enrolled in Science or Engineering

Partnering Universities:
- Universidad del Turabo
- Miami Dade College
- University of New Mexico
- UPR – Mayaguez
- The University of Texas at El Paso
- UTEP (El Paso, Texas)
- Except the student’s own institution.


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<td>GPA: 3.2/4.0</td>
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<tr>
<td>Participate in state-of-the-art research projects</td>
<td>Completed at least 1 semester of graduate school by summer 2017</td>
</tr>
<tr>
<td>Mentoring</td>
<td>Highly interested in Energy Systems research</td>
</tr>
<tr>
<td>Professional development seminars</td>
<td>Programming skills</td>
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<td>Literature research skills</td>
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The selected candidate will coordinate CIESESE’s related to STEM activities at UT and its partners, and conduct research in the area of energy systems; of particular interest are the areas of wind, bio fuels, solar, and fuel cells; and will work on research related activities, including writing proposals seeking external funds, write articles for conferences and journals, and serve as a liaison between engineering and natural sciences faculty in energy related research activities. The position will report to the PREC Director, and will work closely with CIESESE’s Principal and Co-Principal Investigators to plan, coordinate and oversee, the local annual and summer research program, participate in the development of workshops and courses in energy systems, and perform some administrative duties. Universidad del Turabo is seeking candidates with a PhD in Engineering, Physical Sciences, or other areas related to energy systems is desirable. Knowledge of Spanish is desirable. The salary is commensurate with qualifications and experience. Applicants should send a letter of interest, résumé and professional references to: campez@suagm.edu and complete our Electronic Employment Application by accessing our webpage https://jobs.suagm.edu. Review of applications will begin immediately and will continue until the position is filled.

PREC was initiated in 2006 as a priority effort of the Central-Eastern Technological Initiative (known as INTECO from its Spanish acronym) with the collaboration of the U.S. Department of Energy, as a contribution to create a stable energy future for the region and Puerto Rico. The Center is operated by Universidad del Turabo, with active participation of faculty members and researchers from different disciplines and universities.

Universidad del Turabo (UT), is a Hispanic-Serving Institution (HS), with more than 15,000 students. It was founded in 1972, and it is part of the Ana G. Mendez University System. UT offers degree at the undergraduate and graduate levels, including doctoral degrees. UT is accredited by the Middle States Commission on Higher Education and licensed by the Puerto Rico Education Council (CEPR).

EEO/AA Policy
Equal Opportunity, Affirmative Action Employer and Educator

The Puerto Rico Energy Center (PREC) at Universidad del Turabo invites applications for a Visiting Faculty to serve as Academic Coordinator and Researcher for the new Consortium for Integrating Energy Systems in Engineering and Science Education (CIESESE), funded by the U.S. Department of Energy. CIESESE has the goal of increasing the pipeline of graduates ready to pursue a career in energy systems. Energy systems refers to the infrastructure, technologies, and procedures to generate, store, and distribute energy for use by individual consumers and by the public and private/industrial sectors.

Please reference AcademicKeys.com in your cover letter when applying for or inquiring about this job announcement.
Benefits

- Selected faculty and participating students spend 10 weeks (Summer Term) at a DOE national laboratory engaged in a research project under the guidance of a laboratory scientist.

- Faculty members build collaborative relationships with DOE research scientists, become familiar with DOE sponsored research programs, scientific user facilities, and potential funding opportunities.

- Students participate in enrichment activities, including career professional development workshops (e.g., technical and scientific writing skills development, poster, or oral presentation activities, etc.), laboratory tours, scientific lectures and seminars.

- Host laboratories may provide laboratory tours, scientific lectures and seminars, workshops on accessing DOE scientific user facilities.

- Host laboratories provide all required site specific training.

Financial Support:

- Participating faculty receive a 10-week stipend of $13,000 during the internship period. Participating faculty are reimbursed for one round trip domestic travel to the host laboratory (if permanent address is more than 50 miles from the host laboratory). Transportation expenses will be reimbursed on the basis of the most direct route. Travel by a private automobile will be reimbursed at the current government rate up to a maximum of $500.00 or the cost of the lowest commercial airfare, whichever is lower. Travel by air will be reimbursed at the cost of the lowest commercial airfare. Housing information will be provided to visiting faculty prior to arrival at the host laboratory. In general, housing opportunities will vary from laboratory to laboratory. An allowance is available for visiting faculty placed at host laboratories that are unable to offer direct housing arrangements.

- Participating undergraduate students receive a stipend of $500 per week during the internship period. Participating undergraduate students are reimbursed for one round trip domestic travel to the host laboratory (if permanent address is more than 50 miles from the host laboratory). Transportation expenses will be reimbursed on the basis of the most direct route. Travel by a private automobile will be reimbursed at the current government rate up to a maximum of $600.00 or the cost of the lowest commercial airfare, whichever is lower. Travel by air will be reimbursed at the cost of the lowest commercial airfare. Housing information will be provided to interns prior to arrival at the host laboratory. In general, housing opportunities will vary from laboratory to laboratory. An allowance is available for interns placed at host laboratories that are unable to offer direct housing arrangements.

- Participating graduate students are expected to be supported by their home academic institutions consistent with their regular fellowship support.
The Puerto Rico Energy Center (PREC), the Ing. José Domingo Pérez School of Engineering, and the School of Natural Sciences and Technology at Universidad del Turabo, are pleased to invite you to the IX Puerto Rico Energy Center (PREC) Symposium to be held on October 20, 2017 in the Argentina Hills Amphitheater, located at the Universidad del Turabo main campus in Gurabo, Puerto Rico. This year the main topic of the symposium is Energy and Environment.

Prospective participants are invited to submit their work through the electronic form located at the symposium website on or before August 25, 2017. Authors whose works are accepted will be notified on September 22, 2017. Abstracts should be written in English in accordance with PREC required format and accepted subject to a peer review. Accepted abstracts will be published in the Symposium Proceedings. For more information please contact: symposium@prec.pr or visit www.prec.pr
Thanks!!

Dr. Eduardo I. Ortiz-Rivera,
UPRM’s CIESESE Coordinator

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Power Electronics Lab S-101

Main researcher and team leader of
Minds' CREATE Research Team