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**National Science Foundation (NSF)**

**Research Experiences for Undergraduates (REU) Site**

**Integrating Research in Sustainable Energy and the Environment across Disciplines (IR-SEED)**

**May 30, 2022 to August 5, 2022**

**Application Deadline: March 20, 2022**

**Highlights of the IR-SEED USF REU:**

* Ten-week summer undergraduate research program
* $5,000 stipends and up to $1,000 travel allowance
* On-campus housing and meal allowance provided
* Field trips, Invited speakers from industries, and weekly seminars about various research disciplines, technical writing, presentation skills, graduate school preparation, etc.
* Additional conference travel support to present research results

More information can be found at:

<https://www.tamuk.edu/engineering/institutes-research/ir-seed-reu/index.html>

or

<https://bit.ly/2m256AB>

***Please Print or Type. Complete all items, if not applicable then please write ‘NA’ in the space.***

**Full Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Mailing Address:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Date of Birth: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cell #**:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Email Address:\*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\*Please note: You will be notified by email if selected so please type or write legibly.**

Please check one:

\_\_\_\_I am a current student at TAMUK; K#: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Current Major \_\_\_\_\_\_\_\_\_\_Cumulative GPA\_\_\_\_\_\_\_\_\_\_\_

Are you a senior or junior student? Yes\_\_\_\_\_ No\_\_\_\_\_

\_\_\_\_I am a current student at another U.S. university/community college;

Current Major \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Cumulative GPA\_\_\_\_\_\_\_\_\_\_\_

Name of university/community college: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Are you a U.S. Citizen or permanent resident? Yes\_\_\_ No \_\_\_

If selected, will you commute\_\_\_\_, or stay in the dorm\_\_\_\_?

***Please provide the following demographic information as part of the application form.***

**Ethnicity:** □ Hispanic or Latino □ Not Hispanic or Latino

**Race: *(Choose one or more response)*** □ American Indian or Alaskan Native □ Asian

 □ Black or African American □ White

 □ Native Hawaiian or Other Pacific Islander

**Gender:**  □ Male □ Female

**Disability:** □ Hearing □ Visual □ Mobility/Orthopedic □ None

 □ Other \_\_\_\_\_\_\_\_\_\_\_

**How did you find this REU opportunity?**

□ From NSF website □ From TAMUK website □ From your friends or faculty

□ Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Educational Plans and Challenges**

Use the provided scale to indicate your level of agreement/disagreement with the statements.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Strongly Agree** | **Agree** | **Neither Agree or Disagree** | **Disagree** | **Strongly Disagree** |
| 1. **Participating in this research program would have an impact on whether or not I complete my degree.**
 | ⭘ | ⭘ | ⭘ | ⭘ | ⭘ |
| 1. **I am committed to completing my bachelor’s degree.**
 | ⭘ | ⭘ | ⭘ | ⭘ | ⭘ |
| 1. **Participating in this research program would have an impact on whether or not I attend a graduate school.**
 | ⭘ | ⭘ | ⭘ | ⭘ | ⭘ |
| 1. **I am interested in attending graduate school.**
 | ⭘ | ⭘ | ⭘ | ⭘ | ⭘ |
| 1. **This program may help determine whether to major or work in a science, technology, engineering, or math fields.**
 | ⭘ | ⭘ | ⭘ | ⭘ | ⭘ |

**Potential Research Projects**

Each project will host two REU participants to work as a team. Please choose the top FIVE research projects from the list below, using 1 for the best and 5 for the least. Detailed project description can be found at the IR-SEED website.

|  |  |
| --- | --- |
| **Potential Projects** | **Rank**  |
| 1. Assessment on the Use of Electric Vehicles to Reduce Renewable Energy Variability
 |  |
| 1. Improving the Solar Cell Efficiency through Surface Texturing
 |  |
| 1. Digital Twin for Power and Energy Systems
 |  |
| 1. Design and Optimization of a Self-Adjustable Wave Energy Converter
 |  |
| 1. Understanding the Climate Change Resilience of Earth’s Surface Water Storage Using Satellite Observations, Computer Simulations, and Geographical Information System
 |  |
| 1. Role of Soil Moisture and its Assimilation on Streamflow Forecasting using Hydrologic Modeling and Remote Sensing
 |  |

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 **\_\_\_\_\_\_\_\_**

**Signature of Applicant Date**

***All application packages must be completed and must be emailed, or faxed, or postmarked by March 20, 2022.***

**To be qualified, you must:**

***1) be a US citizen or permanent resident,***

***2) have 3.0 or above GPA,***

***3) be enrolled in a degree program at a community college or four-year university through August 2022, and***

***4) submit the following materials before the application deadline:***

***a) your completed application form (this form),***

***b) a current unofficial transcript,***

***c) at least two recommendation letters (signed letters can be sent by your referrer directly to Dr. Hua Li via email or be sent by yourself together with other documents)***

***d) resume, and***

***e) an one page research interest essay***

**EMAIL TO:**

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**MAIL TO:**

Dr. Hua Li

Mechanical and Industrial Engineering

Texas A&M University-Kingsville

700 University Blvd., MSC 191

Kingsville, TX  78363

**FAX TO:**

361-593-4026

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**TO BE COMPLETED BY OFFICE STAFF**

**Date Received: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**