Call for Tasks in 2020

The 30th WERC Environmental Design Contest will be held April 5 - 8, 2020 at New Mexico State University in Las Cruces, NM. Participating universities have found the Design Contest as a valuable contributor to ABET accreditation, where it often serves as the senior capstone project. Student participating in the contest design and demonstrate a complex engineering system in a multidisciplinary environment. The Design Contest is effective in energizing the students by engaging them in real-world scenarios that develop their ability to think critically and creatively, explore traditional and innovative solutions, improve business acumen, and gain insight into the broader impact of environmental challenges on society.

Topics of Interest:

Private industry and government agencies are invited to submit tasks that clearly define a current or emerging environmental challenges that need to be addressed through innovative and novel ideas (see https://engr.nmsu.edu/files/2017/07/Sample-Task.pdf to view a sample task.)

1) Industry Need

a. Removing contaminant (chemicals, heavy metals, radiation, dangerous pathogens, etc.) from air, soil, water and wastewater.

b. Using advanced technologies for environmental applications.

c. Integrating alternative energy resources into traditional technologies for environment.

d. Treating or remediating poisonous byproducts of manufacturing, farming, city septic systems, construction, laboratories, hospitals, etc.

e. Developing zero- net energy models.

f. Other (to be defined by sponsor.)

2) Public Health

a. Removing contaminant such as arsenic and nitrate from water.

b. Designing potable and non-potable water reuse system.

c. Removing emerging contaminants from wastewater.

d. Handling hazardous and medical waste

e. Other (to be defined by sponsor.)

3) IOT (Internet of Things) for Environmental Applications

a. Collecting data via remote sensing.

b. Monitoring large-scale areas remotely for radioactivity.

c. Other (to be defined by sponsor.)

4) Emerging innovations for sustainable land use

a. Treating soil or water in remote, isolated or alternative land use of previously remediated sites.

b. Developing alternative energy applications (clean energy).

c. Other (to be defined by sponsor.)

5) Food and Nutrition

a. Replenishing depleted natural resources.

b. Removing environmental contaminants and pollutants.

c. Overcoming hazardous environmental challenges caused by genetic engineering in food industry.

d. Other (to be defined by sponsor.)

Scope:

Proposed task must include the following:

1) Background on Environmental Concern
2) Bench Scale Demonstration
3) Design Considerations
4) Problem Statement
5) Evaluation Criteria

For more information, please contact Engineering New Mexico Resource Network at (575)646-2913 or email werc@nmsu.edu. Additional information can be found at https://iee.nmsu.edu.

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30th WERC ENVIRONMENTAL DESIGN CONTEST