



Request for Proposals Exploratory Research Projects

The Kuwait-MIT Center for Natural Resources and the Environment (CNRE) will sponsor collaborative exploratory research projects between MIT and research institutions in Kuwait. We invite interested Faculty members and researchers at MIT, and their collaborators in Kuwait, to submit full proposals.

Areas of interest:

- 1. Bioengineering, Environmental and Health Care Sciences and Technology**
 - a. Environmental health sciences, pollution modeling, marine life, public health assessment
 - b. Environmental bioengineering
 - c. Benign designs for hazard reduction and mitigation
 - d. Food science & technology aimed at health promotion
 - e. Cancer & diabetes research: genetics, stem cell, molecular biology
- 2. Big Data and Socio-Technical Systems**
 - a. Novel uses for energy and environment: climate, agriculture, oil and gas exploration
 - b. Solving complex transportation, mobility, logistics, congestions, and parking
 - c. Social and complex networks including for health care and financial systems
 - d. Cyber security and risk analysis of interaction between physical and cyber systems
- 3. Robotics Technologies**
 - a. Improve labor intensive processes and decrease reliance on manpower (*e.g.* maintenance of industrial structures)
 - b. Environmental sampling
- 4. Engineered Surfaces for Management of Dust and Corrosion in Structures**
 - a. Reducing the negative impact of dust storms: impact of mud rain and baked-on residue on the energy efficiency of solar panels
 - b. Coating for indoor energy efficiency; solar structures for cooling of buildings
- 5. Energy Grids**
 - a. Modeling and feasibility studies regarding the integration of intermittent renewable energy, and variable energy resources (wind, solar, tidal waves, geothermal, etc.)
 - b. Reliable, intelligent, and efficient operations of distributed energy grids with increased penetration of intermittent sources (*e.g.* assessment of energy storage needs)
 - c. Energy generation and storage technologies

Proposals outside these main areas will be considered, but will be evaluated with the same criteria.



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for Natural Resources and the Environment
at the Massachusetts Institute of Technology

Award Information:

Anticipated Funding Amount: Up to \$200,000 at MIT, \$80,000 in Kuwait per award

Duration of Award: Up to two years

Eligibility Information:

Organization Limit:

Each proposal must have a PI from MIT, and a Co-PI from an academic/research institution in Kuwait.

Collaborators from the industry in Kuwait can be considered on a case by case basis to meet the collaboration requirement. They may not qualify to receive any funding.

PI Limit:

Open to MIT faculty and research staff members and their counterparts in Kuwait with principal investigator privileges.

Each PI/Co-PI may submit more than one proposal in response to this solicitation. Multiple awards will not be granted to the same leading investigators at MIT or in Kuwait.

Review and Selection:

The review criteria will consider several factors including:

- Intellectual Merit
- Broader Impact
- Relevance to the research areas in this solicitation
- Relevance to Kuwait
- Adequacy of plan and timeline for carrying out collaborative research
- Adequacy of the requested budget for the proposed work

All proposals will be peer-reviewed by experts in the area. Selection and award decisions will be made by the Center Leadership.

Timeline:

- November 14, 2014: RFP issued & distributed
- January 28, 2015: Proposal deadline (5pm ET)
- April 1, 2015: Notice of Awards
- June 1, 2015: Effective Starting Date



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Application Preparation:

Identifying Collaborators:

Researchers from MIT and Kuwait are encouraged to contact each other directly. Most collaborators in Kuwait come from two institutions: *Kuwait University* and *Kuwait Institute for Scientific Research*.

Applicants may also contact the Executive Director of CNRE with their tentative project Abstract(s) for further circulation and/or posting it on the program webpage.

Templates:

Proposal templates must be used and are downloadable from the program webpage. The template includes: Cover Page, Table of Contents, Abstract, Project Description (5-pages), Equipment and Facilities, Budget per Institution, CV (2 pages per Investigator), Current and Pending funding from all investigators.

Budget Preparation:

- Travel: The collaborative team is encouraged to budget for mutual visits to coordinate progress.
- MIT team budget will be allocated from the base budget of CNRE. The award will be setup as a separate child account accessible by the MIT PI.
- Kuwait team budget will not be subawarded from the MIT award. Instead, it will be provided separately in Kuwait by the Kuwait Foundation for the Advancement of Sciences (KFAS).

Program webpage: <http://cnre.mit.edu/funding-programs/exploratory-research-program>

Application Submission:

Simultaneous Submission:

The MIT investigators should submit proposals through the Office of Sponsored Programs (OSP) to the Executive Director of CNRE. OSP requires at least five working days to review and approve submissions.

Investigators in Kuwait should simultaneously submit the identical proposal through their institutions to the Office of International Programs at the Kuwait Foundation for the Advancement of Sciences (KFAS). CNRE will receive them from KFAS.

- For Kuwait University (KU), submission is done through OVPR.
- For Kuwait Institute for Scientific Research (KISR), please check with your administrators.

Please note that the peer-review process for any proposal cannot be initiated before receiving successfully the proposal from all institutions requesting funding.

Technical Progress Reporting:

All initiated projects are expected to report their progress on a semi-annual basis up to the duration of the project, which is normally 2 years. The funding will be in increments, likely annual, released based on satisfactory performance that will emphasize plans for publications, joint publications, and IP. All



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progress reports are expected to be jointly written delineating the contributions made by each institution.

Contact info:

Proposal submissions and inquiries should be directed to

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About the Center:

The Kuwait-MIT Center for Natural Resources and the Environment (CNRE) was established at the Massachusetts Institute of Technology (MIT) in 2005 – sponsored by the Kuwait Foundation for the Advancement of Sciences (KFAS). The Center brings together faculty, students, visiting students and scientists to improve scientific and technical understanding of natural resources & the environment issues, and related challenges. The Center also fosters collaborative research between MIT and institutions in Kuwait through grant programs (<http://cnre.mit.edu>).

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