

Center for Renewable Energy and Energy Conservation (CREEC)

Supervisor: Dr. Tareq Abu Hamed

Interns in the Center for Renewable Energy and Energy Conservation are offered the opportunity to work on several current research and community projects. The number of projects an intern will work on will depend on the background and qualifications of the intern.

- **Energy policy and management**

Objective: Study the policy implications of energy supply and use from their economic, social, planning, security and environmental aspects.

Degree requirements: Social sciences.

- **Replacing oil: Alternative fuels and Technologies**

Objective: The objective is to study sustainable ways for the production of oil alternatives. Currently CREEC is working on biofuels and hydrogen as alternative to oil for transportation. Also, CREEC is working on the policy aspects of this field

Degree requirements: Social or Natural sciences degree.

- **Evaluation and testing photovoltaic panels in the Arava Region**

Objective: The objective of this project is to evaluate the efficiency of PV panels under the harsh climatic conditions of the Arava Region.

Degree requirements: a degree in Natural Sciences or engineering

- **Solar air heating**

Solar air heaters use an energy collecting surface to absorb the sun's thermal energy to heat air and recirculate it to a building. The **objective** of this project is to maximize the efficiency of the collectors and to test them under the Israeli climate.

Degree requirements: a degree in environmental studies, natural or engineering sciences.

- **Biogas production**

Objective: The objective of this project is to develop a low tech solution to organic waste disposal and methane gas production.

Degree requirements: a degree in social or natural sciences.

- **Water Desalination Powered by Hybrid Photovoltaic/Thermal Solar Systems**

Objective: The objective of this project is to undertake a systematic investigation of the transient operation of small-scale PV driven desalination plants with preheated

water and control strategies for transient energy supply with a focus on active temperature control.

Degree requirements: Natural or Engineering degrees.

- **Concentrated solar technologies for Water Desalination**

Degree requirements: a degree in natural science or engineering

- **Off-grid village**

Objective: to learn how to maintain the off-grid village components such as; the biogas systems, PV systems, hydroponics and many other systems related to water energy nexus

Degree requirements: All degrees.

Conditions of Internship:

- The Institute will provide living arrangements including food, housing, health insurance and laundry services at the AIES campus. The intern may be placed in a room with another intern or student.
- This is a self funded position covering room, board, and program participation. The cost is \$1500 per month.
- The Institute will reimburse the intern for all expenses incurred due to job requirements including the use of a personal cell phone and travel expenses.
- The intern must own a laptop and have a cell phone.
- The intern will be invited to attend special guest lectures and participate in field trips and campus life activities.
- An intern may be asked to help other interns, or to give assistance to other departments or staff .
- The intern will be expected to participate in general staff meetings and certain staff activities
- The intern may be asked to be a teaching assistant for one of the AIES courses.