



Center for renewable Energy and Energy Conservation (CREEC)

Full time, flexible start date.

The Intern will work under the supervision of Dr. Mahmoud Huleihil, director of CREEC.

A research intern can be involved in one of the following topics

1. Hydrogen production via water splitting thermochemical cycles.
In this study a metal will be used as a means to store and transport solar energy from a production site to motor vehicles, where it is used to generate hydrogen and heat. It eliminates the distribution, storage, and pumping of hydrogen at the refueling station, and diminishes the amount of hydrogen stored on the vehicle to a minimum.
2. Evaluation and testing of Photovoltaic panels in the Arava Region
The goal of this work is to evaluate the PV panels under the climatic conditions of the Arava Region.
3. Biomass gasification
This project proposes converting the unused agricultural waste into a valuable gas product that can be used to generate electricity or used as fuel for internal combustion engines.
4. Biogas production
The goal of this study is to develop a low tech solution to organic waste disposal and methane gas production in the unrecognized Bedouin villages of the Negev. This technology, which is already widespread in China, will give the Bedouin communities the capacity to protect themselves from the environmental hazards of untreated organic waste and provide a healthier solution to energy needs than the current diesel powered generators
5. Photovoltaic cooling
This project will study the passive convection cooling of the photovoltaic (PV) panels to increase the rate of heat transfer to greatly increase the convection rate and increase the cooling rate of the photovoltaic panels by channeling natural air flow under the photovoltaic panels

All the above topics require work in the laboratory of CREEC.

Interns will have the opportunity to use the following equipments and programs

1. Gas chromatography
2. Lab view
3. I-V Checker
4. Calibration systems
5. Gas flow and pressure sensors

At the end of the internship the interns will have the following skills

1. Design and building an experimental setup
2. Evaluation and analyzing experimental data
3. Literature review
4. Writing reports

Conditions of Internship:

1. 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 Institute intern or with an AIES student, living on the AIES campus.
2. This is a self funded position covering room, board, and program participation. The cost is \$1300 per month.
3. 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.
4. The intern must own a laptop and have a cell phone.
5. The intern will be allowed to attend special guest lectures and participate in field trips and campus life activities.
6. An intern may be asked to help other interns to give assistance to other departments or staff as part of the Arava Institute staff team.
7. The intern will be expected to participate in general staff meetings and certain staff activities
8. The intern will be required to participate in staff office maintenance rotation (toranut)