מכון הערבה
Arava Institute
معهد وادي عربة

Center for Renewable Energy and Energy Conservation (CREEC)

The intern will be under the supervision of Dr. Alex Gusarov, Director of CREEC and can be involved in one of the following topics:

Hydrogen Production via Water Splitting Thermo Chemical 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.

Evaluation and Testing Photovoltaic Panels at the Arava Region
The goal of this work is to evaluate the PV panels under the climatic conditions of the Arava Region.

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.

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.

Photovoltaic Cooling
This project will study the passive convection cooling of the photovoltaic (PV) panels in order to increase the rate of heat transfer; and to greatly increase the convection rate and cooling rate of the photovoltaic panels by channeling natural air flow under the photovoltaic panels.

All the above topics require work in the CREEC laboratory.

Interns will have the opportunity to use the following equipment and programs:

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

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Conditions of Internship:

- This is a self-funded position. A fee of $1,500 per month is required, which covers food (three meals a day), housing, health insurance, laundry services, and participation on semester field trips. The intern may be placed in a room with another Institute intern or with an Institute student, living on the campus.

- 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. International travel expenses to and from the Arava Institute are not included. The intern must own a laptop and have a cell phone.

- The intern will be allowed 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 as part of the Arava Institute staff team.

- 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.

- The intern will be required to participate in staff office maintenance rotation (toranut).