



Center for Renewable Energy and Energy Conservation (CREEC)

Supervisor: Dr. Alex Gusarov.

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

- **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.
- **Biomass gasification**
Objective: This project proposes converting unused agricultural waste into a valuable gas product that can be used to generate electricity or can be used as fuel for internal combustion engines.
- **Biogas production**
Objective: The objective of this project is to develop a low-tech solution to organic waste disposal and methane gas production in unrecognized Bedouin villages in the Negev. This technology (already widespread in China) will give Bedouin communities the capacity to protect themselves from environmental hazards caused by untreated organic waste and will provide a healthier solution to energy needs as opposed to the current use of diesel powered generators.
- **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.
- **CSP Water Desalination plant.**
Objective: The objective of this project is to study CSP technology application for brackish water desalination.

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

Conditions of the 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 at the Arava Institute campus, and participation on 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).