New Energy Technologies
Summer student recruitment 2018

The New Energy Technologies (NEW) group recruits undergraduate students for the summer 2018. The group’s research focuses on solar cells, fuel cells and future energy systems. Specific topics include dye-sensitized and perovskite solar cells, nano-composites for low-temperature solid oxide fuel cells, energy-sustainable communities, energy frugality, and technology diffusion.

The summer assignment leads to a bachelor’s thesis or to the completion of a special assignment.

Research themes in the NEW Group are:

Dye solar cells & perovskite solar cells
- materials and up-scaling of devices; stability and lifetime; modeling

Nano-composite low-temperature solid oxide fuel cells
- materials, devices, modeling

Energy-sustainable communities and energy frugality
- modeling

Available Summer Internship Positions in this call:

One summer job for a student for preparing a B.Sc. thesis on 3D printing of fuel cell materials (See description on next page)

For more information:


Contact person for the NEW group summer applications is Dos. Janne Halme (janne.halme@aalto.fi)

How to apply? Use the web form at the department webpages (note the deadline there). Mention in your application which research areas of the NEW group (solar cells, fuel cells, energy systems) you are interested in.
Summer job / Bachelor thesis position
Summer 2018

School / Department:
School of Science, Department of Applied Physics,
New Energy Technologies Group

Field of study:
Physics, New energy technologies, Chemical engineering, Physical chemistry

Topic:
3D printing for ceramic nanocomposite fuel cell fabrication

Short description: Ceramic nanocomposite fuel cell is an emerging renewable energy technology. The performance of this cell have reached over 1W/cm^2, which can be further improved to >2W/cm^2 with the help of 3D printing of the nanocomposite materials. During the thesis work, the student will install and operate the 3D printer for optimized printing of ceramic nanocomposite materials. The performance of the printed cells will be characterized with the electrochemical and microscopic methods.

Requirement: The applicant must be a bachelor student at Aalto university in the relevant field of study. Any prior experience of working with the printers and 3D drawing is an advantage, however, it is not mandatory. The applicant must be a motivated person to learn new techniques. The applicant should have good English language skills.

Professor in charge of topic: Professor Peter Lund

Contact person for further information on the topic: Docent Muhammad Imran Asghar, imran.asghar@aalto.fi