The ISU^{energy} 2014 highlights

ISU^{energy} 2014 will provide students with a solid foundation in renewable energies (especially photovoltaics, solar thermal and wind technologies), solar architecture and sustainable aspects. Well-known scientific researchers from leading universities and institutes will give lectures covering a wide range of topics on the principles of renewable energies.



Theoretical knowledge will be complemented with practical workshops (table experiments) in the first week and creative group projects (e. g. building a solar oven or installation of a LED lightening system) in the second week with special emphasis on hands-on experience. Overall *ISU*^{energy} 2014 will be two weeks of highly intensive training in the interdisciplinary areas of renewable energies.



Accommodation is arranged in fully-equipped cosy holiday flats with fellow students, which stimulates information transfer and networking among participants. Furthermore, the great location of Flims/Laax/Falera allows you to enjoy plenty of outdoor activities during your recreational time.



Partners

Helmholtz-Zentrum Berlin für Materialien und Energie (HZB) Institute for Heterogeneous Materials Systems, D-14109 Berlin

Freie Universität Berlin (FUB) Physics Department, D-14195 Berlin

DLR German Aerospace Center D-51147 Köln

Danks Tekniske Univeritet (DTU) DK-2800 Kgs. Lyngby

European Institute for Energy Research D-76131 Karlsruhe

Fachhochschule Frankfurt am Main (FH FFM) D-60318 Frankfurt am Main

HES-SO Ecole d'ingénieurs et d'architectes de Fribourg

Karlsruher Institut für Technologie D-76131 Karlsruhe

Princeton University Department of Electrical Engineering, Princeton, NJ-08544

Siemens Schweiz CH-8047 Zürich

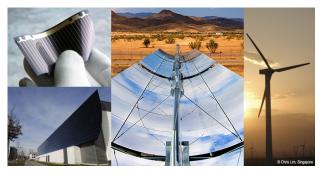
University of California, Berkeley Energy Institute at Haas, Berkeley, CA 94720-5180

Universität Stuttgart Institut für Thermodynamik und Wärmetechnik (ITW), D-70550 Stuttgart

Zürcher Hochschule für Angewandte Wissenschaften (zhaw) Institute of Energy Systems and Fluid-Engineering, CH-8400 Winterthur



International Summer University on Energy



Renewable Energies VI

Photovoltaics, Solar Thermal & Wind

24th August - 05th September 2014 in Falera, Switzerland

www.helmholtz-berlin.de/events/isu-energy



Participants of the ISU energy 2013



International Summer University on Energy:

Renewable Energies VI Photovoltaics, Solar Thermal & Wind

The International Summer University on Energy (*ISU^{energy} 2014*) invites you to participate in two unforgettable weeks to learn, experience and enjoy a series of seminars on renewable energy in the Swiss Alps. The school integrates different academic fields such as Economics, Material Engineering, Material Science, Physics, Political Science and Sociology.

Subjects of the school are:

 $\ensuremath{\cdot}$ Solar cells & materials, photovoltaic systems and applications

- Low and high temperature solar thermal
- Solar architecture
- Wind energy
- Electrical Safety and Storage
- Sustainability
- Smart Grids
- Rational Energy
- Economical aspects of renewable energies

When and where is the ISU^{energy} 2014?

ISU^{energy} 2014 takes place in Falera (near Chur, Flims/Laax), Switzerland. It starts on 24th August 2014 at 6 pm and continues until 5th September 2014. Departure is scheduled for 6th September 2014 in the morning. All seminar lessons and sessions will take place in the conference centre La Fermata in Falera.

Accommodation & Tuition

You will be accommodated in Falera in cosy holiday flats with fellow students. The flats are fully equipped with kitchen, shared bedrooms, and bathroom. The tuition fee includes the expenses for accommodation, lunch, as well as coffee breaks during the working week. Travel expenses, breakfast and dinner are not included.

	Master/Diploma students	Graduates
Application before 15th May 2014	380€	680€
Application after 15th May 2014	450 €	780€

Why should you apply?

- ISU^{energy} 2014 offers you excellent training in an international and interdisciplinary setting. It allows you to grasp issues and topics in a comprehensive way with distinguished, yet easily approachable instructors.
- *ISU^{energy} 2014* is a platform to gain knowledge and networks with scholars and students in the field of renewable energies.
- ISU^{energy} 2014 allows for a transfer of 3 ECTS points to your home university.
- ISU^{energy} 2014 offers recreational time to enjoy numerous fun outdoor activities in the gorgeous landscape of the Swiss Alps.

The school primarily addresses students at Master level or Diploma students (also young PhD students are welcome) who prove to have an outstanding performance. You should be highly motivated and interested in renewable energy systems. As the *ISU^{energy} 2014* is interdisciplinary, participants from different academic fields are encouraged to enrol.

Homepage & Contact

www.helmholtz-berlin.de/events/isu-energy

Academic Director

Prof. Dr. Martha Lux-Steiner Freie Universität Berlin, Helmholtz-Zentrum Berlin E-mail: lux-steiner@helmholtz-berlin.de

Organization

Dr. Iver Lauermann / Amina Grunewald Helmholtz-Zentrum Berlin Phone.: +49 (0)30 8062 - 42333, Fax: +49 (0)30 8062 - 43199, E-mail: isue@helmholtz-berlin.de

Tentative schedule

	So 24 Aug	Mo 25 Aug	Tu 26 Aug	We 27 Aug	Th 28 Aug	Fr 29 Aug
9:00 – 10:45		Introduction: Energy and Renewable Energy	Centralized Solar Thermal Systems	Wind Energy	De-centralized Solar Thermal Systems	PV Systems & Components
11:00 – 12:45		Fundamentals of Solar Radiation	Centralized Solar Thermal Systems	PV Systems & Components	Wind Energy	De-centralized Solar Thermal Systems
		Lunch	Lunch	Lunch	Lunch	Lunch
14:00 – 15:45		Fundamentals of PV				
16:00 – 17:45	Arrival till 18:00	free	Practical workshop	Practical workshop	Practical workshop	Practical workshop
		break	break	break	break	break
19:30 - 20:45	18:00: Welcome Address & Barbeque (Prof. Lux-Steiner)	Evening Lecture	Evening Lecture	Evening Lecture	Evening Lecture	Evening Lecture
	Sa/So 30Aug/31Aug	Mo 1 Sep	Tu 2 Sep	We 3 Sep	Th 4 Sep	Fr 5 Sep
9:00 - 10:45		PV Cells & Modules	Solar Architecture	Solar Architecture	Renewable Energy Storage	Renewables
11:00 – 12:45		Solar Architecture	PV Cells & Modules	Political, Social & Economic	Integration of RE into the System	Political, Social & Economic
		Lunch	Lunch	Lunch	Lunch	Lunch
14:00 – 15:45	free for outdoor activities	Group project	Group project	Excursion	Group project	Test
16:00 – 17:45						Presentation of group projects
		break	break		break	break
19:30 - 20:45		Evening Lecture	Evening Lecture	free	Evening Lecture	Farewell Party

Preliminary Program for ISUenergy 2014 (to be updated; modifications possible)