

ChE-606(2)

Highlights in Energy Research : Synthesis and design of materials for sustainable energy (2)

Queen Wendy Lee

Cursus	Sem.	Type
Chemistry and Chemical Engineering		Obl.

Language of teaching	English
Credits	1
Session	
Exam	Term paper
Workload	30h
Hours	14
Courses	14
Number of positions	

Frequency

Every 3 years

Remark

Every 3 years. Next time: Spring 2020

Summary

This seminar series will invite leading researchers from academia, industry, or government agencies to give insightful talks on state-of-the-art characterization techniques that are used to better understand the performance metrics of materials that are aimed at achieving a sustainable energy landsc

Content

Highlights in Energy Research is a series of seminars that will take place at EPFL Valais Wallis in Sion weekly on Thursday from 4:00 to 5:00 pm. The aim of these events is to have presentations of the most important scientific achievements from all over the world in the aforementioned areas. There will be at least 7 seminars per semester from outside researchers, and when possible, additional presentations showing the most recent progress of the Professors and Scientists from EPFL will be included.

This will be highly beneficial for the PhD students in EPFL Valais Wallis, as the speakers will help the students broaden their professional horizons in various cutting-edge research topics. Furthermore, the students will have the opportunity to meet with the invited speakers; the aim is to encourage students to discuss their own research and also to promote fruitful discussions between the two. The invited scientists, will have expertise in areas including but not limited to:

- Infrared Spectroscopy,
- Raman Spectroscopy,
- UV/Vis Spectroscopy,
- Florescence Spectroscopy,
- Nuclear Magnetic Resonance,
- X-ray Scattering and Diffraction,
- Neutron Scattering and Diffraction,
- Electron Microscopy,
- Mass Spectrometry,
- Physical and Analytical Electrochemistry techniques,
- Scanning Probe Microscopy,
- Computational tools used to predict materials properties.

The speakers will be invited to come at EPFL Valais Wallis in Sion each semester to give their talks. The speakers will visit labs in the morning and afternoon for individual discussions with students, postdocs, and/or faculty. The speaker will also be treated to lunch with students. In the afternoon, each speaker will give a 45-minute presentation, followed by a 15-minute question session, and then dinner. The invited speakers and talk titles will be announced at the beginning of each semester on the website.

Each student must attend the seminar series. Each semester, there will be at least 7 hours of lecture from outside speakers and up to 14 hours of practical work per semester to obtain 1 ECTs credit. At the end of the semester, the students are required to deliver a report of the seminars summarizing the most important topics, with references, and

give a critical assessment of what they learned. This must be turned in within two weeks of the semester end to receive credit.

Keywords

Energy research, seminar series, materials chemistry and design, synthesis, and characterization.

Learning Outcomes

By the end of the course, the student must be able to:

- Present Topics learned
- Implement own work in global context

Resources**Websites**

- https://www.epfl.ch/schools/sb/research/isic/news-events/highlights_in_energy_research/