

postage

Empa
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Switzerland

■ General Information

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Location	Empa, CH-3602 Thun Feuerwerkerstrasse 39
Date	March, 15–16, 2010
Costs	750 CHF. The fee will cover the course material, coffee breaks, simple lunch on both days, and the dinner.
Registration	The registration will be confirmed upon reception. You will receive the bill and the participant ID latest one week before the course.
Registration deadline	February 13, 2010
Annulation Conditions	If the registration is cancelled up to minimum 10 days before the course date, cancellation fee of 30 CHF will be charged. For later cancellations, the full course fee will be charged. A replacement candidate will be accepted at any time.



Access from all directions:
Take motorway exit «Thun-Süd»,
Follow signs in the direction of Thun via
- Weststrasse,
- Burgstrasse,
- General-Wille-Strasse,
- At the roundabout go straight
across to the barrier
- Follow signs when inside the site
Parking spaces available

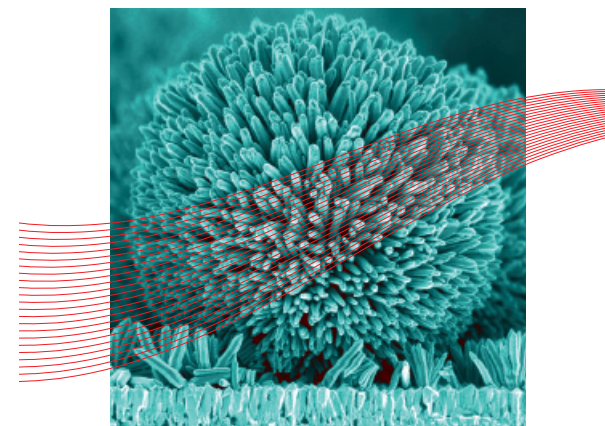
From Thun railway station:
Bus STI, Line 4, (every 15 minutes)
Direction Linderfeld till
«Waldeck» bus stop



Zentrum für Wissenstransfer



Workshop on Modern Electro- chemical Methods in Materials Science



Empa, CH-3602 Thun
Feuerwerkerstrasse 39

March, 15–16, 2010
09.15–17.00

Registration online at
www.empa.ch/electrochem

■ Modern Electrochemical Methods in Materials Science

The Swiss Federal Laboratories for Materials Testing and Research in Thun (Empa), in collaboration with Metrohm Autolab B.V. (Netherlands) is planning an intensive two-day course with practical examples and laboratory sessions on the application of modern electrochemical methods to the processing and characterization of materials. The course will be held at Empa, Thun, Switzerland.

■ Registration

The objective of the course is to give the participants an introduction to the electro-chemical methods used in the characterization of materials for corrosion, energy storage systems (batteries, fuel cells, super capacitors), electro-plating and micro-machining.

The course will consist of lectures on the principles of electrochemistry (by Prof. emeritus H. Siegenthaler, UniBern) in order to elaborate a basic understanding of electrochemical processes, an introduction to modern electrochemical DC and AC techniques and examples of electrochemical technology such as electroplating and corrosion technology.

Laboratory sessions will be a very important part of the course. In these sessions the participants will learn to study real world problems with modern electrochemical techniques, such as voltametry and electrochemical impedance spectroscopy, using state of the art equipment. The participants will be given the opportunity to use some of these methods at the Empa laboratory.

The course is targeted at people in the academy or industry who are interested in electrochemistry and electrochemical applications, but that do not have a formal training in electrochemical engineering. An outline of the course is attached.

■ Language

The course will mainly be held in English. The laboratory sessions will be hosted by German/French speaking personnel.

■ Cost

A fee of 750 CHF will be charged. The fee will cover the course material, coffee breaks, lunch on both days, and the dinner. For foreign participants, accommodation can be suggested.

■ Program

March 15, 2009

- Basic aspects of electrochemistry**
- 09.15 Principles of electrochemistry
Prof. emeritus H. Siegenthaler, UniBern
- 11.00 Coffee Break
- 11.30 Basics of DC electrochemical techniques and instrumentation for materials characterization
Dr I. Fromondi, Dr L. Philippe
- 12.30 Lunch Break
- Experimental work with DC electrochemistry**
- 14.00 Setting up experiments
–17.00 Doing simple DC experiments
Interpretation of experimental data
Discussion of practical problems
Dr I. Fromondi, Dr L. Philippe
Dr. M. Bechelany, Dr. J. Elias, Ing. M. Guinard
- 19.00 Dinner (details come)

March 16, 2009

- Advanced topics**
- 08.15 Basics of AC electrochemical techniques
Dr I. Fromondi
- 09.15 Coffee Break
- 09.45 Macro and microelectrochemical methods in corrosion science
Dr P. Schmutz
- 10.45 Applications of Electrochemical Impedance Spectroscopy (EIS) to materials characterization
Dr I. Fromondi
- 12.00 Lunch Break
- Experimental work with AC electrochemistry**
- 14.00 Setting up an EIS experiment
–16.30 Doing EIS experiment on a) Dummy cell
b) Electrochemical cell;
Interpretation of experimental data
Discussion of practical problems
Dr I. Fromondi, Dr L. Philippe
Dr. M. Bechelany, Dr. J. Elias, Ing. M. Guinard
- 16.30 Round table discussion, questions

Registration Form

Workshop on

Modern Electrochemical Methods in Materials Science

March 15–16, 2010, 09.15 – 17.00

Feuerwerkerstrasse 39, CH-3602 Thun, Switzerland

Registration deadline: February 13, 2010

An invoice for the registration fee will be sent to you as soon as we get the signed registration form. The course will be limited to about 25 participants.

Registration: Online at www.empa.ch/electrochem or with the registration form

Ms Mr Prof. Dr. Student

Name _____

First Name _____

Affiliation _____

Address _____

Phone _____

Fax _____

E-Mail _____

Date _____

Signature _____