

Wednesday, April 14th : **Theory**

- 09:00 **Welcome**
- 09:30 **Voltage, Current, And Time**
Mathematical and physicochemical basics of EIS
- 10:30 *Coffee Break*
- 11:00 **The Connection Between Structure, Processes, And Impedance Of Electrochemical Objects**
- The Contributions Of Electrochemical Processes I:**
Discrete and Distributive Impedance Models
- 12:30 *Lunch*
- 14:00 **The Contributions Of Electrochemical Processes II:**
Models for Processes with Mass Transport
- 14:30 **Theoretical Aspects For Testing Impedance Data**
Basics of the Kramers-Kronig- and the Z-Hit algorithms
- 15:00 **Photo-Electrochemical Techniques:**
Dynamic and Spectral Measurements on DSSC, OSC, OLED, and Electrochromic Devices
- 15:30 *Coffee Break*
- 16:00 **Electro-technical Aspects Of the Impedance Spectroscopy**
Background Information from the Technical Point of View
- 17:30 *Guided tour through the historical rooms of Kloster Banz*
- 19:00 *Dinner*

Thursday, April 15th : **Practical Courses**

Practical Courses (rotating through the courses in groups)

- Course 1: **EIS-Measurements and Data Processing Applied on a Fuel Cell Model** (Dr. Norbert Wagner)
- Course 2: **From Measurements to Physical Parameters - Interpretation and Modelling of Electrochemical Impedance Spectra on the Example of a Battery Model** (Prof. Dr. Rüdiger Kaus)
- Course 3: **Coating & Laminate Testing by Means of Combined AC & DC Methods** (Dr. Jochen Hollaender)
- Course 4: **Understanding Alternative Solar Cell Concepts – The Application of Intensity Modulated Photo Spectroscopy in Combination with EIS** (Carl-Albrecht Schiller)
- Course 5: **Appearance and Reality in Impedance Spectroscopy - Detection and Prevention of Artefacts in Impedance Measurements** (Dr. Werner Strunz)
- Course 6: **Combination and Automation of Electrochemical Techniques and Measurement Data Analysis with Script** (Dr. Burkhard Röseler)
- Course 7: **Extending the Scope of Electrochemical Experiments - Remote Control and the Implementation of Virtual Instruments** (Dr. Michael Multerer)

09:00 **Organizing groups**

09:15 **Changing course**

10:00 **Changing course**

10:45 *Coffee Break*

11:05 **Changing course**

11:50 **Changing course**

12:35 *Lunch*

14:15 **Changing course**

15:00 **Changing course**

15:45 *Coffee Break*

16:05 **Changing course**

19:00 *Dinner*

20:30 *Live-Music with Hearts of Gold : Oldies & Goodies - Unplugged*

Friday, April 16th : Lectures

- 09:00 **Impedance Spectra of Lithium Ion Cells: Influence of Temperature, Stage of Charge and Ageing**
Dr. Hans-Georg Schweiger, Continental AG, Division Powertrain, Berlin
- 09:30 **Lacquer Performance and Corrosion Activity**
Dr. Jochen Hollaender, Fraunhofer IVV, Freising
- 10:00 **Spectroscopic Methods in Solar Cell Research**
C. A. Schiller, Zahner-elektrik, Kronach
- 10:30 *Coffee Break*
- 11:00 **Application of Electrochemical Impedance Spectroscopy for Fuel Cell Characterization**
Dr. Norbert Wagner, DLR, Stuttgart
- 11:30 **Nano Carbon Electrodes**
Prof. Norbert Nicoloso, Magnum Fuel Cell AG, Darmstadt & Univ. Kassel
- 12:00 *Lunch*
- 13:30 **Individual discussions**
- 15:00 *Coffee Break*
- 15:30 **End**

Kronach Impedance Days 2010

April 14th – 16th, 2010

Management

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Seminar Location

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