

GRADUATE SCHOOL EES



EIS Workshop

Goal

Aim of the workshop is to give an introduction into electrochemical impedance spectroscopy (EIS):

- Gain fundamental understanding of EIS
- Understand the physical origins of impedance (as opposed to resistance)
- Use electric components to describe electrochemical processes (equivalent circuits)
- Learn good-practice for analysis and presentation of electrochemical impedance spectra
- Raise awareness of the complexity of impedance spectroscopy in electrochemistry and battery research in particular.
- Increase knowledge about the potential and the restrictions of the method

We will spare you as much math as possible for this lecture series and provide you with qualitative knowledge.

Schedule

	Time	Session	Contents
May 24	09:00 – 12:00	Lecture 1	General Aspects of EIS Electrochemical Basics for EIS Basics of Electronic Circuit Components Impedance spectra of Electrical Circuits
	12:00 – 13:00	Lunch break	
	13:00 – 15:00	Practice group 1	Hands-on Training EIS on Biologic instruments
	15:00 – 17:00	Practice group 2	Simulating your Experimental Data
	17:00 – 18:00	Lecture 2	Conductivity Measurements
May 25	09:00 – 12:00	Lecture 3	Electrochemical Circuit Components EIS for Batteries
	12:00 – 13:00	Lunch break	
	13:00 – 15:00	Practice group 3	Hands-on Training EIS on Biologic instruments
	15:00 – 17:00	Practice group 4	Simulating your Experimental Data
	17:00 – 18:00	Lecture 4	Introduction to EIS data evaluation

Place

Ulm University, Lise-Meitner-Straße 16

There may be a video broadcast of the lectures and an additional practice group at KIT, if there is sufficient interest for that.

Workshop Instructor

Dr. Fabian Jeschull, KIT, IAM-EES

Registration

The four practice groups for the hands-on training are planned for max. 5 members each.

Participants of this EIS workshop can gain 0,5 CP for “Scientific Training” in the GS-EES qualification program.

<https://www.celest.de/en/graduate-school-and-research-training-group/graduate-school/registration>