



Institute of Electrotechnology

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Leibniz  
Universität  
Hannover

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## **MEP 2025 - UIE Intensive Course for PhD Students on *Design Optimization and Identification Methods for Induction Heating***

**Hannover, September 10 - 15, 2025**

**Institute of Electrotechnology (ETP), Leibniz Universität Hannover**

### **Introduction**

The aim of the course is to bring together up to 15 PhD students from European Universities and PhD students from the host institution to take part at intensive course on “**Design Optimization and Identification Methods for Induction Heating**” and to work together in theoretical and experimental work as well as in mathematical methods and numerical simulation. The students will participate in lectures, discuss their own scientific topics and existing problems under the guidance of well-experienced supervisors, in order to take profit for their research studies.

The 5-days programme of the Intensive Course for PhD students gives the general guidelines, whereas the participants themselves could also develop the details of the contents. As a result of this process, the created working groups have to carry out small projects and to present the received results finally.

The project-oriented teaching and learning is the basic idea of this kind of intensive course, where the PhD students are in the centre of the activities. Not only passive listening but also active participation in the work is expected.

### **About the Host Institution**

The research and development activities of the Institute of Electrotechnology are focused on the electromagnetic processing of materials in particular induction heating and melting processes. The description, calculation and optimisation of non-linear electrothermal systems are in the centre of the activities. Many of the projects are performed in close cooperation

with industrial partners and other research institutes. The activities reach from application oriented pure research to industrial development projects.

The existing technical equipment includes experimental installations, laboratories and high-performance computer systems.

## **Useful Further Information**

### **Participation Fee**

The participation fee is 390,- EUR and includes course materials, coffee breaks, lunches and evening events (as described in the PhD course program) and the full participation to 10th International Scientific Colloquium Modelling for Electromagnetic Processing (MEP 2025) Hannover (Germany), September 15-17, 2025 which will be held directly after the PhD course.

### **Contact Address**

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### **Deadline for Application**

**June 30, 2025**

## **Course Programme**

### **Wednesday, 10.09.25**

17:00 - 20:00 Registration and Welcome Get Together at ETP

### **Thursday, 11.09.25**

09:00 - 09:15 Opening, Welcome and Introduction to the Course Programme  
(Prof. E. Baake)

09:15 - 10:00 Presentation of the Institute of Electrotechnology (ETP) (Prof. E. Baake)

10:00 - 12:00 Short presentation of their research topics by the PhD students  
(10 minutes each)

12:00 - 14:00 Lunch at the Mensa of LUH

14:00 - 15:00 Lecture about the topics and working program during the course

15:00 - 15:30 Coffee break

15:30 - 17:00 Tour around the laboratories of ETP

17:00 Barbecue in the yard in front of ETP

### **Friday, 12.09.25**

09:00 - 09:15 Forming of 2 working groups

09:15 - 12:30 Experimental group work in the laboratory

12:30 - 14:30 Lunch at the Mensa of LUH

14:30 - 18:00 Group work in numerical simulation

Coffee break in between

### **Saturday, 13.09.25**

09:00 - 13:00 Continuation of the project work and preparation of the results for  
presenting

Coffee break in between

Afternoon free time

**Sunday, 14.09.25** Free time

### **Monday, 15.09.25**

09:00 - 12:00 Finalizing the project work and presentations of the results

12:00 - 13:00 Final discussion and closing remarks

## **End of the MEP 2025 - UIE Intensive Course for PhD Students**

17:00 - 21:00 Registration and Welcome Reception at MEP 2025