Bath Electrochemistry Winter School 2025

Intensive Hands-on Training and Lectures

6th January – 10 th January 2025

A five-day intensive course in collaboration with Metrohm Electrochemistry

Click here for further details and booking information

About the Course

Electrochemical techniques have evolved rapidly in recent years, with computer-controlled instrumentation now readily accepted. Applications of electrochemistry can now be found in a range of areas e.g. sensing, online-monitoring, surface science, material investigation, energy storage, electrosynthesis, bioelectrochemistry and photo-voltaics. It is therefore hardly surprising that the end-user, faced with a bewildering array of different techniques and applications, can often be confused about the applicability and merits of different methods.

The objective of this course is to remove the mystery from practical electrochemistry with the help of a balanced programme of lectures and emphasis on hands-on experiments. The tutors have many years of experience running short courses of this type, and the course has been designed to be suitable for scientists who wish to use electro-chemical methods in a broader context than just academic research.

Strong emphasis is placed on small group teaching in the laboratory. The direct link between lectures and experiments enables participants to relate the basic concepts of electrochemistry to real systems. Working in small groups, each supervised by a qualified demonstrator, participants learn to use state-of-the-art electrochemical instrumentation and to interpret the results that they obtain. Lecture notes and details of the experiments are provided.

Lectures

- Overview of electrochemistry
- Introduction to electrode processes
- Electrode kinetics
- Mass transport
- Electrochemical impedance
- Mechanisms of electrode reactions
- Spectroelectrochemistry
- Electroanalytical methods
- Biosensor technology
- Design of experiments

Hands-on Experiments

- Getting to know the equipment
- Cyclic voltammetry
- Chronoamperometry
- Rotating disc /ultramicroelectrodes
- Electroanalytical techniques
- Electrochemical impedance
- In situ spectroelectrochemistry
- Sensor electrochemistry
- Electrodeposition processes
- Electrocatalysis at nanoparticles

The Course Team

Professor Petra Cameron,University of Bath
Dr Sara E.C. Dale, University of Bath
Professor David Fermin, University of Bristol
Professor Toby Jenkins, University of Bath
Professor Frank Marken, University of Bath
Dr Adam Squires, Univerity of Bath

Guest Lecturer:
TBA

Course Fees

The £1375 registration fee for the five-day intensive course includes the course handbook, daily lunches, tea/coffee and the course dinner at a restaurant in the centre of historical Bath.

Please note that accommodation is not included in the course fee.

Early registration is advised since the number of places is restricted in order to guarantee that all participants have full access to special equipment.

Accommodation

Further information about hotels and guesthouses in Bath will be sent to participants on receipt of completed registration forms.

For further information about accommodation see
www.visitbath.co.uk
www.universityrooms.com

Further Information

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Register online here

Find out more about Metrohm:
https://www.metrohm.com/en_gb/products/electrochemistry.html