



ibidi Practical Course

Electric Cell Substrate Impedance Sensing (ECIS)

Topics:

The ECIS method represents a non-invasive approach to monitoring living cells *in vitro*. With this system, cells are grown on small, gold film electrodes. As cells attach and spread on these electrodes, their insulating membranes block and constrain the current flow. The ECIS system will then measure the resulting variations in the electrode impedance. The method has been used to perform various cellular assays, for example cell attachment, cell migration and wound healing, signal transduction, cell behavior under flow, measurement of metastatic potential, measurement and modeling of endothelial cell barrier function, and toxicological screening.

Target Group:

This course is intended for current users who want a more in-depth knowledge of ECIS methods and beginners who have just started to work with ECIS, including those who have inherited a machine and need extra support.

Schedule Day 1

Start time at 10:00 am

Welcome and Introduction

- Talk 1: ECIS Basics
- Hands-On, Part 1: **Setting up the Instrument, Filling Arrays with Media, and the Various Methods of Cleaning Electrodes**

Lunch

- Hands-On, Part 2: **Seeding Cells in Different Arrays, in Different Densities, and on Different Substrates**
- Talk 2: ECIS Applications

Summary of Day 1 (around 5:00 pm)

Schedule Day 2

Start time at 9:30 am

- Hands-On, Part 3: **Analyzing the Overnight Measurement and Wound Healing Assay**
- Talk 3: **Using the Software to Create Publishable Data**

Lunch

- Hands-On, Part 4: **Specialties, Flow, Barrier Function, Modeling ECIS Data, and then Q&A with Free Discussion Time**

Participation is free of charge.

The number of participants is limited to 6. For registrations and further questions please contact us at info@ibidi.de.

Please bring your own laptop – ideally with the ECIS software installed.