

Monday, February 19th, 2018, 2:30 PM – 4:00 PM, Room

PART TWO:

Paving the way for in depth Pore-, Ion Channel- and Electrogenic Transporter Analysis

Andrea Brüggemann, Niels Fertig, Maria Barthmes
Nanon Technologies

Gerhard Baaken, Ekaterina Zaitseva
lonera

In our second workshop we focus on devices for bilayer recordings, patch clamp and electrogenic transporter assays including live demonstrations.

The SURFE²R product family enables label-free real time measurement of electrogenic transporter protein activity. Employing SSM (solid supported membrane)-based electrophysiology, the SURFE²R instruments compensate for the low turnover rate of these proteins by measurement of up to 10⁹ transporters in parallel. This method has proven its value: High quality data on about 100 SLC- and MFS- transporters as well as ATPases and ligand gated ion channels has been published. The flexible single channel instrument, SURFE²R N1 is ideally suited for basic research, whereas the SURFE²R 96SE is able to measure 96 sensors in a fully parallel mode enabling larger screening studies on substrates, inhibitors or modulators.

The Port-a-Patch is the world's smallest patch clamp rig for high quality, giga-ohm seal patch clamp recordings in voltage and current clamp modes. Versatile add-ons, such as internal perfusion, allow unprecedented experimental freedom, above and beyond the possibilities of conventional patch clamp.

The Orbit product family supports parallel lipid bilayer recordings of reconstituted ion channels for four artificial lipid bilayers (Orbit mini) or 16 lipid bilayers (Orbit 16) simultaneously. Using Micro Electrode Cavity Array (MECA, lonera) recording substrates, the bilayers are automatically formed by remotely actuated painting (lonera- SPREAD), which will be demonstrated during this session.