



Workshop

Nano- and microelectrochemical tools in battery research

Virtual workshop

Login data will be sent to registered participants

Since lithium ion batteries (LIBs) are complex multi-component systems with many processes occurring simultaneously, battery scientists (electrochemists, material scientists and battery developers) rely on advanced characterisation techniques for acquiring in-depth understanding of battery processes. Even more, in battery mega-factories the initial formation of the solid-electrolyte interphase has to be monitored to evaluate the quality of a battery cell at a very early stage and techniques have to be invented and developed to provide robust tools for their application in industry.

Advanced characterisation techniques have hence already been applied for generating averaging values over large surface areas of battery electrodes. Scanning probe microscopy techniques have developed into powerful techniques for the study of interfacial electrochemical processes with high lateral resolution.

NanoBat aims at implementing a variety of localized measurement techniques for LIBs application and hence it is about time for a workshop in this area. The workshop comprises four lectures addressing a research field ranging from scanning electrochemical microscopy (SECM) to scanning microwave microscopy extremely fast impedance spectroscopy.

If you are interested, register for the workshop on the [NanoBat website](#).



Friday, November 27, 2020		
13:00 – 16:30		
Time	Topic	Speaker
13:00-13:15	Introduction	Ferry Kienberger (Keysight Technologies) & Wolfgang Schuhmann (Ruhr Universität Bochum)
13:15-13:50	Why Nano-Electrochemistry is beneficial for Battery Research	Edgar Ventosa (Universidad de Burgos)
13:50-14:25	Invited talk: Development of interphase at battery electrodes observed by scanning electrochemical microscopy	Prof. Gunther Wittstock (Universität Oldenburg)
14:25-14:35	Break	
14:35-15:00	Scanning microwave microscopy and its applications for Battery Electrodes	Georg Gramse (Johannes Kepler Universität Linz)
15:00-15:25	Electrochemical impedance spectroscopy: from Nanoscale science to Battery Gigafactory applications	Ferry Kienberger (Keysight Technologies)
15:25-16:00	Breakout sessions in respective speakers' rooms (Zoom rooms)	
16:00-16:30	General discussion, outlook and goodbye	Ferry Kienberger (Keysight Technologies) & Wolfgang Schuhmann (Ruhr Universität Bochum)
End of Workshop		

Inscription to the Workshop is free of charge.

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