CELEST
CENTER FOR ELECTROCHEMICAL ENERGY STORAGE | ULM & KARLSRUHE

CELEST Member Short Profile

Timo Jacob

Timo Jacob is director of the Institute of Electrochemistry at Ulm University as well as head of an experimental and a theoretical research group at the Holmholtz-Institute-Ulm (HIU). He studied physics at the University of Kassel (Oct. 1995 – Oct. 1999), where he also finished his PhD in theoretical physics (Feb. 2002). Afterwards, he performed a postdoctoral stay at the California Institute of Technology (2002 – 2004). In 2004 he became leader of the electrochemistry group at the Fritz-Haber Institute of the Max-Planck-Society. After finishing his habilitation degree at the Free University Berlin in Nov. 2008, he became an independent group leader at Ulm University in 2008, where he finally became head of the Institute of Electrochemistry in 2011. His research focuses on fundamental electrochemistry, whereby combining theory and experiment he aims at revealing the structure of and the processes occurring at electrode/electrolyte interfaces. Today, his research group at Ulm includes around 60 scientists at different levels of education.

ELECTROCHEMISTRY ULM

Institute of Electrochemistry
Ulm University
Albert-Einstein-Allee 47
89081 Ulm

Contact details
Prof. Dr. Timo Jacob
+49 731 50 25401
nawi.ec@uni-ulm.de

Research areas
His research focuses on fundamental electrochemistry, whereby combining theory and experiment the aim is to reveal the structure of and the processes occurring at electrode/electrolyte interfaces, related to electrocatalysis, batteries, plasma-electrochemistry, photo-electrochemistry up to bioelectrochemistry. This includes the development of advanced multi-scale modeling approaches as well as *in-situ* and *operando* electrochemical techniques.
Lab equipment (at Ulm University)
Analytics: *in-situ* AFM, EC-STM, ATR-FTIR, EC-Raman, Auger, FIB-SEM, envSEM, electrochemical atom probe tomography (EC-APT), photoelectrochemical analytics, etc. **Electrochemical Characterization:** various techniques, including CV, EIS, microelectrodes, RRDE, etc. **Synthesis and Material preparation:** Single crystal preparation lab, inductive heating, various synthesis facilities **Simulation and Modeling:** Multi-scale modeling approaches, including *GW*+BSE, DFT, fully relativistic methods, classical and reactive forcefields, GCMC, GCMD, kMC, continuum methods, etc.

Timo Jacob @ IEC	Link IEC	Link lab equipment
https://www.uni-ulm.de/iec	https://www.uni-ulm.de/iec	https://www.uni-ulm.de/iec