

Korea-EU Horizon Europe Researchers Networking Forum on Energy & Advanced Mobility

• **André Weber**

• **Group Leads
FCE & LiB**

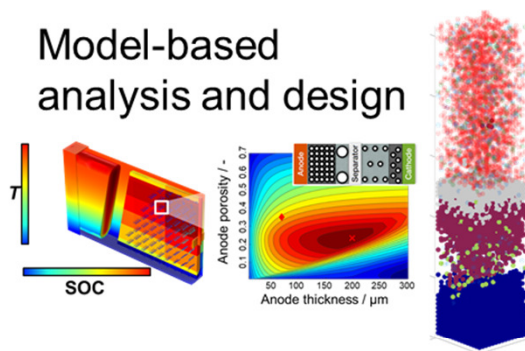
• **Karlsruhe Institute of
Technology (KIT)
Institute for Applied Materials
Electrochemical Technologies (IAM—ET)**

• **Electrochemical Energy
Storage and Conversion**

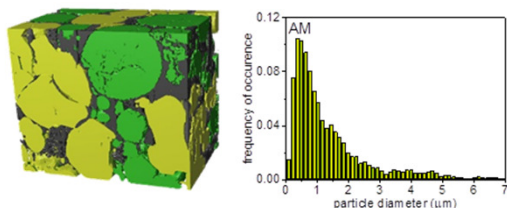


1. Short Introduction of IAM-ET

Model-based
analysis and design

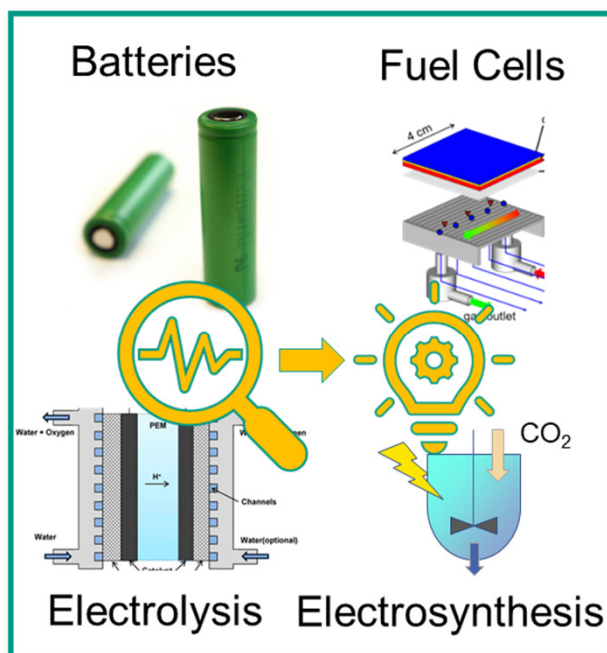


Microstructure analysis



Batteries

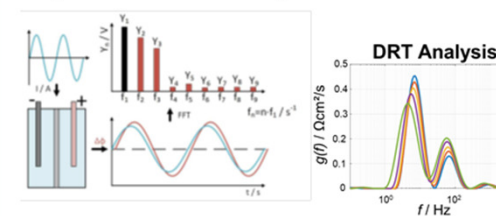
Fuel Cells



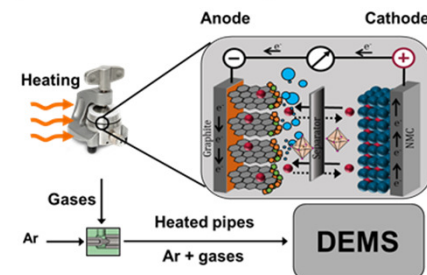
Electrolysis

Electrosynthesis

Dynamic analysis



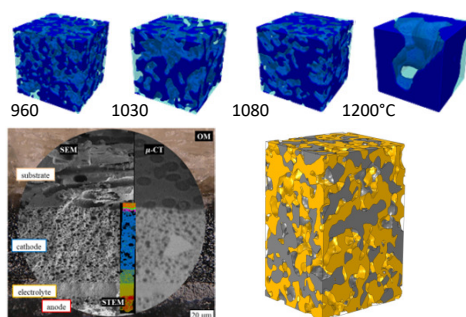
Operando analysis



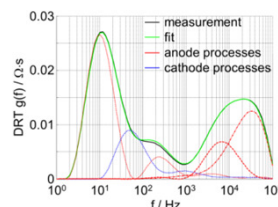
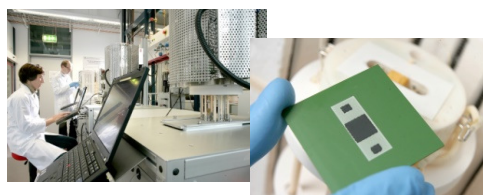
2. Expertise

Electrochemical and microstructural characterization and modelling
High (SOC) and Low Temperature (PEM) Fuel Cells and Electrolyzers
Impedance Spectroscopy based Modeling
3D Microstructure Analysis (FIB-SEM and μ CT)

tomography (FIB-SEM, μ CT)



dynamic characterization

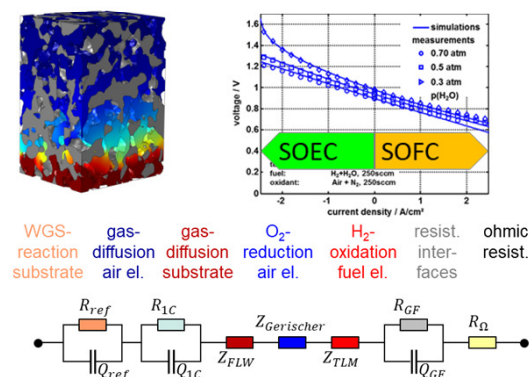


DRT analysis

$$Z(j\omega) = R_{pol} \int_0^{\infty} \frac{\gamma(\tau)}{1 + j\omega\tau} d\tau$$

- deconvolution of losses

modeling and simulation





3. Your Project Idea

Targeted call: flexible, Electrochemical Energy Storage (LiB, ASSB) and Conversion (SOC, PEM) related Calls

Main objectives: experimental and modeling based optimization of fuel cells, electrolyzers or batteries

Idea briefly explained: Consortium with different Korean and European partners along the value chain



4. Profile You are Seeking and Why

**Research Organizations and Companies developing
Materials / Electrocatalysts / Electrodes / Cells (SOC, PEM and others) /
Systems**

**Establish a joint Horizon Europe Project in the field of Electrochemical Energy
Conversion**

Consortium: KIST Europe, KGS, ... / FZJ, DLR, ...



5. Contact Details

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