



## 7. GÖCh-Symposium

### Physikalische Chemie und Elektrochemie in Österreich

Wien

28.09. und 29.09.2023

**Location:**

TU WIEN  
Getreidemarkt 9, 1060 Wien  
Gebäude BA – GM5 Praktikumshörsaal  
Pausen: Gebäude BC – 1<sup>st</sup> Floor Korridor

**Date**

Start: 28.09.2023, 12:00 Uhr  
Ende: 29.09.2023, 13:00 Uhr

**Organisationskomitee:**

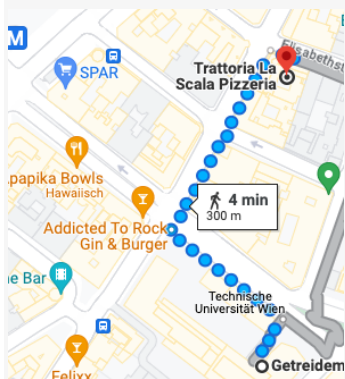
Günther Rupprechter  
Hinrich Grothe  
Günter Grampp  
i.A.d. GÖCH-Arbeitsgruppe  
Physikalische Chemie und Elektrochemie  
Kontakt: [hinrich.grothe@tuwien.ac.at](mailto:hinrich.grothe@tuwien.ac.at)

## 28th September 2023

12:00 to 13:00	Registration & Beverages
13:00 to 13:10	Opening and Welcome Addresses Walter Schneider (GÖCh) Günter Grampp, Hinrich Grothe and Günther Rupprechter
13:10 to 13:30	Searching the needle in the haystack: Which organics drive the phase transition of atmospheric aerosols? Dominik Stolzenburg, TU Wien
13:30 to 13:50	High-speed cryo-microscopy proves that ice-nucleating proteins of <i>Pseudomonas syringae</i> trigger freezing at hydrophobic interfaces Paul Bieber, University of British Columbia, Canada
13:50 to 14:10	Detection of nanoplastics using interferometric scattering microscopy Teresa M. Seifried, University of British Columbia, Canada
14:10 to 14:30	Biological aerosol particles in the finnish sub-arctic: Influences of snow coverage and snow melt Jürgen Gratzl, TU Wien
14:30 to 14:50	Realising scalable synthesis and integration of two-dimensional materials Bernhard Bayer, TU Wien
14:50 to 15:50	Coffee break & Poster Session
15:50 to 16:10	Weak effects on electron transfer reactions Stefan Landgraf, TU Graz
16:10 to 16:30	Materials research on solid oxide cells for sustainable and efficient energy conversion and storage Andreas Egger, Uni Leoben

16:30 to 16:50	Rechargeable oxygen ion batteries based on mixed conducting oxides Alexander Schmid, TU Wien
16:50 to 17:10	On the nanoscale structural evolution of solid discharge products in Li-S batteries using X-ray, neutron and electron techniques Christian Prehal, Uni Salzburg
17:10 to 17:30	pH induced poly (methacrylic acid) / poly (ethylene glycol) restructuring on a molecular level Mirela Encheva, Uni Wien
17:30 to 17:50	Modified $H_2V_3O_8$ as promising cathode material for $Mg^{2+}$ insertion Daniela Söllinger, Uni Salzburg
17:50 to 18:50	Beer & Wine & Poster Session

Optional: 19:30h Dinner at Pizzeria LaScala (expenses to be covered individually)



## 29<sup>th</sup> September 2023

08:10 to 08:30	Surface functionalization of nanoporous gold by self-assembled monolayers: A case study of electrochemical fluoride detection in water Eva-Maria Steyskal, TU Graz
08:30 to 08:50	Electrochemical performance of structural batteries based on polymer gel electrolytes Martin Krammer, AIT
08:50 to 09:10	Electrochemical near ambient pressure X-ray photoelectron spectroscopy for probing the electrified interface in-situ Christop Griesser, Uni Innsbruck
09:10 to 09:30	Nanoporous copper electrodes produced via electrochemical dealloying Samuel Graf, TU Graz
09:30 to 09:50	Oxygen exchange and transport properties of the first-order Ruddlesden-Popper phase $\text{La}_2\text{Ni}_{0.9}\text{Co}_{0.1}\text{O}_{4+\delta}$ Sarah Eisbacher-Lubensky, Uni Leoben
09:50 to 10:50	Coffee break & Poster Session
10:50 to 11:10	Metal/YSZ model electrodes with optimized triple phase boundary geometry for fundamental operando spectroscopic studies Christoph Thurner, Uni Innsbruck
11:10 to 11:30	Modified Pechini synthesis of a perovskite-type rWGS catalyst Jonathan Rollenitz, Uni Leoben <b>CANCELLED</b>
11:30 to 11:50	Pseudocapacitive materials: Substantial Na-Ion storage at high current rates through sodium surface film formation on planar metal oxide electrodes Engelbert Portenkirchner, Uni Innsbruck
11:50 to 12:10	Observing catalytic reactions by in situ surface microscopy Johannes Zeininger, TU Wien

12:10 to 12:30	Electrocatalytic CO <sub>2</sub> reduction using metal organic chalcogenolate assemblies Hannah Rabl, TU Wien
12:30 to 12:50	Mn-promoted MoS <sub>2</sub> as a catalyst for CO <sub>2</sub> hydrogenation to methanol: Investigating the interaction between MoS <sub>2</sub> and Mn oxides Gustavo Andrade Silva Alves, TU Wien
12:50 to 13:00	Closing remarks by Günther Rupprechter and Hinrich Grothe

**End of Workshop**

## POSTER CONTRIBUTIONS

### Titel/ Contact

Printing novel 2D sulfides as catalysts for electrochemical water splitting

bodo.baumgartner@tuwien.ac.at

Molecular structure of polymer photocatalyst-water interfaces

lukas.bogner@univie.ac.at

Synthesis and characterisation of composite air electrodes for highly efficient Co-Electrolysis of H<sub>2</sub>O/CO<sub>2</sub>

barbara.buxbaum@unileoben.ac.at

Analysis of the Lithium-Ion storage characteristics in silicon carbide

victoria.greussing@student.uibk.ac.at

Nerve component analysis by means of Raman spectroscopy

manuel.hofmann@univie.ac.at

Ion dynamics in porous carbon electrode of supercapacitor via simultaneous EIS of anode and cathode

m.islam@tugraz.at

Hybridizing liquid phase exfoliated 2D-sulfides with metal-organic frameworks for photocatalytic applications

njomza.isufaj@tuwien.ac.at

Fabrication and Surface Characterization of Fe<sub>2</sub>O<sub>3</sub> and Fe<sub>3</sub>O<sub>4</sub> on Calcium Fluoride Substrates

harsharan.kaur@univie.ac.at

Exploring cross-linking pathways and reaction parameters for nanocoating applications: Synthesis and characterization of one-phase 2D-IPN at the air-water

bence.kovago@univie.ac.at

The relevance of interfacial water structure for CO reduction on Cu(*hkl*)

m.leitner@uibk.ac.at

Sum frequency generation (SFG) laser spectroscopy: CO adsorption and its orientation on single crystal surfaces

xia.li@tuwien.ac.at

Displaced sagnac interferometer for passive phase-stabilization in 2D IR Spectroscopy

sofie.mika@univie.ac.at

Engineering of the copper-perovskite interface for promotional steering of the catalytic NO reduction by CO

asghar.mohammadi@uibk.ac.at

Solid-State-Chemistries for batteries at AIT

susan.montes-gutierrez@ait.ac.at

High-yield liquid phase exfoliation of graphene utilizing low boiling co-solvent solutions and ammonia

martin.nastran@tuwien.ac.at

Innovative coating technique to increase the electrochemical performance of thick electrodes for Lithium-ion batteries

lukas.neidhart@ait.ac.at

In-situ experiments for identifying reaction mechanisms on solid oxide cell electrodes

andreas.nenning@tuwien.ac.at

Exploring the role of silver birch and scots pine as atmospheric INM sources

florian.reyzek@tuwien.ac.at

XPS spectroscopy of mixed oxide catalysts

thomas.wicht@tuwien.ac.at

$\text{Sr}_2\text{NiMoO}_6$  and  $\text{Sr}_2\text{CoMoO}_6$  double perovskites as catalyst precursors in methane dry reforming

thomas.winterstein@uibk.ac.at

Laser spectroscopy and the interfacial structure at the spinel-water interface

moritz.zelenka@univie.ac.at

Mof based single-site photocatalysis using anchored molecular clusters

stephen.myakala@tuwien.ac.at