

# **8<sup>th</sup> Regional Symposium on Electrochemistry of South-East Europe (RSE-SEE 8)**

and the

## **9<sup>th</sup> Kurt Schwabe Symposium (KSS)**

Viktor Hacker & Bernhard Gollas  
Graz University of Technology, Austria, 11-15 July 2022



## 8<sup>th</sup> Regional Symposium on Electrochemistry of South-East Europe

together with the

## 9<sup>th</sup> Kurt Schwabe Symposium

11–15 July 2022  
Graz, Austria

### ORGANISERS

Prof. Viktor Hacker  
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### LECTURE TOPICS

- Batteries and Supercapacitors
- Corrosion
- Electrocatalysis
- Fuel Cells
- Fundamental Electrochemistry
- Nanoscale Materials
- Organic & Bio-Electrochemistry
- Sensors

### SPONSORS

- ISE
- Metrohm Electrochemistry
- Zahner

### EXHIBITORS

- BioLogic
- Equilibrium
- Gamry Instruments
- Hiden Analytical
- IPS Elektroniklabor GmbH & Co.KG
- Ivium Technologies
- Metrohm Electrochemistry
- PalmSens
- Pine Research
- Zahner

### PARTNERS

- IEA Research Cooperation

### KEYNOTE SPEAKERS

Liana Anicai, Romania  
Marco Bogar, Italy  
Davide Cademartori, Italy  
Rui Gusmão, Czech Republic  
Nejc Hodnik, Slovenia  
Yolina Hubenova, Bulgaria  
Olaf Kiesewetter, Germany  
Marijana K. Roković, Croatia  
Ingrid Milosev, Slovenia  
Ulrich Rant, Germany  
Moritz Schlagmann, Germany  
Piyush Sindhu Sharma, Poland  
Daria Vladikova, Bulgaria  
Claudia Weidlich, Germany  
Ivana Zrinski, Austria

### PLENARY SPEAKERS

Csaba Janáky, Hungary  
Julia Kunze-Liebhäuser, Austria  
Göran Lindbergh, Sweden  
Peter Strasser, Germany  
Kristina Tschulik, Germany  
Martin Winter, Germany

### CONTACT

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### Tuesday - 12<sup>th</sup> of July

Registration and Exhibitor Set-up, Rechbauerstraße 12

**WELCOME**  
Harald KAINZ, Rector TU Graz

**OPENING OF RSE-SEE8**  
Viktor HACKER & Bernhard GOLLAS  
TU Graz, Chairs of the Organizing and the Scientific Committee of the ASEEE

Plenary Talk - Peter Strasser  
The Electrocatalytic Dark Side of Solar Fuels and Solar Chemicals

Coffee Break

Plenary Talk - Csaba Janáky  
Challenges and opportunities of electrochemical CO<sub>2</sub> conversion: from  
nanoscale catalysis to industrial implementation

Lunch

Session 1 - Batteries and Electrochemical Energy Storage (HS II) (Chair Kraljic / Rokovic)	Session 2 - Electrochemical Energy Conversion & Catalysis (AULA) (Chair Strasser / Mayrhofer)
<b>Keynote - Daria Vladikova:</b> An Insight into the Potential of Proton Conducting Ceramic Cells	<b>Keynote - Rui Gusmão:</b> 2D layered MPX3 and electrochemical energy conversion reactions
Talk 1 - Christian Kuss: Applicability of conducting-polymer matrices in composite battery electrodes	Talk 1 - Karl Mayrhofer: Evaluation of Electrocatalyst Activity, Stability and Selectivity during dynamic operation – Online Coupling of Analytical Techniques to Electrochemical Flow Cells
Talk 2 - Zoran Mandic: Simultaneous testing of positive and negative electrodes in carbon supercapacitors	Talk 2 - Mohammed Azeezulla Nazrulla: Electronic structure manipulation of atomic copper quantum clusters for the CO activation with IIIA group elements
Talk 3 - Miglena Slavova: Optimized zinc electrode for rechargeable zinc-air batteries	Talk 3 - Marcin Opallo: Electrocatalysis at lithium batteries waste powders
Talk 4 - Daniel Rettenwander: The mechanism of lithium dendrite formation and propagation under pulsed charging conditions in solid state lithium batteries	Talk 4 - Verena Theußl: Influence of the carbon substrate on the electroreduction of CO <sub>2</sub> to formate using various gas diffusion layers
Talk 5 - Florian Flatscher: Dendrite prevention in solid-state batteries by engineering the surface-near properties	Talk 5 - Blagoy Burdin: Artificial Aging via Chemical Redox Cycling for Accelerated Stress Tests of SOFC
Coffee Break	
Talk 6 - Qamar Abbas: Investigations of carbon/electrolyte interface in hybrid iodine-supercapacitors	Talk 6 - Eveline Kuhnert: Accelerated Stress Test Development based on Degradation Phenomena in PEMWE Cells
Talk 7 - Stefan Breitenbach: Comparison of Viscose-Based Supercapacitor Electrodes Activated by KOH, H <sub>2</sub> O, and CO <sub>2</sub>	Talk 7 - Svenja Baues: Combinatorial Screening of Cu-W Oxide-Based Photoanodes for Photoelectrochemical Water Splitting
	Talk 8 - Monika Charažka: Ni(OH) <sub>2</sub> type nanoparticles derived from poly(NiSalen)s to remediate urea-rich wastewater

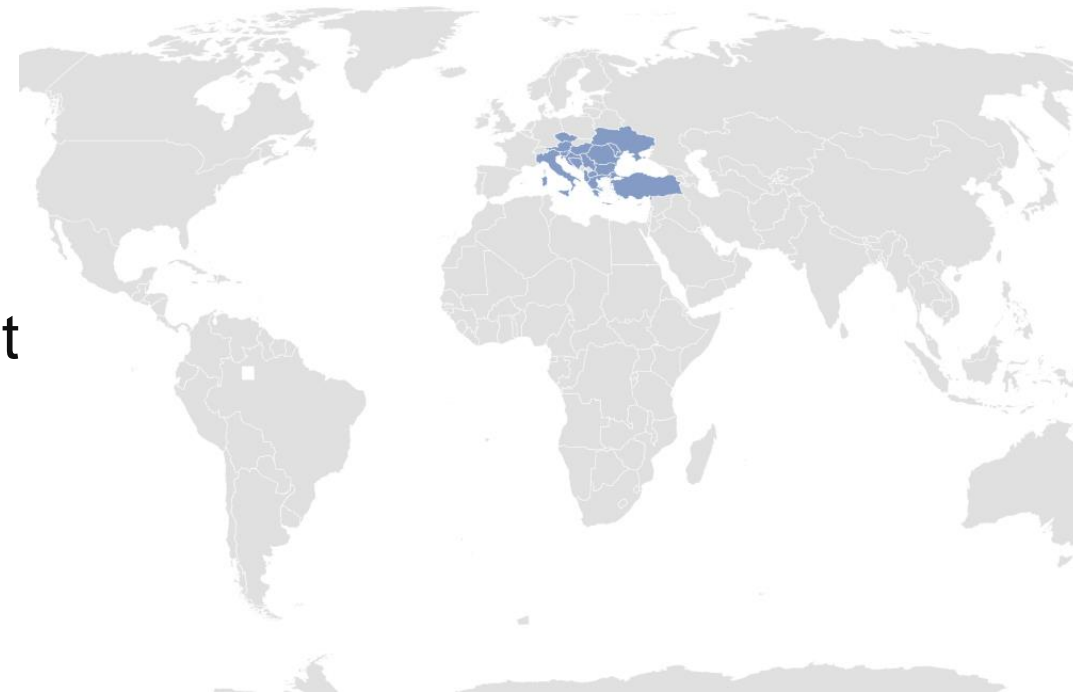
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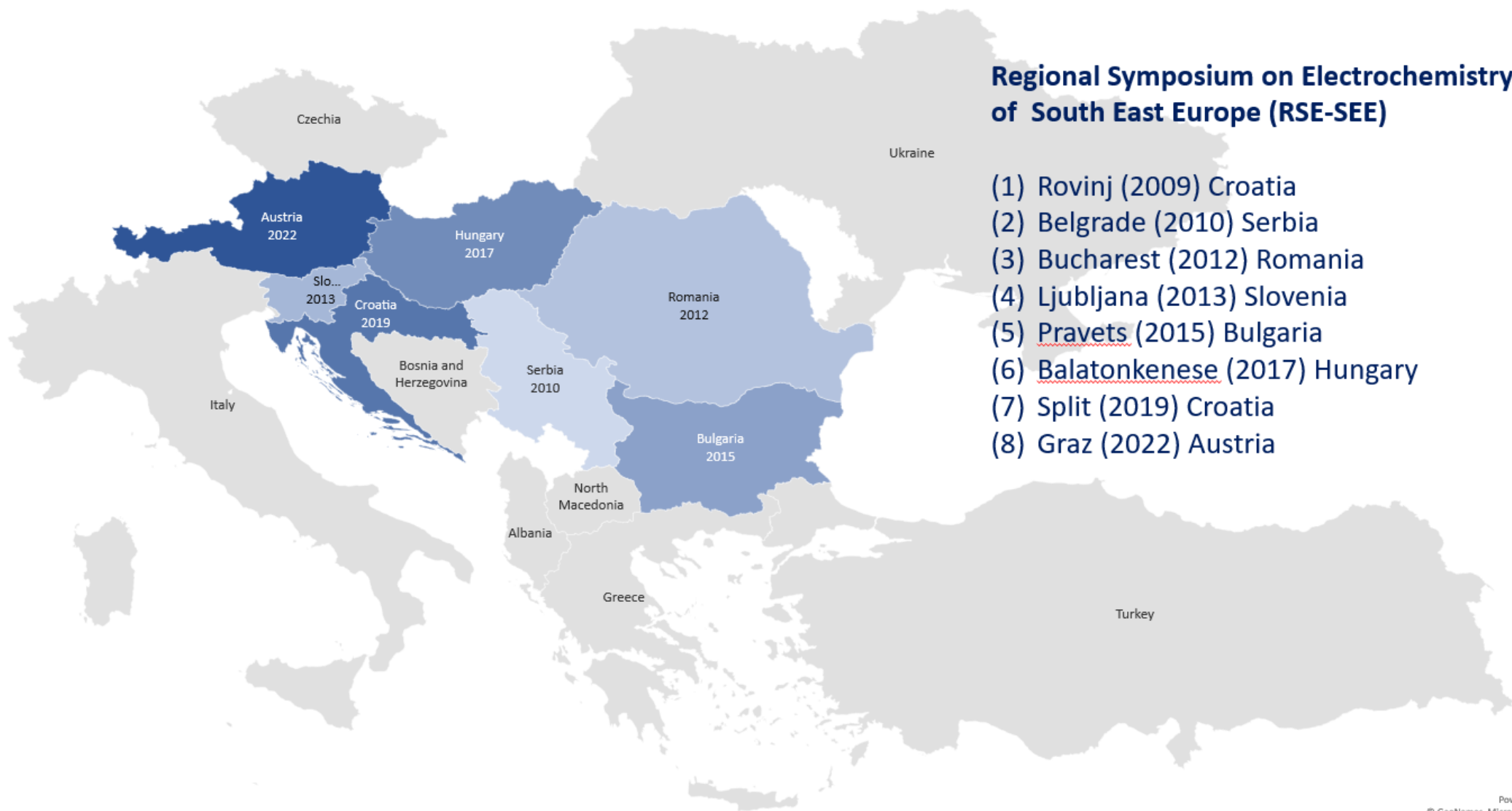
City Walk

# Mission of the Association of South-East European Electrochemists (ASEEE)

- Establishing a **regional network of scientists** working in all aspects of electrochemistry and electrochemical engineering fields.
- **Supporting cooperation** among countries in the region and between countries of South-East Europe and the rest of the world.
- Advancing **science, spreading and disseminating** knowledge.
- **Educating** students and younger colleagues.
- Transferring **knowledge and technology**.
- Helping **sustainable development** of society and fostering economic growth.



# Organizers of the RSE-SEE 2009-2022



# RSE-SEE meeting – Conference Social Program

- **Monday** (11.07.) Student Satellite Symposium
- **Tuesday** (12.07.) Buffet lunch in HS II KG Alte Technik, after the conference for all **registered persons City Walk** - meeting point **18:00 at Main Square** near the arcades (**town hall** / Rathaus).
- **Wednesday** (13.07.) **Lunch at Mensa** Inffeldgasse 10.
- **Thursday** (14.07.) **Lunch at Mensa**, Inffeldgasse 10, **Conference Dinner** (incl.) at 19:00 in the **Nikola Tesla Hall**, Inffeldgasse 18.
- **Friday** (15.07.) after the conference departure **Excursion at 13:00**, Inffeldgasse 25D (only for those who have registered and paid the excursion fee), Buschenschank Bernhart and chocolate factory Zotter, return approx. 17:30.



# Meeting of the Member Institutions of the ASEEE

**ASEEE Committee meeting**  
on Wednesday at 12 noon in  
the Mensa, Inffeldgasse 10





# International Participation in Numbers

- A total of **144 scientific abstracts** were submitted. Researchers from **23 countries** took advantage of this opportunity.
- The conference days started with **five plenary lectures** by renowned scientists.
- In the **nine sessions** (incl. the 9<sup>th</sup> Kurt Schwabe Symposium), **15 keynotes** were given.
- The 8<sup>th</sup> RSE-SEE was attended by **152 researchers and scientists** who participated in poster sessions, lectures, discussions, the conference dinner with musical accompaniment in the Nikola Tesla Hall, as well as an excursion and a city walk.

# Conference Impressions



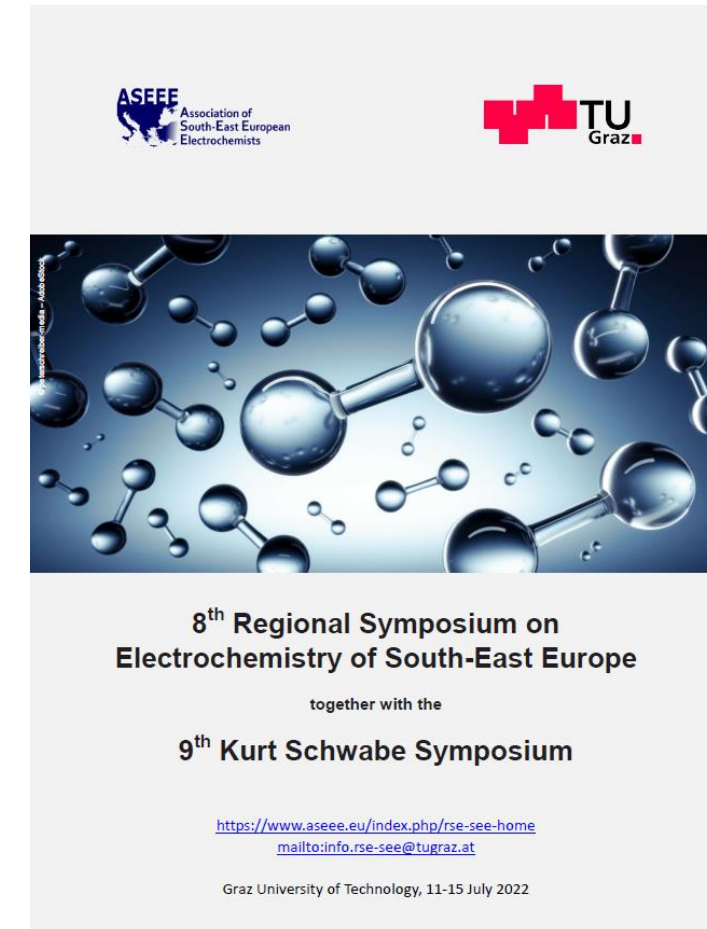


# Poster Awards (M. Bodner)

**Sascha Morlock**, *Hybrid nanoparticles for exploitation of surface plasmon effects in photoelectrochemical sensing*

**George-Octavian Buica**, *Metal ions detection under photo-accumulation on a poly(azulene-EDTA) like modified electrode*

**Marco Bogar**, *A modified Proton Exchange Membrane Fuel Cell for in operando SAXS and XAS*



# Poster Awards and Dinner

(Styrian Songbook and Shuffle Truffle)





# Upcoming RSE-SEE meetings

- **2024 Serbia (proposed)**
- **2026 Czech Republic (proposed)**



# Book of Abstracts and Journal of Electrochemical Science and Engineering



- The official **journal of the Association of South-East European Electrochemists** is the Journal of Electrochemical Science and Engineering: jESE <http://www.jese-online.org/>
- Selected conference papers are published in a special issue of the **Journal of Electrochemical Science and Engineering**.
- The Journal of Electrochemical Science and Engineering (ISSN 1847-9286) is an open access journal dedicated to the rapid dissemination of new and original scientific results in all areas of electrochemical science, engineering, technology and materials engineering.



# Acknowledgement

- Organizing Committee – RSE-SEE
- Scientific Committee – RSE-SEE
- Organizing Committee – 9KSS
- Scientific Committee – 9KSS
- Zoran Mandić, for the maintenance of the homepage
- Local Organizing Committee at TU Graz

**Thank you for all  
the support!**

<https://www.aseee.eu/index.php/rse-see-8>