

EFCF 2026

FINAL ANNOUNCEMENT
30 June – 3 July
KKL Lucerne, Switzerland 

30th International Conference, Series est. 1994
with Exhibition & FCH/EIS Tutorials

17th EUROPEAN SOFC & SOE FORUM

Chaired by
Dr. Subhasish Mukerjee
Ceres Power, Horsham/UK
Prof. Stephen Skinner
Imperial College, London/UK



Fuel Cells, Electrolysers & Membrane Reactors
CO₂ Emission Reduction & Reuse
www.EFCF.com

PROGRAM

30 June 2026
Tutorials:
FCH: Fuel Cell, Electrolyser & H₂
EIS: El.chem. Impedance Spectroscopy
live on-site, virtual or on-demand



Mo, 29	08:00 – 18:00	Various Project Meetings	10.55 – 18:45	GSM 2026 – Grid Services & Markets Conference Sessions G01-G06
	09:30 – 10:45	Registration for GSM 2026	12:45 – 18:45	SSD 2026 – Sustainable Shipping Days Sessions S01-S03 & SB1/2*
	11:30 – 12:45	Registration for SSD 2026	19:50 – 22:30	GSM & SSD Sunset Network Dinner on the Lake
Tue, 30 June	09:30 – 10:00	Registration for Tutorials – 2 nd floor club rooms above auditorium	08:00 – 09:00	GSM & SSD On-site Registration
	10:00 – 17:00	.../FCH: H2, FC & EC Tutorial G. G. Scherer, J. Van herle	09:00 – 17:00	GSM 2026 – Grid Service Markets Conference Sessions G07-G11
	11:00 – 16:00	.../EIS: El. chem. Impedance Spectroscopy Tutorial A. Weber, D. Klotz	09:00 – 17:30	SSD 2026 – Sustainable Shipping Days Sessions S04-S07 & SB3/4*
	16:00 – 18:00	Exhibition set-up On-site Registration & Exhibition are open, Poster pin-up	18:00 – 19:00	*SB 1-4: free Break out sessions, organised by international projects EFCF Welcome gathering in the splendid KKL exhibition hall
Wed, 1 July	08:00 – 16:00	On-site Registration , Speakers Warmup coffee until 09:00, info at main desk	09:00 – 18:00	Exhibition, Networking & Poster area open.
	09:00 – 18:00	EFCF Conference Sessions 1-6, Keynotes K1-4: Presentations on: Programs & activities in EU, South Korea, USA & Japan, "Stack updates" by industry & major groups, technical highlights on materials, electrodes & cell design	12:30 13:15 – 15:00 18:00 18:30 – 23:00	Press Conference Poster Session I: ≈ 240 Poster covering All Session Topics End of technical program 1 st session day of EFCF 2026 Swiss Surprise night, with separate registration
Th, 2 July	08:00 – 16:00	On-site Registration , Speakers Warmup coffee until 09:00, info at main desk	09:00 – 18:00	Exhibition, Networking & Poster area open
	09:00 – 18:00	EFCF Conference Sessions 7–12, Keynotes K5 - 6 & Invited Talks: System Design & Integration, Demonstration, Novel Concept, Stack Design, Electrodes, advanced characterisation	13:15 – 15:00 18:00 19:20 – 23:25	Poster Session II: ≈ 240 Poster covering All Session Topics End of technical program 2 nd session day of EFCF 2026 Dinner on the Lake - The unique networking event
Fr, 3 July	08:00 – 09:00	On-site Registration , Speakers Warmup coffee until 09:00, info at main desk	15:00 – 16:15	Closing & Award Ceremony: Best poster, best scientific contribution & outstanding lifetime work;
	09:00 – 12:00	Exhibition , Networking & Poster area open		Keynote K7 by the EFCF Gold Medal of Honour Winner 2026
	09:00 – 16:15	EFCF Conference Sessions 13–17, Keynote K7: Upscaling, Stack Design, Modelling & Performance, Manufacturing, Degradation, Protonic Cells	16:15 – 17:00	Goodbye coffee and travel refreshment in front of the Luzerner Saal
	10:15 – 11:00	Poster Session III: ≈ 240 Poster covering All Session Topics	17:00	END of EFCF 2026

The European Electrolyzer and Fuel Cell Forum (EFCF) exists for one purpose: to advance electrolyser, fuel cell and hydrogen technologies through rigorous scientific and technical exchange. Since 1994, it has served as a leading international platform for the solid oxide community, connecting researchers, engineers, and industry stakeholders on the basis of science, facts, and figures. Through its conference, network exchange, and publications, it makes valuable knowledge and content available in multiple forms over the long term.

This year's edition brings together an expected 600 participants from 40 countries and more than 40 exhibitors on the shores of Lake Lucerne for 3.5 days of structured scientific programme. More than 400 contributions were submitted. Twenty-nine sessions cover the full spectrum of solid oxide cell science and technology, including three dedicated poster sessions recognising the quality of permanently accessible poster contributions. Plenary and keynote presentations address country programs and development plans from EU, Korea, USA and Japan. Additionally they will provide high-level perspectives on „SOC system concepts“ on the one hand and „AI-driven materials discovery“ on the other. EFCF 2026 brings together the most important industry players and major groups in the field. As a particular highlight, 20 of these will present their technical status and strategic outlook in the “SOC Stack Updates” sessions.

Further, the 2026 program is designed to give participants a clear view of the full SOC landscape, from industrial progress and system deployment to the latest advances in materials, mechanisms, modelling, and durability. The A stream highlights scale-up and application-driven innovation, while the B stream brings together the deeper scientific and technical foundations. Together, both tracks create a balanced forum where industry, developers, and researchers can exchange insights across the entire value chain. So every participant can follow both the near-term path to implementation and the longer-term directions shaping

the next generation of SOC. The programme culminates in the closing ceremony, where the Gold Medal of Honour will be awarded and the winner's keynote address will provide a fitting close.

Running alongside the core EFCF, the 8th Grid Services and Markets conference (GSM) and Sustainable Shipping Days (SSD) benefit from the presence of the same qualified audience, including freely accessible breakout sessions led by founded EU maritime projects such as H2MARINE, MiNaMi, NAUTILUS, HELENOS,...

The 17th European SOFC & SOE Forum marks the 30th conference organised by EFCF. Alternating between solid oxide cells (even years) and low-temperature fuel cells (odd years), this edition is on track to be once more the largest dedicated SOC event worldwide.

Scientific quality is the defining characteristic of EFCF. Unlike commercially driven conferences, this event is organised by active members of the community itself, guided by the EFCF International Board of Advisors (IBoA) and responsive to the evolving needs of the field. The 2026 Scientific Chairs – Dr. Subhasish Mukerjee (Ceres Power) and Prof. Stephen Skinner (Imperial College London) – bring both deep scientific expertise and strong industrial partnership experience, reflecting the forum's core ambition: enabling longer life, resilience, and scale-up of solid oxide cells.

We thank the chairs, the IBoA members, but also the authors, the exhibitors, and the sponsors for their contributions, the Scientific Advisory Committee (SAC) for their review work, and our staff for their meticulous organisational work.

Thank you, Olivier Bucheli & Michael Spirig
www.EFCF.com



17th European SOFC & SOE Forum

Conference Chairs:

Dr. Subhasish Mukerjee

Ceres Power, Horsham/UK

Prof. Stephen Skinner

Imperial College, London/UK

Welcome to the 17th European SOFC and SOE Forum

We are excited to welcome all Solid Oxide Cell developers, researchers and stakeholders to this prestigious conference in Lucerne for another historic EFCF meeting where we have a record number of contributions of great variety and depth this year. The EFCF conference in Lucerne plays a particularly important role by bringing together key industry leaders from the SOC sector, researchers from around the world, and policy stakeholders from government. This unique combination of participants makes the conference an essential platform for advancing innovation, strengthening collaboration, and aligning technology development with the policy frameworks needed to accelerate deployment. As pioneers in solid oxide technology, your efforts are vital in driving innovation and sustainable energy solutions worldwide. The remarkable success and market growth of SOFC for AI data centres underscores the transformative impact of this technology in the last few years, setting a benchmark for efficiency and growth. The development of SOEC for hydrogen production is also maturing through world class research and megawatt level demonstrations. The market for green hydrogen has challenges for cost and maturity that needs to be met, and this conference is a fantastic forum to discuss how to overcome those challenges in the years

to come, accelerating commercialisation of green hydrogen. In a world facing increasing geopolitical uncertainties, it is essential for Europe to build resilient energy infrastructures; your expertise and vision will be key in securing a robust and prosperous future using solid oxide cell technology.

The EFCF 2026 agenda spans the full innovation chain in solid oxide electrochemical technologies, from fundamental science to practical implementation. We have strong industry participation and status updates in the agenda this year. Across the programme, attendees will see a strong focus on materials, electrochemistry, degradation mechanisms, manufacturing approaches, diagnostics and testing, as well as cell and stack design for both solid oxide fuel cells and solid oxide electrolyzers. The technical sessions are set to highlight how advances in core science are translating into better performance, durability and scalability, while also opening discussion on newer solid oxide membrane reactor concepts and the use of alternative fuels.

Beyond the core science, the programme also brings together topics on system engineering, commercial deployment and market development. Sessions and side events will explore progress in current and new design of fuel cells, electrolyzers and hydrogen processing in the context of real applications, supply chains, industrialisation and business readiness. We have two special plenary sessions: one on systems development from Kim Astrom and the other on AI based materials innovation from Professor Matthew Rosseinsky. In addition, we have plenary updates on the regional development status of SOC – namely Europe, USA, South Korea, Japan and China.

Taken together, the agenda reflects a conference designed not only to share research results, but also to connect technology progress with deployment pathways and long-term impact.

Subhasish Mukerjee and Stephen Skinner

Conference Chairs

Conference language is English



17th European SOFC & SOE Forum

EFCF²⁰²⁶

Chaired by:



Dr. Subhasish Mukerjee is the Chief Scientific Officer at Ceres Power, a leading clean energy company in the UK focused on solid oxide technology for clean power and green hydrogen. Dr. Mukerjee has worked at Ceres for 13+ years in multiple technology leadership roles where he has led the technology development programs, managed the core development teams and provided key technical leadership in the commercial growth of the company. Dr. Mukerjee was part of the team at Ceres which won the prestigious MacRoberts award by the Royal Academy of Engineering in the UK in 2023.

Dr. Mukerjee recently received the Electrochemical Society's Subhash Singhal award in 2025. He is an honorary Visiting Professor at Imperial College, London. Dr. Mukerjee is also a strategic advisory board member of UK's HyRES and HI-ACT hubs which are the leading technology programs for hydrogen research. Dr. Mukerjee has extensive (27+ years) experience in clean energy technologies and has worked previously at BP Chemicals and at Delphi Corporation. Dr. Mukerjee was the Technology Leader at Delphi and part of the team which pioneered the development of Solid Oxide for transportation applications like Auxiliary Power units for automobiles and heavy-duty trucks. He gained his PhD at Yale University and postdoctoral fellowship at Harvard University and has published widely in multiple journals and has multiple patents in his field.



Prof. Stephen Skinner is Professor of Materials Chemistry at Imperial College London and Ceres/Royal Academy of Engineering Research Chair in Electrochemical Devices. He is also Principle Investigator at the WPI International Institute for Carbon Neutral Energy Research at the Kyushu University, Japan. He Chaired the 24th International Conference on Solid State Ionics held in London in July 2024 and leads the Imperial-NTU decarbonisation project based in Singapore.

His research is focused on the development of new materials for electrochemical technologies, including electrolyzers and fuel cells, and in the characterisation of their structural and electrochemical properties. His work links the structure and chemistry of materials under realistic operating conditions using a suite of advanced tools including diffraction, microscopy and spectroscopy combined with isotopic labelling. Stephen has authored >200 papers on this topic and contributed seven book chapters and edited two books.

Stephen is an Editorial Board member for J. Mater. Chem. A and Mater. Adv., covering the area of fuel cells and electrochemical systems. His achievements have been acknowledged internationally with the award of a Daiwa Adrian Prize, and IOM3 Kroll medal and prize and as a Fellow of the Royal Society of Edinburgh.

FCH Tutorial: Excellent Kick-Start to EFCF 2026

0.5 ECTS credits

The Tutorial will provide the basic concepts required to address the general but also more specialised field of fuel cells. Fuel cell technology is interdisciplinary par excellence, and requires knowledge in electrochemistry, materials science, mechanical and electrical engineering, catalysis, corrosion, thermal management, systems engineering etc. The course will cover these different aspects as broadly as possible, illustrated by many examples. All fuel cell families will be addressed i.e Hydrogen Fuel Cells (H_2FC) and High Temperature Fuel Cells (HTFC) as well as Hydrogen Production, Storage and Infrastructure (H_2PSI). Applications and examples will be mostly surrounding the two most popular fuel cell types, PEFC (G. G. Scherer = GGS) and SOFC (J. Van herle = JVh), this is due to the expertise of both lecturers in their respective specialties.



Dr. Günther G. Scherer



Dr. Jan Van herle

The Tutorial will be targeted to newcomers as well as those who have been working in the area of fuel cells for some time. Participants will gain, or revise, current understanding of the operation and key challenges of fuel cell technology, where considerable progress in recent years has been achieved and new insights gathered. The requirements for fuel cell market introduction will be discussed.

The Tutorial lecture topics are fuel cell operating principles, thermodynamics, kinetics, efficiencies, central notions such as electrolyte ionic conductivity, electrode overpotential, triple phase boundary, Nernst equation, fuel reforming, cell and stack architectures and design, fuels (both fossil and renewable) for different fuel cells including their treatment, all fuel cell families (SOFC, MCFC, PAFC, PEFC/DMFC, AFC).

Tutorial Schedule:

- 09:30 Registration & Get-Together
- 10:00 Welcome & Introduction (EFCF)
- 10:15 Lecture 1: **Fundamentals of Electrochemical Energy Conversion (GGS)**
- 11:00 Lecture 2: **Characteristics of the important Fuel Cell technologies (GGS)**
- 11:45 Coffee break
- 12:00 Lecture 3: **Fuels for Fuel Cells, Fuel Processing (JVh)**
- 12:45 Lunch break
- 14:00 Lecture 4: **Applications of Polymer Electrolyte Fuel Cells PeFC (GGS)**
- 14:45 Lecture 5: **System Aspects, Applications of High Temp. Fuel Cells SOFC (JVh)**
- 15:30 Coffee break
- 15:45 Lecture 6: **State-of-the-Art, Challenges, Summary (JVh)**
- 17:00 End of Tutorial, Opportunity to visit the Exhibition

Missed? No Problem!

Enjoy the tutorials at any time and with repetition
ON-DEMAND www.EFCF.com/TutAccess

EIS Tutorial: Advanced Booster to EFCF 2026

0.5 ECTS credits



Dr. André Weber



Dr. Dino Klotz

Electrochemical Impedance Spectroscopy (EIS) has become an important tool in Solid State Ionics for studying mass and charge transport in electrochemical systems. It is not only of importance for fundamental research, but also for characterizing batteries, fuel cells, sensors, etc. The EIS Tutorial is focused on medium to experienced level users, who are already familiar with the principles of the SOCs (Solid Oxide Cells).

The **EIS Tutorial will support you** with new findings and relevant experiences. During the EIS Tutorial you will receive answers to questions before you have to ask them, as well as the chance to ask questions you may not dare to voice in front of a general audience. You will come into contact with the specialists and other experienced users. You enlarge your exchange and discussion network within the EIS community. Opportunity for discussion and exchange are provided, especially during the 'EIS challenge'.

The EIS Tutorial is an excellent extension of your current know-how. It contains 5 lectures and an 'EIS challenge': The lectures will range from the basic principles, that makes EIS one of the most powerful analysing instruments available today, to more advanced applications of EIS, to very sophisticated cases and many practical experiences. Many results will be presented, and the right interpretation discussed. The lectures are followed by an 'EIS challenge', where all kinds of impedance questions, problems, and latest experiences can be discussed and exchanged with other participants.

Tutorial Schedule:

- 10:00 Welcome (EFCF)
- 10:10 Lecture 1: **Fundamentals of Electrochemical Impedance Spectroscopy**
- 11:00 Lecture 2: **Evaluation of Impedance Spectra, Kramers-Kronig Test, DRT-Analysis, CNLS Fit**
- 11:35 EIS Technology Provider Pitch
- 11:45 Coffee break
- 12:10 Lecture 3: **Applications I – Analysis – Materials and (Model-) Electrodes**
- 12:55 Lunch break
- 14:10 Lecture 4: **Applications II – Analysis – Single Cells and Stacks**
- 14:45 EIS Technology Provider Pitch
- 14:55 Lecture 5: **Impedance Modelling and Simulation**
- 15:40 Coffee break
- 15:55 Lecture 6: **„EIS challenge“ – Summary**
- 17:10 End of Tutorial. Opportunity to visit the exhibition

Missed? No Problem!

Enjoy the tutorials at any time and with repetition
ON-DEMAND www.EFCF.com/TutAccess

Date and Place

www.EFCF.com/KKL

The 17th European SOFC & SOE Forum 2026 will be held from 30 June – 3 July in the renowned Kultur- und Kongresszentrum Luzern (KKL) in Lucerne, Switzerland. The parallel lectures will be presented in the „Luzerner Saal“ and the „Auditorium“, while all posters will be permanently exhibited in the „Auditorium Foyer“. The KKL is located next to the Railway Station on the shore of Lake Lucerne. Boat traffic, water front activities, as well as spectacular views of the old town and snow-capped mountains add to the charm of the venue. View Video on www.EFCF.com/Lucerne.

Technical Program

www.EFCF.com/Program

EFCF 2026, the 17th European SOFC & SOE Forum and the 30th EFCF event in 32 years, will focus on Solid Oxide Technologies: Fuel Cells (SOFC), Electrolysers (SOE), and Electrochemical Reactors and Cells (SOC) in general, as well as on concepts for CO₂ emission reduction and reuse. As the world's largest dedicated event in this field, the forum offers industry and major groups an unparalleled opportunity to present their status, progress, and outlook. The technical programme is structured to reflect the full breadth of the SOC field. The A sessions focus primarily on industrial and development-oriented topics, including SOC Stack Updates, transportation, cell and stack development, systems, electrolyser stacks, cell and stack manufacturing, and alternative fuels and fuel production. The B sessions concentrate on the underlying scientific and technical foundations, covering cell lifetime, modelling and simulation, interconnects, electrode mechanisms, stack modelling, fuel and air electrodes, and advanced analytics. Together, the two programme streams connect application-driven progress with the materials, electrochemical, modelling, and durability expertise required to advance next-generation solid oxide technologies.

The plenary sessions will provide overviews of progress and development plans in the EU, Korea, the USA, and Japan. In addition, more than 20 leading industry players and major R&D groups will present their technical status and strategic outlook in the Wednesday sessions

“SOC Stack Updates I – III.” Keynote presentations will offer high-level perspectives on multi-stack SOC systems, by Kim Åström, Convion, Vantaa, Finland, and on the discovery of inorganic functional materials in the digital age, by Matthew Rosseinsky, Department of Chemistry, University of Liverpool, UK. The programme will culminate in the Closing Ceremony, where this year's Gold Medal of Honour will be awarded, followed by the keynote of the laureate, Prof. (hon) John Bøgild Hansen, former Senior Scientist and Adviser to the Chairman of Haldor Topsøe A/S, Denmark, today Boegild Consult. In advance of the forum, the 8th Symposium on Grid Service Market, GSM 2026, will take place on Monday and Tuesday. Tuesday will also offer the opportunity to attend the FCH and EIS tutorials. A special feature on Monday and Tuesday will be the Sustainable Shipping Days SSD 2026, co-organised with the EU Nautilus and AMON projects. Another exciting feature this year is free access to the exhibition, including nearly 40 exhibitors, from 16:00 onwards.

The five-day programme offers a highly attractive combination of product presentations, scientific lectures, demonstrations, posters, exhibits, tutorials, workshops, and extensive opportunities for exchange among up to 600 expected experts. More than 400 scientific and industrial contributions are planned, including around 170 oral presentations in more than 40 sessions and up to 240 posters in five dedicated poster sessions, with ample time for technical discussion and fruitful exchange. Posters will remain accessible throughout the event. All activities take place within the same building complex, and EFCF registration includes unrestricted admission to both conference and exhibition. European and global developers will present innovative high-temperature fuel cell and electrolysis solutions, as well as materials, development equipment, fuel cell components, and supplies. The technical programme is designed to inform representatives from industry, trade, finance, utilities, and users, as well as planners, engineers, technology brokers, and members of the scientific research community. Product and application information will also be available from the exhibitors. Altogether, EFCF 2026, the 17th European SOFC & SOE Forum, will once again be the world's largest international event dedicated to these subjects this year.

Special Events

www.EFCF.com/SE

The following Special Events complete the EFCF program. These events use EFCF as a perfect platform because many stakeholders are already present and EFCF supports the organization and promotion of the events (see www.EFCF.com/FPM). For more details, registration and the latest information see www.EFCF.com/SE, the specific links and/or the separate announcements.

29 – 30 June 09 – 18 Terrassensaal	GSM 2026 8 th Grid Service Market conference www.GSMconf.com
29 – 30 June 09 – 18 Deuxième	SSD 2026 Sustainable Shipping Days Free Breakout Sessions – SB 1 – SB 4 www.SSDship.com
30 June 10 – 17 Club Rooms	FCH-Tutorial Fuel Cell, Electrolyser & Hydrogen 0.5 ECTS; Level: kick-start www.EFCF.com/FCH
30 June 10 – 17 Club Rooms	EIS-Tutorial Electrochemical Impedance Spectroscopy; 0.5 ECTS; Level: advanced www.EFCF.com/EIS
1 – 3 July 09 – 18 LU-Saal, Auditorium	EFCF 2026 European Electrolyser & Fuel Cell Forum www.EFCF.com

Participation & Registration:

To participate in any of the public events register in advance. Some of the event will be hybrid, with the possibility to join both on-site and remote. Follow the specific links. If you have any questions or if you want to organize also an event, contact forum@efcf.com.

International Project Meetings

www.EFCF.com/FPM

As many international experts participate in the European Fuel Cell Forum, Monday and Tuesday of the conference week offer an ideal opportunity for international project meetings. Please feel free to use this time to schedule your meetings for your ongoing projects, setting-up of new projects, or for other topic related events such as the GSM symposium on „European Grid Service Markets“, or SSD, Sustainable Shipping days.

To simplify project initiators' and organizers' life, the organisation of such events for registered participants and exhibitors are supported by our organization. Get more information at www.EFCF.com/FPM or send an e-mail to forum@efcf.com

Admission Fees

www.EFCF.com/Fee

All services and fees can be viewed on this website www.EFCF.com/Fee (to book see Conference On-line Registration).

Find there all information about:

- Registration categories:
 - Students, Trainees, Unemployed
 - Academic Staff, Government, Consultants
 - Industry, Trade, Commerce
- Rebates, One-Day Tickets, Tutorials (live, on-site in Lucerne, virtual or on-demand)
- Extra Ticket for Swiss Surprise Night & Dinner on the Lake
- Virtual Options

8th Grid Services & Markets Conference 2026www.GSMconf.com

Connecting Grid Flexibility Needs with Business Opportunities

The 8th GSM Conference is a two-day international event that brings together research, industry, and policy perspectives. GSM 2026 serves as a dynamic platform for knowledge exchange and co-creation, focusing on the technologies, strategies, and human factors essential for a secure, inclusive, and sustainable energy future.

As the energy transition accelerates, GSM 2026 will examine how decentralized energy resources, communities, and regulations reshape grid operators, market players, and consumers. The conference will focus on ensuring grid adequacy, developing grid-forming capabilities, and balancing supply security with decentralization and electrification. **Next to the main topics, there will also be a focus on special „Hot Topics“ such as FCA/ Access to Grid Capacity (Case study: Battery storage), Integration of Flexibility (Case studies: Schweiz, demand-side, industrial, distribution-level), Congestion Management & Redispatch, Iberian blackout (market aspects & market development to support grids), AI / Data Centers & Power Systems, DSO topics like voltage issues & TSO-DSO, and Progression of European Market Integration Projects.**

The conference takes place in Lucerne, Switzerland at the Culture and Convention Centre Lucerne (KKL) from June 29 – 30, 2026 and is chaired by:

Prof. Christoph Imboden
Thomas Kudela

www.HSLU.ch – Innovation - Power Economy

www.Orsted.dk – Leading in Transition to Green Energy

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GRID SERVICES & MARKETS GSM CONFERENCE

29 & 30 June 2026

LUCERNE, SWITZERLAND



SUSTAINABLE SHIPPING DAYS

www.SSDship.com

SSD 2026 



29 – 30 June

Switzerland
Lucerne



Electrolysers & Fuel Cells for Waterborne Transport

Exhibition

www.EFCF.com/ExReg

EFCF 2026 offers you a top chance to catch up on some exhibition opportunities, and share your products directly with potential new clients. The technical exhibition will be held in the splendid Foyer of the Lucerne Hall. This event offers industry, suppliers, test equipment providers and research laboratories the opportunity to showcase their latest products and services, as well as allowing important face-to-face contact with potential new clients.

Exhibitors from all over the world are invited to participate.

In addition to fuel cell, electrolyser and hydrogen technology developers showing systems, related hardware and applications, suppliers can present new materials, stack and system components, control devices, production technology, qualification and test benches and diagnostic tools alongside research and development services.

For further information please contact the European Fuel Cell Forum or visit www.EFCF.com/Exhibition. The details of confirmed exhibitors are listed in the rear of this booklet.

EFCF Online Library

www.EFCF.com/O-Lib

The EFCF online library offers fast and easy access to both free and purchased information. The library is constantly being updated, and currently contains Proceedings with ISBN dating back to 2011 and files from as far back as 1994 gradually or on request being converted and uploaded. With a free login, the current and future proceedings will be accessible. Additionally, since 2020, all eligible contributions will be assigned a DOI (Digital Object Identifier) and published online in the EFCF community of the general purpose open-access repository www.Zenodo.org. The EFCF library offers direct access to this EFCF community and the EFCF Special Issue Series of the Journal „FUEL CELLS“ from Wiley-VCH. In the library you can also access the Conference Agendas with the Programs & the Book of Abstracts, as well as the impressions of all EFCF events which are made publicly available.

The EFCF Online Library also provides download access to the available presentations from the year of attendance and the 5 previous years for all registered attendees of an EFCF event with an approved login, upon permission of the authors. To obtain download rights after the conference, post-registration is possible. Please send an email to forum@EFCF.com.

Publication Offers: Proceedings (DOI), Journals

www.EFCF.com/PP

All contributions, which deliver an extended abstract, have the opportunity to be published with their own DOI in the EFCF community of the general purpose, open-access repository www.Zenodo.org.

Since 2012 a limited number of contributions will additionally be invited to be included in a Special Issue in the peer reviewed „Fuel Cells – From Fundamentals to Systems“ published by Wiley-VCH, e.g.: EFCF 2013 – Volume 14, Issue 5, pg 671-774; EFCF 2019 – Volume 20, Issue 4, pg 383-514 (see www.EFCF.com/SI). Authors who wish to publish „elsewhere“, can opt out. All copyrights remain with the authors.

Presentation available with approved participant login

www.EFCF.com/Presentations

At the EFCF conferences, participants are not permitted to take pictures of the presentations (literary property). This allows presenters to show their latest results, which are, for example, intended for publication in a scientific paper at a later date. However, presenters usually indicate their willingness to share their presented and eventually copyedited slides to the conference registrants. Upon receiving the authors permission, presentations of the current and previous years will be made available in the online library www.EFCF.com/PRESENTATIONS for all registered participants of the European Fuel Cell Forum with an approved login. To obtain download rights after the conference, post-registration is possible by „filing Contact Data“ on the www.EFCF.com/Lib on-line form.

Who should attend?

The conference with exhibition offers an attractive programme for potential users of fuel cells, decision makers, researchers and engineers in industry, laboratories, academic institutions, governments, investors, consultants and electric power engineers. The event provides many opportunities for informal exchanges between industry, market and academia, a platform for technology transfer and recruitment of qualified students and trainees. The European Electrolyser and Fuel Cell Forum combines the personal atmosphere of a workshop with the format of a scientific conference. This is the time and the place where decision makers meet politicians, inventors meet investors, engineers meet scientists, power & transport industry meet OEMs and users meet providers. Participants from all continents are invited and welcome to attend this prestigious event.

Whilst nothing can replace the experience of attending a live EFCF event in person, EFCF offer various registration types and strive to offer an event that is accessible to all, with remote access and/or later on-demand options.

International Board of Advisors

www.EFCF.com/IBoA

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Session Program 17th European SOFC & SOE Forum

OVERVIEW

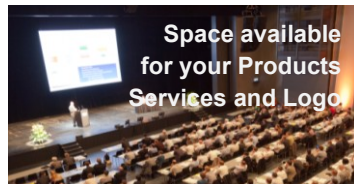
& GSM 2026, SSD 2026, Tutorials, Project Meetings

KKL Lucerne, Switzerland, 29 June - 3 July **EFCF 2026**

Mo 29 June	GSM 2026 www.GSMconf.com		G Terrassen- saal	SSD 2026 www.SSDship.com		S Deuxième Club Rooms	PM: Project Meetings	
Tu 30 June	8th Grid Services & Markets Conference			+ free Breakout Sessions by int. Projects			www.EFCF.com/Tutorials : FCH, EIS Club Rooms	
We - Fr		A Luzerner Saal			Page	B Auditorium		Page
1 July	We 9:00	A01: <u>P1</u> : Opening Session				Legend: <u>Px</u> : = Plenary, <u>Kx</u> : = Keynote; all times are given in UTC/GMT +2 hours		
	9:30	A02: <u>K1</u> - 4: EU, KR , USA & JP programs/partnerships				15	B02: Cell Lifetime I	
	11:00	A03: SOC Stack Updates by industry & major groups I					B03: Cell Lifetime II	
	13:15	Club Rooms & Auditorium Foyer	A04: Poster Session I covering All Session Topics				A17s: Education, Training & Proposal Assessment	
	14:30	AP1: Industry Pitches with Q&A						
	15:00	A05: SOC Stack Updates by industry & major groups II					B05: Modelling & Simulation	
2 July	16:30	A06: SOC Stack Updates by industry & major groups III					B06: Systems III & System Modelling	
	Th 9:00	A07: <u>K5</u> : Systems				20	B07: <u>K6</u> : Materials	
	9:30	A08: SOC for Transportation					B08: Interconnects	
	11:00	A09: System I					B09: Electrode Mechanisms	
	13:15	Club Rooms & Auditorium Foyer	A10: Poster Session II covering All Session Topics				A17s: Education, Training & Proposal Assessment	
	14:15	AP2: Industry Pitches with Q&A						
3 July	14:45	A11: Cell & Stack Development					B11: Stack Modelling	
	16:30	A12: System II					B12: Fuel Electrodes I & Novel Materials / Electrolytes	
	Fr 9:00	A13: Electrolyser Stacks					B13: Air Electrodes	
	10:30	Club Rooms & Auditorium Foyer	A14: Poster Session III covering All Session Topics				A17s: Education, Training & Proposal Assessment	
	11:00	A15: Alternative Fuels & Fuel Production					B15: Analytics	
	13:30	A16: Cell & Stack Manufacturing					B16: Fuel Electrodes II	
	15:05	A17: P2: Closing Ceremony, K7 by Gold Medal of Honour Winner 2026					A17s: Education, Training & Proposal Assessment (just posters)	

EFCF 2026, 30 June - 3 July

Session Program



Morning - Luzerner Saal - www.EFCF.com/JoinA

Wednesday, 1 July 2026

09:00 A01: P1: Opening Session

S-Chairs: Subhasish Mukerjee, Stephen Skinner, O. Bucheli, M. Spirig

09:00 Welcome by the Organizers (A0101)

Olivier Bucheli, Michael Spirig
European Electrolyser & Fuel Cell Forum, Luzern/Switzerland

09:05 Welcome by the Chairs (A0102)

Stephen Skinner (1), Subhasish Mukerjee(2)
(1) Imperial College, London/United Kingdom
(2) Ceres Power, Horsham/United Kingdom

09:15 Welcome to Switzerland (A0103)

Stefan Oberholzer, Rolf Schmitz, Benoît Revaz
Swiss Federal Office of Energy, Bern/Switzerland

09:30 Go to your preferred session

Legend: Px = Plenary, Kx = Keynote
All times are given in **UTC/GMT +2 h**

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www.EFCF.com/SAC

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We thank the SAC for the evaluation and contribution to structure the technical program.

Morning - Luzerner Saal - www.EFCF.com/JoinA

Wednesday, 1 July 2026

Auditorium - www.EFCF.com/JoinB - Morning**09:30 A02: Keynotes: EU, CN, USA & JP Programs/Partnerships****S-Chairs: Stephen Skinner, Subhasish Mukerjee****09:30 K1: The Status of High Temperature electrolyser and fuel cell R&D in the European Clean Hydrogen Joint Undertaking Programme (A0201)**09:35 Mirela Atanasiu, Eleni Kontonasiou, Dionisis Tsimis, Nikolaos Lymperopoulos, Antonio Aguilo-Rullan
Clean Hydrogen Joint Undertaking, Operations & Communications Unit, Brussels/Belgium;**09:50 K2: SOFC and SOEC Development Activities Towards Carbon Neutrality in Korea (A0202)**Ji Haeng Yu
Hydrogen Energy Research Division
Korea Institute of Energy Research, Daejeon/South Korea**10:10 K3: Solid Oxide Cell program and activities USA (A0203)**10:05 Jack Brouwer
National Fuel Cell Research Center (NFCRC), Mechanical and Aerospace Engineering,
10:20 University of California, Irvine, CA/USA**10:30 K4: Recent SOC Activities in Japan (A0204)**Hayato Katsuda
Hydrogen and Ammonia Development - New Energy and Industrial Technology Development
10:35 Organization (NEDO), Kawasaki City, Kanagawa/Japan**10:50 Break - Ground & 1st Floor in the Exhibition
& 2nd & 3rd Floor in the Poster Areas****B02: Cell Lifetime I****S-Chairs tbc: Robert Leah, Katherine Develos-Bagarinao****Real time observation of polarization induced degradation of Ni-YSZ SOEC fuel electrodes (B0201)**Magnus Björnsson (1), Ming Chen (1), Zhongtao Ma (1), Anne Hauch (2), Ramchandra R. Tiruvalam (2), Søren Bredmose Simonsen (1)
(1) Technical University of Denmark, DTU Energy, Kgs. Lyngby/Denmark;
(2) Topsoe A/S, Kgs. Lyngby/Denmark;**Understanding Localized Degradation in Solid Oxide Cells: Coupled Thermal-Electrochemical Effects from Cell to Stack Level (B0202)**Huiju Noh, Seowoo Jeong, Wonjae Choi
Ewha Womans University, Seoul/South Korea;**Impact of out-of-Operation Window Conditions on Elcogen Stack Degradation and Lifetime (B0203)**Arqam Zaheer, Antonio Alfano, Jouni Puranen, Jan Gustav Grolig
Elcogen Oy, Research & Development, Vantaa/Finland;**Chemical activity-based carbon deposition risk maps for SOFC systems with anode off-gas recirculation (B0204)**Victoria He (1), Arata Nakajo (3), Mar Pérez-Fortes (4), Jan Van Herle (2), Jürg Schiffmann (1)
EPFL - Ecole Polytechnique Federale de Lausanne: (1) Laboratory for Applied Mechanical Design, Neuchâtel, (2) Group of Energy Materials, Sion/Switzerland; (3) European Commission, Joint Research Centre (JRC), Petten; (4) TU Delft - Delft University of Technology, Faculty of Technology, Policy, and Management, Delft/Netherlands;**Low temperature degradation of yttria- and scandia-stabilized zirconia electrolytes for solid oxide cells (B0205)**Felix Werner, Nico Langhof, Stefan Schafföner
University of Bayreuth, Ceramic Materials Engineering, Faculty of Engineering,
Bayreuth/Germany;

11:15 A03: SOC Stack updates by industry & major groups I**S-Chairs tbc:** Jari Kiviaho, Jan Gustav Grolig**11:15 Highlights from DTU Energy's research (A0301)**

Henrik Lund Frandsen, Anke Hagen

Technical University of Denmark, Department of Energy Conversion and Storage, Kgs Lyngby/Denmark;

11:30 SOC Systems Research Highlights at DLR (A0302)

Marc P. Heddrich, Jan Holmann, Matthias Riegraf, Matthias Metten, Syed Asif Ansar

German Aerospace Center (DLR), Institute of Engineering Thermodynamics, Energy System Integration (ESI), Stuttgart/Germany;

11:45 Noon Energy demonstrating rSOC at scale for long-duration energy storage (Noon Energy) (A0303)Theis Skafte, Pawel Piotrowicz, Allen Liang, Brooks Hornstein, David Burak, Ethan Ma, Jonathan Wu, Joseph LaVelle, Josh Mermelstein, Rio Santos, Sunjay Melkote, Trevor Woo, Usama Sohail, Andrew Oh, Bob Hintz, Chris Graves
Noon Energy, Palo Alto/United States;**12:00 Enabling Energy Access in Africa through local manufacturing of Solid Oxide Fuel Cell Systems (A0304)**

Jan Van der Merwe (1), Jos Vazirgiantzikis (1), Massimo Bertoldi (2), Daniele Penchini (2)

(1) Mitochondria Energy Systems (Pty) Ltd., Johannesburg/South Africa;

(2) SolydEra SpA, Pergine Valsugana/Italy;

B03: Cell Lifetime II**S-Chairs tbc:** Jan van Herle, Angela Gondolini**Microstructural Design to Limit the Ni Migration in Hydrogen Electrode of Solid Oxide Electrolysis Cell (B0301)**

Hugo Duchêne (1), Pattiya Pibulchinda (2), Davide Cademartori (1), Elisa Grindler (1), Maxime Hubert (1), Scott Barnett (2), Jérôme Laurencin (1)

(1) CEA Grenoble, LITEN, Grenoble/France;

(2) Northwestern University, Department of Materials Science and Engineering, Evanston/US;

Linking Cell-Level Physics to Stack Performance: A Multi-Scale Modelling Framework for Ceres Endura™ technology (B0302)

Carla Lupo, Rahul Ganuga, Faraz Montazersadgh, Robert Leah, Adam Bone, Mehdi Choolaei, Subhasish Mukerjee, Caroline Hargrove

Ceres Power Ltd., private, Horsham/United Kingdom;

Mechanistic insights into SOEC degradation: influence of electrolyte and interdiffusion layers (B0303)

Katherine Develos-Bagarinao (1), Maxime Hubert (2), Takuya Yamaguchi (3), Tomohiro Ishiyama (4), Jérôme Laurencin (5), Haruo Kishimoto (6)

(1) National Institute of Advanced Industrial Science and Technology, Global Zero Emission Research Center, Tsukuba/Japan; (2) CEA-Liten, DTCH, Grenoble/France;

(3) National Institute of Advanced Industrial Science and Technology, Research Institute for Energy Efficient Technology, Tsukuba/Japan;

(4) National Institute of Advanced Industrial Science and Technology, Integrated Research Center for CCUS Implementation, Tsukuba/Japan;

(5) CEA-Liten, DTCH, Grenoble/France;

(6) National Institute of Advanced Industrial Science and Technology, Global Zero Emission Research Center, Tsukuba/Japan;

Sulfur Poisoning in SOC Stack during Co-Electrolysis Operation (B0304)

Lu Xu (1,2), Obinna Edeh (1,2), Dominik Schäfer (1), Steffen Dirkes (1), Ute de Haart (1), Remzi Can Samsun (1), Rüdiger-A. Eichel (1,2,3)

(1) Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich GmbH, Jülich/Germany;

(2) Institute of Physical Chemistry, RWTH Aachen University, Aachen/Germany;

(3) RWTH Aachen University, Faculty of Mechanical Engineering, Aachen/Germany;

Afternoon - Luzerner Saal - www.EFCF.com/JoinA

Wednesday, 1 July 2026

Auditorium - www.EFCF.com/JoinB - Afternoon

12:15 Development and Industrialization Status at Sunfire (A0305)

Christian Walter

Sunfire SE, Stack Development, Dresden/Germany;

Accelerated Redox Degradation Testing of

Ni-GDC Electrodes with Controlled Microstructure (B0305)

Anna Sciazko, Yosuke Komatsu, Gao Yao, Yusuke Sunada, Naoki Shikazono
The University of Tokyo, Institute of Industrial Science, Tokyo/Japan;

12:30 Lunch - 2nd Floor on the Terrace
Coffee - Ground & 1st Floor in the Exhibition & 2nd & 3rd Floor in the Poster Area

13:15 A04: Poster Session I (covering All Session Topics + A17s: Education, Training & Proposal Assessment)

S-Chairs tbc: Subhasish Mukerjee (Auditorium Foyer), Stephen Skinner (Club Rooms)

Poster Areas: Club Rooms & Auditorium Foyer

14:30 AP1: Industrial Pitches with Q&A (Luzerner Saal)

S-Chairs: Stephen Skinner (Luzerner Saal)

14:30 From Stack to Megawatt System: AVL's Technical Innovations Enabling Industrial SOC Applications (A0609) = (AP101)

Vincent Lawlor (1), Bernhard Stoeckl (1), Bernd Reiter (1), Valtteri Vedensola (2)

(1) AVL List GmbH, Graz/Austria;

(2) Elcogen Oy, Vantaa/Finland

14:40 Reversible Solid Oxide Electrolysis for Renewable Peak Power and Large-scale Industrial Hydrogen Utilization (B0609) = (AP102)

Robert Weiss (1), Ville Saarinen (1), Werner Huhtinen (1), Veli-Pekka Tokola (2), Markus Rautanen (1), Olli Himanen (1)

(1) VTT Technical Research Centre of Finland Ltd, VTT, Espoo/Finland

(2) Industrial Engineering and Management, University of Oulu, Oulu, Finland

14:50 Industry Pitches Q&A (AP103)



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14:56

Go to your preferred session

15:00 A05: SOC Stack updates by industry & major groups II

S-Chairs tbc: Chris Graves, Adam Bone

- 15:00 **Status of Solid Oxide Technology Development at Fuel Cell Energy (A0501)**
Tony Wood (1), Alfred Samson (1), Tahir Joia (1), Abhimanyu Jayakumar (1), Mehran Abbaszadeh (1), Dale Steedman (1), Murray Tilleman (1), Casey Brown (1), Ben Nuttall (1), Oliver Grande (1), Guenther Brandstetter (1), Lukas Pusterhofer (2)
(1) Fuel Cell Energy Ltd., Alberta/Canada;
(2) Fuel Cell Energy Solutions GmbH, Taufkirchen, Germany
- 15:15 **Materials driven technology development for robust solid oxide fuel cells (A0502)**
S. Elango Elangovan, Tyler Hafen, Claire Oldham, Michele Hollist, Rebecca Izatt, Dennis Larsen, Joseph Hartvigsen
OxEon Energy, LLC, North Salt Lake, UT/United States;
- 15:30 **Continuous development of Solid Oxide Electrolyser solutions at commercial, cost-effective and reliable scale (A0503)**
Pierre-François Rio, Genvia SAS, Béziers/France
- 15:45 **Advanced Solid Oxide Fuel Cells for Transportation (A0504)**
S. Roychoudhury, C. Junaedi, F. Macri, J. Rehaag, T. Suzuki, S. Vilekar, T. LaBreche, M. Curran, H. He, N. Cameron
Precision Combustion, Inc., North Haven/United States;

B05: Modelling & Simulation

S-Chairs tbc: Rob Braun, Ming Chen

- Ab Initio Molecular Dynamics Study of Reactant Surface Transport on YSZ in SOEC Water Electrolysis (B0501)**
Taiyo Taniuchi, Yuting Guo, Masashi Kishimoto, Hiroshi Iwai
Kyoto University, Kyoto/Japan;
- Chasing carbon deposition in co-electrolysis: Impedance-driven modelling for Ni-based SOECs (B0508) = (B0502)**
Ana García Romañach (1,2), Federico Mattera (1,3), Henrik Lund Frandsen (2), Ming Chen (2), Marie Lund Traulsen (1), Thomas Erik Lyck Smitschuysen (1), Mogens Bjerg Mogensen (2), John Bøgild Hansen (4) and Søren Højgaard Jensen (1,3)
(1) Dynelectro ApS, Viby Sjælland/Denmark;
(2) DTU, Department of Energy Conversion and Storage, Lyngby/Denmark;
(3) AAU, Department of Energy, Aalborg/Denmark;
(4) Aarhus University, Department of Biological and Chemical Engineering, Aarhus/Denmark;
- Investigating high-entropy oxides as novel oxygen electrode materials for SOC applications: From ab-initio calculations to thermodynamic modeling (B0503)**
Saadi Chabane (1), Kathikeyan Saravanabavan (2), Ghenwa El Chawich (2), Elisa Grindler (2), Grégory Geneste (3), Cintia Hartmann (2), Jérôme Laurencin (2)
(1) CEA, Grenoble/France; (2) CEA, Liten, Grenoble/France;
(3) CEA, DAM, DIF, Arpajon/France;
- High fidelity 3D Multiphysics modeling and validation of an ammonia-fueled SOFC stack (B0504)**
Arash Nemati (1), Werner Huhtinen (2), Javid Beyrami (3), Dario Montinaro (4), Henrik Lund Frandsen (3)
(1) Technical University of Denmark (DTU), Energy, Lyngby/Denmark;
(2) VTT Technical Research Centre of Finland, Espoo/Finland;
(3) Technical University of Denmark (DTU), Energy, Lyngby/Denmark;
(4) SolydEra S.p.A, Trento/Italy;

16:00 Break - Ground & 1st Floor in the Exhibition & 2nd & 3rd Floor in the Poster Areas

16:30 A06: SOC Stack updates by industry & major groups III**S-Chairs tbc: Christian Lenser, Travis Schmauss**

- 16:30 **SolydEra: Solid Oxide technology for multiple applications (A0601)**
Massimo Bertoldi (1), Alexandre Closset (2), Zacharie Wuillemain (2), Dario Montinaro (1), Stefano Modena (1), Daniele Penchini (1)
(1) SolydEra SpA, Trento/Italy; (2) SolydEra SA, Yverdon-les-Bains, Switzerland;
- 16:45 **Recent advances in Power-to-X and SOE activities at Topsoe (A0602)**
Andreas Mai (1), Peter Blennow (2), Thomas Heiredal-Clausen (2), Anne Hauch (2), Christian Bækthøj Schandel (2), Jens Sehested (2), Fotios Zaravelis (2), Rasmus Vejle (2), Kristian Bek Helmg (2), Christian Dannesboe (2), Malte Fittkau Birkmose (2), Ian Menjon (2), Jeppe Rass-Hansen (2), Sune Dalgaard Ebbesen (2), Michael Hultqvist (2), Poul Georg Moses (2)
(1) Topsoe, Power-to-X, Essen/Germany; (2) Topsoe, Power-to-X, Kgs. Lyngby/Denmark;
- 17:00 **Commercialization of High Temperature Electrolysis at thyssenkrupp nucera HTE GmbH (A0603)**
Philipp Bickendorf, Cedric Grosselindemann
thyssenkrupp nucera HTE GmbH, R&D, Amstadt/Germany;
- 17:15 **Recent Developments at Elcogen (A0604)**
Jan Gustav Grolig (1), Antonio Alfano (2), Jouni Pouranen (2), Olga Kurapova (2), Ivan Vakulko (1), Timo Lehtinen (2), Tomi Ylikorpi (2)
(1) Elcogen, Jõelähtme/Estonia; (2) Elcogen, Vantaa/Estonia;
- 17:30 **Commercialization and Scale-up of Convion's SOC Platform (A0605)**
Erkko Fontell, Tuomas Hakala, Kim Åström
Convion Oy, Vantaa/Finland;
- 17:45 **Commercialization of Ceres SteelCell® technology for distributed power generation and green hydrogen (A0606)**
Robert Leah, Adam Bone, Mehdi Choolaei, Mahfujur Rahman, Cecile Charbonneau, Daniel McDowall, Estelle le Sache, Subhasish Mukerjee, Caroline Hargrove
Ceres Power Ltd., private, Horsham/United Kingdom;

B06: Systems III & System Modelling**S-Chairs tbc: Anna Sciazko, Mihails Kusnezoff**

- First containerized demonstration of ultra low cost, carbon-based rSOC long-duration energy storage (B0601);** Allen Liang, Theis Skafte, Pawel Piotrowicz, Brooks Hornstein, David Burak, Jonathan Wu, Rio Santos, Sunjay Melkote, Trevor Woo, Usama Sohail, Bob Hintz, Chris Graves; Noon Energy, Palo Alto/United States;
- Development of compact hot Balance of Plant for rSOC system (B0602)**
Jorith Massa (1), Zacharie Wuillemain (2), Florian Waeber (2), Thierry Cornu (2), Michel Dubuisson (3)
(1) Bosal Energy Conversion Systems NV, Lummen/Belgium;
(2) SolydEra SA, Yverdon-les-Bains/Switzerland;
(3) Bosal Energy Conversion Systems NV, Lummen/Belgium;
- Techno-Economic Assessment of Pressurized Solid-Oxide Cell Co-Electrolysis Systems (B0603)**
Sören Ohmstedt, Benjamin Steinrücken, Florian Kerscher, Hartmut Spliethoff
Technical University of Munich, Chair of Energy Systems, Garching/Germany;
- Model-based Analysis of Pressurised Co-Electrolysis with Off-Gas Recirculation (B0604)**
Faisal Sedeqi, Matthias Riegraf, Jan Hollmann, Marc P. Heddrich, Syed Asif Ansar
DLR Institute of Engineering Thermodynamics, Energy System Integration (ESI), Stuttgart/Germany;
- Development and Integration of Solid Oxide Fuel Cells into Green Hydrogen-Based Microgrids (B0605)**
Joaquin Mora Larramona
Green Grouping Energia SL, Barbastro/Spain;
- A Power-to-Methanol process utilizing SOEC and condensing methanol reactor technology (B0606)**
Shane Conley (1), Akhil Ashar (1), John Hansen (2), Robert Braun (1)
(1) Colorado School of Mines, Mechanical Engineering, Golden/United States;
(2) BogildConsult.dk, Humlebæk/Denmark;

18:00 End of Sessions**18:05 Swiss Surprise Night:** Registered participants **meet without delay** at the lakeside entry of the KKL. The **bus must leave 18.15 exactly!**

09:00 A07: System Keynote Session**S-Chairs:** Subhasish Mukerjee

09:00 **K5: Insights on Multi-Stack SOC Systems (A0701)**
Kim Åström; Convion, Vantaa/Finland

B07: Material Keynote Session**S-Chairs:** Stephen Skinner

K6: Discovery of inorganic functional materials in the digital age (B0701)
Matthew Rosseinsky; Department of Chemistry, University of Liverpool, Liverpool/UK

09:25**Go to your preferred session****09:30 A08: SOC for Transportation****S-Chairs tbc:** Pedro Nehter, Laura Nousch

09:30 **Pressurized SOFCs for Aviation: Electrochemical Characterization and Modeling (A0801)**
Daniel Ewald, Cedric Gosselindemann, Adrian Lindner, Martin Deichelbohrer, Simon Baum, André Weber
Karlsruhe Institute of Technology, Institute for Applied Materials – Electrochemical Technologies, Karlsruhe/Germany;

09:45 **Solid Oxide Fuel Cells Concepts for Aviation (A0802)**
Pedro Nehter (1), Helge Geisler (1), Vignesh Ahilan (1), Oliver Rohr (2)
(1) Airbus Operations GmbH, Central Research and Technology, Hamburg/Germany;
(2) Airbus DS GmbH, Central Research and Technology, Taufkirchen/Germany;

10:00 **Solid oxide cell technology for propellant and power production using space resources (A0803)**

Michele Hollist, Tyler Hafen, Dennis Larsen, Rebecca Izatt, Claire Oldham, Joseph Hartvigsen, S. Elango Elangovan; OxEon Energy, Design and Analysis, North Salt Lake, UT/United States;

10:15 **Integrated SOFC-Technology Cascade for High-Efficiency SOFC-GT Hybrid Aircraft Propulsion (A0804)**

Pascal Köhler, Gagatay N. Dagli, Markus Richter, Stephan Kabelac
Leibniz University Hannover, Institute of Thermodynamics, Garbsen/Germany;

B08: Interconnects**S-Chairs tbc:** Remi Costa, Jan Froitzheim

Electrophoretic deposition of protective spinel coatings for SOC interconnects: From coupon to stack (B0801)
Martin Hilger (1), Thorbjørn Krogsgaard (2), Jan Froitzheim (2), Daniil Vakhrameev (3), Dmitry Naumenko (3), Christian Lenser (1), Norbert H. Menzler (1)
(1) Forschungszentrum Jülich GmbH, IMD-2, Jülich/Germany;
(2) Chalmers University of Technology, Chemistry and Chemical Engineering, Göteborg/Sweden; (3) Forschungszentrum Jülich, IMD-1, Jülich/Germany;

Long-term (23 000 h) degradation of ferritic stainless-steel interconnects for Solid Oxide Electrolyzer Cells (B0802)

Mathilde Bouvier (1), Karine Couturier (2), Justine Poncelet (3), Fabien Rouillard (1)
(1) Université Paris Saclay, CEA, Service de recherche en Corrosion et Comportement des Matériaux, Gif-sur-Yvette France; (2) Université Grenoble Alpes, CEA LITEN, Grenoble France
(3) GENVIA SAS, Plaine Saint Pierre, Béziers France

Investigation of advanced beam-shaped laser welding parameters for enhanced solid oxide cell interconnect integrity (SITEC Industrietechnologie GmbH) (B0803)

Thomas Schröder, Diana Menzel, Robert Laue, Viet Duc Nguyen, Martin Florstedt, Tina Schönherr; SITEC Industrietechnologie GmbH, Chemnitz/Germany;

An Algorithm for Simulation of Total Chromium Evaporation by Hot Assemblies in Dynamic Operation. (B0804)

Yves De Vos (1), Tom Hauffman (2), Rubén Del Olmo Martínez (2), Vik Haesen (3)
(1) Bosal ECS NV, Innovations, Lummen/Belgium; (2) Vrije Universiteit Brussel, Electrochemical and Surface Engineering, Brussels/Belgium; (3) Bosal ECS NV, Engineering, Lummen/Belgium;

10:30 Break - Ground & 1st Floor in the Exhibition & 2nd & 3rd Floor in the Poster Areas

11:00 A09: Systems I**S-Chairs tbc: Jan Pieter Ouweltjes, Marc Heddrich**

- 11:00 **Load-Following Operation of a 60 kW SOFC System for Maritime Power Profiles Across Multiple Battery-Assisted Modes (A0901)**
Jan Hollmann (1), Santiago Salas Ventura (1), Fabian Grimm (2), Tommi Pensas (3), Kim Åström (3), Marc P. Heddrich (1), Syed Asif Ansar (1)
(1) German Aerospace Center (DLR), Institute of Engineering Thermodynamics, Energy System Integration (ESI), Stuttgart/Germany;
(2) Everllence SE, Augsburg/Germany;
(3) Convia Oy, Espoo/Finland;
- 11:15 **Off-Design Performance and Fuel Flexibility of a Pressurized SOFC–Engine Hybrid Power System (A0902)**
Gus Floerchinger, Omid Rizvandi, Robert Braun
Colorado School of Mines, Mechanical Engineering, Golden/United States;
- 11:30 **250 kW Solid Oxide System Demonstration at Dynelectro using AC:DC Operation for Thermal Management (A0903)**
Søren Højgaard Jensen, Joshua Mermelstein, Mads Nielsen, Federico Mattera
Dynelectro, Viby Sjælland/Denmark;
- 11:45 **AI Data Center-Integrated Dynamic SOFC-CCHP (A0904)**
Siwoong Kim, Sanggyu Kang, Minseok kwon
Seoul National University, Seoul/South Korea;
- 12:00 **SolydEra rEMX: reversible, multi-fuel modules for industrial applications (A0905)**
Zacharie Wullemmin (1), Florian Waeber (1), Stefan Diethelm (1), Thierry Cornu (1), Julien Perret (1), Fabrice Schaerer (1), Alexandre Closset (1), Sergio Ceschini (2), Massimo Bertoldi (2), Florian Berset (3)
(1) SolydEra SA, Yverdon-les-Bains/Switzerland;
(2) SolydEra SpA, Pergine Valsugana/Italy;
(3) EPFL, SCI-STI-JVH, Sion/Switzerland;

B09: Electrode Mechanisms**S-Chairs tbc: Maria Escudero, Ozden Celikbilek**

- Solid Oxide Cell Electrode Kinetics Revisited (B0901)**
Mogens B. Mogensen (1), Julian Taubmann (1), Xiufu Sun (1), Torben Jacobsen (2), Søren H. Jensen (3,4)
(1) Department of Energy Conversion and Storage, Technical University of Denmark (DTU) Lyngby, Denmark
(2) Department of Chemistry, Technical University of Denmark (DTU), Kgs. Lyngby, Denmark
(3) DynElectro ApS, Viby Sjælland, Denmark
(4) Department of Energy, Aalborg University, Aalborg, Denmark
- Unveiling the Role of Water Vapor in Enhancing Interfacial Proton Conductivity in GDC-Carbonate Electrolyte (B0902)**
Bishnu Choudhary, Ahmad Shaur, Mohamed Asarthen, Aayan Banerjee
UNIVERSITY OF TWENTE, Department of science and technology, Enschede/Netherlands;
- A Synergistic Dual Cation-doping Strategy Toward High-performance and Durable Perovskite Air Electrode for Reversible Protonic Ceramic Electrochemical Cells (B0903)**
Yanmin Wang, Yucun Zhou
Beijing Huairou Laboratory, Beijing/China;
- Enhancing proton transport in electrolyte materials via Sc doping for efficient hydrogen production at intermediate temperatures (B0904)**
Manikandan Chithravelu, John Irvine
University of St Andrews, Department of Chemistry, St Andrews/United Kingdom;
- Effect of dry and steam methane reforming reactions on the performance of fuel-flexible protonic ceramic cells (B0905)**
Haoyu Zheng (1), Spyridon Zafeiratos (2), Detre Teschner (3,5), Aayan Banerjee (4), Vasileios Kyriakou (1)
(1) University of Groningen, Engineering and Technology Institute Groningen (ENTEG), Groningen/Netherlands; (2) CNRS-University of Strasbourg, Institute of Chemistry and Processes for Energy, Environment and Health (ICPEES), Strasbourg/France; (3) Fritz-Haber-Institute of the Max-Planck-Society, Department of Inorganic Chemistry, Berlin/Germany; (4) University of Twente, Department of Chemical Engineering, Enschede/Netherlands; (5) Department of Heterogeneous Reactions, Max-Planck-Institute for Chemical Energy Conversion, Mülheim/Germany;

12:15 **Transient Operation Strategies for a 10 kW Steam Electrolysis Module Operated at up to 20 Bar (A0906)**

Matthias Riegraf, Faisal Sedeqi, Anis Taissir, Florian Stährfeldt, Matthias Metten, Christian Schnegelberger, René Lorenz, Jan Hollmann, Marc Heddrich, Syed Asif Ansar
German Aerospace Center, Institute for Engineering Thermodynamics, Stuttgart/Germany;

Proton conducting $\text{La}_{0.9}\text{Sr}_{0.1}\text{Ce}_{0.8}\text{Al}_{0.2}\text{O}_{3-5}$ electrolyte for Dry Reforming of Methane in H-SOFC - tbc - (B0906)

Manas Mishra, Suddhasatwa Basu
Indian Institute of Technology Delhi, Chemical Engineering, New Delhi/India;

12:30 Lunch - 2nd Floor on the Terrace
Coffee - Ground & 1st Floor in the Exhibition & 2nd & 3rd Floor in the Poster Areas

Afternoon - Luzerner Saal - www.EFCF.com/JoinA

Thursday, 2 July 2026

Auditorium - www.EFCF.com/JoinB - Afternoon

13:15 A10: Poster Session II (covering All Session Topics + A17s: Education, Training & Proposal Assessment)

S-Chairs: Stephen Skinner (Auditorium Foyer), Subhasish Mukerjee (Club Rooms)

Poster Areas: Club Rooms & Auditorium Foyer

14:15 AP2: Industrial Pitches with Q&A (Luzerner Saal)

S-Chairs: Subhasish Mukerjee (Luzerner Saal)

14:15 **Fuel Cell and Electrolyser – Thermal and Electrical Insulation Solutions (AP201)**

Craig Freeman, Technology Manager EMEA – Thermal Ceramics
Morgan Advanced Materials, Thermal Ceramics Italiana, Casalpusterlengo (LO)/Italy
www.MorganAdvancedMaterials.com

14:25 **Membrane-free, decoupled water electrolysis, operating in acidic medium (AP202)**

Alens Martini
ProtiumTech, Malupe / Latvia
www.ProtiumTech.com

14:35 **Industry Pitches Q&A (AP203)**



14:41

Go to your preferred session

14:45 A11: Cell & Stack Development**S-Chairs tbc: Ming Chen, Aline Leon**

- 14:45 **Industrial scale recycling of the waste during tape-casting of the support layer for the anode supported fuel cells (A1101)**
Olga Kurapova (1), Ivan Vakulko (2), Adrien Lamibrac (2), Olga Volobjueva (2), Valentina Pungner (2)
(1) Elcogen OY, Vantaa/Finland; (2) Elcogen AS, Liivamäe, Harju maakond/Estonia;
- 15:00 **Closed-form Reversible Solid Oxide Cells Model for System-Level Monitoring and Real-Time Control (A1102)**
Andraž Kravos, Tomaž Katrašnik
University of Ljubljana, Faculty of Mechanical engineering, LiCeM, Ljubljana/Slovenia;
- 15:15 **3D-Architected Monolithic Solid Oxide Cells (A1103)**
Zhipeng Zhou (1,2), Meng Ni (1), Vincenzo Esposito (2)
(1) The Hong Kong Polytechnic University, Department of Building Environment and Energy Engineering, Hong Kong/Hong Kong SAR of China;
(2) Technical University of Denmark, Department of Energy Conversion and Storage, Lyngby/Denmark;
- 15:30 **Towards the Manufacturing of Protonic Ceramic-Based Electrochemical Cells: From Materials to Processing (A1104)**
Yuan Zeng (1,2), Wendelin Deibert (1), Kwati Leonard (3), Wilhelm A. Meulenberg (1,4) Norbert H. Menzler (1,2); (1) Forschungszentrum Jülich GmbH, Jülich/Germany; (2) RWTH Aachen University, Institute of Mineral Engineering (GHI), Aachen/Germany; (3) International Institute for Carbon Neutral Energy Research (WPI-I2CNER), Nishiku/Japan; (4) Inorganic Membranes, Faculty of Science and Technology, Enschede/the Netherlands
- 15:45 **Multiscale Modeling of PrOx-Infiltrated Oxygen Electrodes for Solid Oxide Cells: From Microstructure to Cell Performance (A1105)**
G. Tambade (1), M. Hubert (1), J.M. Bassat (2) J. Laurencin (1)
(1) Univ. Grenoble Alpes, CEA, LITEN, DTCH, Grenoble/France;
(2) CNRS, Univ. Bordeaux, Bordeaux INP, PESSAC Cedex, France

B11: Stack Modelling**S-Chairs tbc: Aayan Banerjee, Henrik Lund Frandsen**

- Graph Neural Network Surrogate Model for Transient 3D Full-Cell SOFC/SOEC Simulation (B1101)**
Yujin Jung, Hanseol You, Sangryun Lee, Wonjae Choi
Ewha Womans University, Seoul/South Korea;
- Experiment-Efficient Surrogate Modeling of Solid Oxide Cell Systems Through Active Learning (B1102)**
Axel Savikko (1), Anna Sciazko (2), Yosuke Komatsu (2), Naoki Shikazono (2), Imran Asghar (1)
(1) Tampere University, Faculty of Engineering and natural sciences, Materials science and environmental engineering unit, Tampere/Finland;
(2) The University of Tokyo, Institute of Industrial Science, Tokyo/Japan;
- Sintering-based modelling of corrugated SOEC multilayers to enhance yield and scalability (B1103)**
Anne Lyck Smitshuysen (1), Mona Yarahmadi (1), Francesca De Genua (2), Dario Montinaro (2), Søren Højgaard Jensen (1)
(1) Dynelectro ApS, Viby Sjaelland/Denmark;
(2) SolydEra SpA, Mezzolombardo/Italy;
- Predicting Local Temperature, Utilization, and Voltage Gradients in rSOC Stacks under Dynamic Operation (B1104)**
Sreejoe Kaniyamparambil (1), Marvin Schmidt (1), Felix Kunert (1), Stefan Sterlepper (1), Adrian Schloßhauer (2), Simon Mertes (1), Jannik Kexel (2), Stefan Pischinger (1)
(1) RWTH Aachen University, Chair of Thermodynamics of Mobile Energy Conversion Systems, Aachen/Germany;
(2) FEV Europe GmbH, Aachen/Germany;
- Simulation of Transient Operation Limits of a Segmented-In-Series Tubular SOFC Hybrid System (B1105)**
Colin Fischer (1), Fatih Durmus (1), Christoph Wieland (1,2)
(1) University of Duisburg-Essen, Energy Process Engineering and Energy Systems, Essen/Germany; (2) Gas- und Wärmeinstitut Essen e. V., Essen/Germany;

16:00 Break - Ground & 1st Floor in the Exhibition & 2nd & 3rd Floor in the Poster Areas

16:30 A12: Systems II

S-Chairs tbc: Jerome Laurencin, Marco Pelligrini

- 16:30 **Steady-state operation of 70-cell SOE stack – pushing the boundaries of longterm operation at low degradation rates (A1201)**
Jan Pieter Ouweltjes (1), Bertrand Morel (2), Julien Manzi (2), Dario Montinaro (3)
(1) SolydEra SA, Yverdon-les-Bains/Switzerland;
(2) CEA-Liten, Grenoble/France;
(3) Solydera SpA, Mezzolombardo/Italy;
- 16:45 **Steady state operation of a 10 kW SOEC module under pressurized conditions of up to 20 barg (A1202)**
Matthias Metten, Florian Stährfeldt, Christian Schnegelberger, Matthias Riegraf, Jan Hollmann, Faisal Sedeqi, Anis Taissir, Marc P. Heddrich, Syed Asif Ansar
German Aerospace Center (DLR) - Institute of Engineering Thermodynamics, Energy System Integration, Stuttgart/Germany;
- 17:00 **Demonstration of an integrated power-to-liquid process chain using a 220 kW Co-SOEC module (A1203)**
Gaël Corre
Karlsruhe Institute for Technology (KIT), Institute for Micro process Engineering (IMVT), Eggenstein/Germany;
- 17:15 **Assessing performance envelopes and thermal management for protonic ceramic electrolysis cells (A1204)**
Akhil Ashar, Amogh Thatte, Robert Braun
Colorado School of Mines, Mechanical Engineering, Golden/United States;
- 17:30 **A novel optimization and evaluation method for SOE system: Application of SOEC-CST-ORC system with an extending thermal integration boundary (A1205)**
Chengzhou Li (1), Hao Wang (1), Pengjun Li (1), Shuang Zhao (1), Chun Ma (1), Hangyu Yu (2), ligang wang (1); (1) North China Electric Power University, National Energy Storage Industry-Education Platform, Beijing/China;
(2) Swiss Federal Institute of Technology in Lausanne, Group of Energy Materials, Beijing/China;

B12: Fuel Electrodes I

S-Chairs tbc: John Irvine, Vaibhav Vibhu

- Evaluation and Durability Testing of $\text{La}_{0.20}\text{Sr}_{0.25}\text{Ca}_{0.45}\text{TiO}_3$ Solid Oxide Fuel Cell Anodes Impregnated with Gd/Zr-Doped Ceria and Rh (B1201)**
Robert Price (1), Ueli Weissen (2), Seo Jin Kim (1), Jan G. Grolig (2,3*), Andreas Mai (2,4*), John T. S. Irvine (1); (1) School of Chemistry, University of St Andrews, St Andrews/UK; (2) Hexis AG, Winterthur/Switzerland; (3*) Elcogen AS, Liivamäe küla, Jõelähtme vald, Harju maakond/Estonia; (4*) Topsoe Germany GmbH, Essen/Germany
- Investigating Pr-Doped Ceria as a High-Performance SOEC Fuel Electrode (B1212) = (B1202)**
Rishabh Kumar (1,2), Vaibhav Vibhu (1), Hebatallah Ali (1), Rüdiger-A. Eichel (1,2)
(1) Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich GmbH, Jülich, Germany
(2) Institute of Physical Chemistry, RWTH Aachen University, Aachen, Germany
- Symmetric cells with $\text{Sr}_2\text{Fe}_{1.5}\text{Mo}_{0.5}\text{O}_{6.5}$ -based electrodes for Power-to-Gas and Power-to-Liquid applications (B1608) = (B1203)**
Vladislav Kolotygin (1), Walter Zambelli (1), Kimberly Toala (1), Lucile Bernadet (1), Antonio Maria (1), Gina Grabulosa-Morera (2), Raúl Bonet (2), Jaume Caro (2), Jordi Orrit-Prat (2), Maria Carmen Monterde Gascon (3), Jose Antonio Calero Martínez (3), Marc Torrell (1), Albert Tarancón (1,4); (1) IREC, Nanoionics and Fuel Cells group, Barcelona, Spain; (2) Eurecat, Centre Tecnològic de Catalunya, Manresa, Spain; (3) AMES PM Tech Center, Sant Vicenç dels Horts, Spain; (4) ICREA, Barcelona, Spain
- Electrochemical analysis of a NiMo-GDC cathode electrode for high temperature solid oxide $\text{H}_2\text{O}/\text{CO}_2$ co-electrolysis (B1204)**
María José Escudero, Elena Millan, Esperanza Ruiz
CIEMAT, Energy, Madrid/Spain;
- Effect of Fe and Au doping on Ni/GDC and Ni/YSZ for R-SOC operation at intermediate temperatures (B1205)**
Athina Souvalioti (1), Evangelia Ioannidou (1), Labrini Sygellou (1), Stylianos Neophytides (1), Dario Montinaro (2), Dimitrios Niakolas (1)
(1) FORTH/ICE-HT, LEP, Patras/Greece;
(2) SolydEra S.p.A, Trento, Mezzolombardo/Italy;

Afternoon - Luzerner Saal - www.EFCF.com/JoinA

Thursday, 2 July 2026

Auditorium - www.EFCF.com/JoinB - Afternoon

- 17:45 **Pressurized operation of tubular Proton-conducting Ceramic Cells (PCCs) (A1206)**
 Leon Schley (1), Vaibhav Vibhu (1), Peter Rand (2), Rüdiger-A. Eichel (1), Neal Sullivan (2)
 (1) FZ Jülich, IET-1, Jülich/Germany;
 (2) Colorado School of Mines, Mechanical Engineering, Golden/United States;

Influence Of Binary-Oxide Deposits on the Performance of Perovskite-Based Fuel Electrodes in Steam and co-Electrolysis (B1206)
 Stephanie Wolf, Ralf Wurster, Rémi Costa
 German Aerospace Center, Institute of Engineering Thermodynamics, Stuttgart/Germany;

18:00 End of Sessions

19:30 Dinner on the Lake

www.EFCF.com/DoL

- 19:20 - Boarding lake side of KKL pier 5/6
 21:45 - Short stop in Brunnen for early return by train.
 23:15 - Back at pier 5/6, after party until 24:00



Scientific Advisory Committee I (M-Z)

www.EFCF.com/SAC

Dr. Pere Margalef, SNAM, IT Prof. Norbert H. Menzler,
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 Dr. Jan Van Herle, EPFL, CH
 Dr. Christian Walter, Sunfire GmbH, DE
 Dr. André Weber, KIT, DE

We thank the SAC for the evaluation and contribution to structure the technical program.

09:00 A13: Electrolyser Stacks**S-Chairs tbc: Kosovo Kreka, S Elangovan**

- 09:00 **Breaking the bottleneck in the durability of Ni/YSZ-supported SOECs at high current densities (A1301)**
Ming Chen, Xiaofeng Tong, Miao Yu, Vasileios Bilalis, Yijing Shang, Yun Xie, Hua Liu
Technical University of Denmark,
Department of Energy Conversion and Storage, Kgs. Lyngby/Denmark;

- 09:15 **Operation of a SOE stack under differential gas pressure (A1302)**
Michiel Langerman, Cahit Benel, Eduardo Da Rosa Silva, Claire Ferchaud, Maksim Kutuzau, Robert Makkus, Frans van Berkel
TNO - Netherlands Organisation for Applied Scientific Research, STIP, Petten/Netherlands;

- 09:30 **Performance and degradation of long-term operated thin electrolyte-supported cell and stack in electrolysis mode for 10,000 h at around 800 °C and 0.8 A·cm⁻² (A1303)**
Aline Leon (1), Alessandro Micero (1), Simon Soille (1), Josef Schefold (1), Christian Geipel (2)
(1) European Institute for Energy Research, Karlsruhe; (2) Sunfire SE, Dresden/Germany;

- 09:45 **Development of a Planar Stack Technology for Protonic Ceramic Cells and Electrolysis Application (A1304); Rémi Costa (1), Patric Szabo (1), Andrey Koksharov (2), Thomas Jahnke (2); German Aerospace Center (DLR), Institute of Technical Thermodynamics; (1) Electrochemical Energy Technology, (2) Computational Electrochemistry, Stuttgart/Germany;**

- 10:00 **High-Load Operation of 3 kW SOE Stacks at 1.02 A/cm² and 71% Steam Utilization (A1305)**
Stéphane Di Iorio, Brigitte Gonzalez, Pierre Breteau, Barbara Dhe, Karl Vulliez, Manon Elie, Jérôme Aicart, Petitjean Marie, Merlin Jérémy CEA, LITEN/DTCH/SCSH, Grenoble/France;

B13: Air Electrodes**S-Chairs tbc: Ming Li, John Kilner**

- A-Site Disorder Regulation Enables Simultaneously Steam-Resistant and Kinetically Active Air Electrodes for Reversible Protonic Ceramic Electrochemical Cells (B1301)**
Mengxuan Zeng (1), Ruinan Wang (1), Na Yu (1), Dong Zhang (1), Yesu Tan (1), Guanzhen Li (1), Yanya Liu (1), Fei Guo (2), Zheng Li (1), Shuo Zhai (1), Zongping Shao (3), Xi Chen (1), Meng Ni (1); (1) The Hong Kong Polytechnic University, Building Environment and Energy Engineering, Hong Kong/Hong Kong SAR of China; (2) University College London, Department of Chemistry, London/United Kingdom; (3) Curtin University, WA School of Mines: Minerals Energy and Chemical Engineering, Perth/Australia;

Nanostructured Oxygen Electrodes prepared by MOCVD for High Performance SOFC and SOEC (B1302)

- Adeel Riaz (1), Kosova Kreka (2), Alexander Stangl (1), Fjorelo Buzi (2), Federico Baiutti (2), Laetitia Rapenne (1), Carmen Jiménez (1), Michel Mermoux (3), Albert Tarancón (2,4), Mónica Burriel (1,5);
(1) Univ. Grenoble Alpes, CNRS, Grenoble INP, LMGP, Grenoble/France; (2) Catalonia Institute for Energy Research (IREC), Barcelona/Spain; (3) Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Grenoble INP, LEPMI, Grenoble/France; (4) Catalan Institution for Research and Advanced Studies (ICREA), Barcelona/Spain; (5) Instituto de Nanociencia y Materiales de Aragón (INMA), CSIC-Universidad de Zaragoza, Zaragoza/Spain;

Self-Configured Electrocatalysts of Exsolved Pr₆O₁₁ Nanoparticles and Triple Conducting Oxide Hosts for Protonic Ceramic Electrolysis - tbc - (B1303)

- Vassilis Kyriakou, Nannan Li
University of Groningen, Groningen/Netherlands;

Rational Structuring Engineering of A Hydrogenation-dominated Air Electrode with Ag Exsolution for Reversible Protonic Ceramic Cells (B1304)

- Dong Zhang
The Hong Kong Polytechnic University, Hong Kong/Hong Kong SAR of China;

Interfacial Engineering in Solid Oxide Cells (B1305)

- John Irvine
University of St Andrews, Chemistry, St Andrews/United Kingdom;

10:15 Break - Ground & 1st Floor in the Exhibition & 2nd & 3rd Floor in the Poster Areas

10:30 A14: Poster Session III (covering All Session Topics + A17s: Education, Training & Proposal Assessment)

S-Chairs: Subhasish Mukerjee (Auditorium Foyer), Stephen Skinner (Club Rooms)

Club Rooms & Auditorium Foyer

11:00 A15: Alternative Fuels & Fuel Production

S-Chairs tbc: Rafael Nogueira Nakashima, Meriem Fikry

- 11:00 **Demonstration of renewable fuels production from CO₂ via Fischer-Tropsch reaction pathway (A1508) = (A1501)**
Michele Hollist (1), S. Elango Elangovan (2), Don Claus (2), Joelle Hess (2), Abel Gomez (2), Piotr Czernichowski (2), Joseph Hartvigsen (2); (1) OxEon Energy, Design and Analysis, North Salt Lake, UT/United States; (2) OxEon Energy, North Salt Lake, UT/United States;
- 11:15 **A Modular Hybrid Design Framework for Scaling Ammonia-Fueled Solid Oxide Fuel Cell Systems (A1502)**
Du Wen, Xinyi Wei, François Maréchal, Jan Van Herle; EPFL, Sion/Switzerland;
- 11:30 **Role of Solid Oxide Electrolysis in Cost-Competitive Green Ammonia Production (A1503)**
Alessandro Magnino, Paolo Marocco, Marta Gandiglio
Politecnico di Torino, Department of Energy, Torino/Italy;
- 11:45 **Towards SOEC-gasification integration to enhance Power-to-fuel performances (A1504)**
Francesco Basile (1), Angela Gondolini (2), Andrea Fasolini (1), Jacopo de Maron (1), Alessandra Sanson (2), Andrea Brigliadori (2), Christian Hutelberg (3), Josephine Digné (3)
(1) University of Bologna, Department of Industrial Chemistry, Bologna/Italy;
(2) CNR-ISSMC, Institute of Science, Technology and Sustainability for Ceramics, Faenza/Italy;
(3) Hulteberg Chemistry & Engineering AB, Malmö/Sweden;
- 12:00 **Advancing Ammonia SOFCs for Sustainable Shipping: CHP Synergies, Cost Pathways, and Deployment Challenges (A1507) = (A1505)**
Sookyung Kang, Luca Prattico, Matteo Testi
Fondazione Bruno Kessler (FBK), Povo /Italy;
- 12:15 **High-performance, fuel-flexible, direct liquid-fuel SOFCs: from methanol to ammonia solutions (A1506);** Shu Wang, Pradeep Luke Sam, Paul Connor, Cristian Savaniu, John T. S. Irvine; University of St Andrews, St Andrews/United Kingdom;

B15: Analytics

S-Chairs tbc: Stephen Skinner, Andre Weber

- From Signals to Solutions: Impedance for Identification of Degradation in SOEC Stacks (B1501)**
Jatin Saxena (1,2), Federico Monaco (2), Rossen Tchakalov (2), Jérémie Frison (2), Vincent Mondelli (2), Michel Bel (2), Marie-Noelle Dessinges (2), Sylvain Franger (1)
(1) Université Paris-Saclay, Paris/France; (2) Genvia SAS, Technology Group, Grenoble/France;
- Localized failure performance and diagnosis of SOFC (B1502)**
Xinyu Guo (1), Hangyu Yu (2), Jiale Yun (1), Yujie Cai (1), Shuhao Zhang (1), Ligang Wang (1), Jan Van herle (2); (1) Beijing Laboratory of New Energy Storage Technology, North China Electric Power Uni Beijing, Beijing/China; (2) Group of Energy Materials, Faculty of Engineering Sciences (STI), École Polytechnique Fédérale de Lausanne (EPFL) Sion/Switzerland;
- Large Stack Electrochemical Impedance for Serial Production Quality Control (B1503)**
"Oujen Hodjati-Pugh (1), Vasileios Ntoulaveris (1), Mehdi Choolaei (1), Zachary Carroll (2), Mariam Awara (2), Essam Elshawi (2)
(1) Ceres Power Ltd., Horsham/United Kingdom; (2) Pulsenics, Toronto/Canada;
- Techno-economic analysis of 3D printing technology for innovative solid oxide cell stacks (B1504)**
Walter Zambelli (1), Lucile Bernadet (1), Ana María Martos (1), Marc Torrell (1), Albert Tarancón (1,2)
(1) Catalonia Institute for Energy Research (IREC), Sant Adrià de Besòs, Barcelona/Spain;
(2) Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona/Spain;
- Hybrid Data-Driven Detection of Reactants Starvation in SOFCs Using Total Harmonic Distortion Signal Analysis and Deep Learning (B1505)**
Ye Li (1), Junhua Fan (2), Yuqing Wang (1), Yixiang Shi (2)
(1) Beijing Institute of Technology, Beijing/China; (2) Tsinghua University, Beijing/China;
- Mapping Local Pressure in SOFC Cells Through Ni-Mesh Indentation Signatures (B1506)**
Vincent Guigoz, Stéphane Di Iorio
CEA Liten, Grenoble/France;

12:30 Lunch & Coffee - 2nd Floor on the Terrace Ground & 2nd & 3rd Floor in the still open Poster Areas
Remove posters from 13.15, they will be finally disposed of at the end.

Afternoon - Luzerner Saal - www.EFCF.com/JoinA

Friday, 3 July 2026

Auditorium - www.EFCF.com/JoinB - Afternoon

13:30 A16: Cell & Stack Manufacturing

S-Chairs tbc: Stephane Di Iorio, Wolff-Ragnar Kiebach

- 13:30 **Testing of a material to improve the gas tightness of stacks and their compression system (A1608) = (A1601)**
 Pierre Douguet (1,2), Karl Vulliez (1), Annabelle Laplace (2)
 (1) Univ. Grenoble Alpes – CEA/LITEN, Grenoble/France; (2) CEA, DES, ISEC, DPME, Laboratoire de Formulation des Matériaux Minéraux, Univ. Montpellier, Marcoule/France;
- 13:45 **Scale-up of solid oxide cell fabrication: from laboratory optimization to pre-industrial manufacturing (A1602)**
 Violeta Ureña (1,2), Kandela Ruiz (1,2), Yuli Betancur (1), Paula Ciauriz (1), Mónica Aguado (1,2), Iñigo Garbayo (1); (1) Grid Integration, Electrical Storage and Hydrogen Department, National Renewable Energy Centre of Spain (CENER), Sangüesa/Navarre; (2) Public University of Navarre, Pamplona-Iruña, Spain;
- 14:00 **Design and Processing Methods for High-Performance Proton-Conducting Cells (A1607) = (A1601);** Angela Gondolini (1), Elisa Mercadelli (1), Andrea Bartoletti (1), Massimiliano Lo Faro (2), Martina Marasi (3), Alessandro Donazzi (3), Alessandra Sanson (1) (1) National Research Council (CNR), Institute of Science, Technology and Sustainability for Ceramics (ISSMC), Faenza/Italy; (2) National Research Council (CNR), Institute for Advanced Energy Technologies "Nicola Giordano" (ITAE), Messina/Italy; (3) Politecnico di Milano, Department of Energy, Milano/Italy;
- 14:15 **Additive manufacturing for solid oxide cell fabrication with unconventional interface geometries (A1604)**
 Sayan Chattopadhyay (1), Andreas Egger (1), Arijit Jana (2), Josef Schlacher (2), Thomas Prochaska (3), Martin Schwentenwein (3), Raul Bermejo (2), Edith Bucher (2)
 Technical University of Leoben: (1) Chair of Physical Chemistry, (2) Chair of Structural and Functional Ceramics, Leoben/Austria; (3) Lithoz GmbH, Wien/Austria;
- 14:30 **Green and scalable water-based process for solid oxide cells (SOC) with metal-supported architecture (A1605)**
 Logane Malié, Sandrine Duluard, Patrick Rozier CIRIMAT, Toulouse/France;

B16: Fuel Electrodes II

S-Chairs tbc: Norbert Menzler, Stephanie Wolf

This contribution was unexpectedly withdrawn
 and is therefore available again.
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Performance and Durability of Anode-Supported SOFC for Hydrogen-Powered Aircraft (B1602)

Vanessa Vilela, Cécile Rossignol, Laurent Dessemond, Franck Fournet-Fayard, Camille Jourdin, Marlu C. Steil
 Univ. Grenoble Alpes, LEPMI/Grenoble-INP, Grenoble/France;

Ni-Based, Nanoscale Composite Fuel Electrodes Through Self-Assembly for Solid Oxide Cells and Their Microstructural Stabilization - tbc - (B1603); Ünsal Ünver (1), Zeynep Ezgi Doğan (1), Sorour Semsari Parapari (2), Saso Sturm (2), Aligul Buyukaksoy (1); (1) Gebze Technical University, Materials Science and Engineering, Kocaeli/Türkiye; (2) Jozef Stefan Institute, Department for Nanostructured Materials, Ljubljana /Slovenia;

Thin Films Deposited by Magnetron Sputtering for SOECs: From Dense to Porous Morphology (B1604)

Emilie Raoult (1), Denis Guimard (1), John D. Pietras (2), Marc Yonger (1), Samuel Marlin (3), Yves Boussant-Roux (3)
 Saint-Gobain Research: (1) Paris, Aubervilliers/France, (2) North America, Northborough/USA, (3) Provence, Cavaillon/France

Performance Influence of Nitrogen Flow Rate in SOFC Fuel Electrode (B1605)

Luigi Margutti (1), Giovanni Cinti (1), Daniele Penchini (2), Nicola Zadra (2)
 (1) Uni of Perugia, Department of Engineering, Perugia; (2) SolydEra SpA, Mezzolombardo/Italy;

Afternoon - Luzerner Saal - www.EFCF.com/JoinA

Friday, 3 July 2026

Auditorium - www.EFCF.com/JoinB - Afternoon

- 14:45 **Implementing Ni-GDC in Fully Screen-printed Solid Oxide Cells: Manufacturing and Interface Engineering Challenges (A1606)**
Denise Ramler (1), Luzie Wehner (2), Christian Lenser (1), Norbert H. Menzler (1)
(1) Forschungszentrum Jülich IMD-2, Solid Oxide Fuel Cells, Jülich/Germany;
(2) Forschungszentrum Jülich IMD-1, Jülich/Germany;

- Optimization of Biogas-Fueled Solid Oxide Cells: Performance, Degradation, and Advanced Fuel Electrode Development (B1606)**
Vipin Kamboj, Vaibhav Vibhu, Rüdiger-A. Eichel
Forschungszentrum Jülich GmbH (FZJ), Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Jülich/Germany;

15:00 **5 Min to change from B16 Session to Luzerner Saal for A17 Plenary Session**

15:05 A17: P2: Closing Ceremony
Keynote by the EFCF Gold Medal of Honour Winner 2026

S-Chairs: Stephen Skinner, Subhasish Mukerjee, M. Spirig, O. Bucheli

- 15:05 **Summary by the Chairs (A1701)**
Subhasish Mukerjee (1), Stephen Skinner (2)
(1) Ceres Power, Horsham/United Kingdom; (2) Imperial College, London/United Kingdom
- 15:20 **Information on Next EFCF:**
EFCF 2028 18th European SOFC & SOE Forum (32)
EFCF 2027 11th FC, Electrolyser & H₂ Processing Forum (31) (A1702)
Michael Spirig (1), Chair(s) 2028 (2), Olivier Bucheli (1)
(1) European Electrolyser & Fuel Cell Forum, Lucerne/Switzerland;
(2) outcome of the nomination & election process by the International Board of Advisors IBoA
- 15:30 **Christian Friedrich Schönbein Award for the Best Poster, Best Science Contribution, Medal of Honour (A1703)**
Stephen Skinner (1), Subhasish Mukerjee (2)
(1) Imperial College, London/United Kingdom; (2) Ceres Power, Horsham/United Kingdom
- 15:40 **K7: EFCF 2026 Gold Medal Winner Surprise Keynote "22 years attending EFCF" (A1704)**
John Bøgild Hansen, Bøgild Consult
former Senior Scientist & Adviser to Chairman of Haldor Topsøe A/S Lyngby/Denmark
- 16:05 **Thank you and Closing by the Organizers (A1705)**
Olivier Bucheli, Michael Spirig; European Electrolyser & Fuel Cell Forum, Luzern/Switzerland

A17s: Education, Training & Proposal Assessment (just posters)



16:15 **End of Sessions - End of Conference**
Good bye coffee & travel refreshment in front of the Luzerner Saal

Poster List

covering All Oral Session Topics

A04 Poster Session I

A10 Poster Session II

A14 Poster Session III

Auditorium Foyer 1st floor & Club Rooms 2nd floor

Wednesday, 1 July 2026

Afternoon 13:15 - 15:00

Thursday, 2 July 2026

Afternoon 13:15 - 15:00

Friday, 3 July 2026

Morning 10:45 - 11:30

A06: SOC Stack updates by industry & major groups III

Status of high temperature co- and CO₂-electrolysis development at TNO (A0607)

Cahit Benel, Michiel Langerman, Claire Ferchaud, Maksim Kutuzau, Eduardo Da Rosa Silva, Frans van Berkel; TNO, STIP, Petten/Netherlands;

From Stack to Megawatt System: AVL's Technical Innovations Enabling Industrial SOC Applications (AP101) = (A0609)

Vincent Lawlor (1), Bernhard Stoeckl (1), Bernd Reiter (1), Valtteri Vedensola (2)
(1) AVL List GmbH, Graz7Austria; (2) Elcogen Oy, Niittyvillankuja 4, Vantaa 01520, Finland

A08: SOC for Transportation

Modeling of an Internally Cooled SOFC and System-Level Simulation of Hybrid SOFC-GT Propulsion Systems for Aviation (A0807)

Cagatay Necati Dagli, Pascal Köhler, Johannes Mellmann, Markus Richter, Stephan Kabelac
Institute of Thermodynamics, Mechanical Engineering, Garbsen/Germany;

Toward next-generation SOFC architectures for aviation applications (A0808)

Meriem Fikry (1), Lily Koops (1), Christopher Warsch (1), Cagatay Necati Dagli (2), Paul Emile Roux (3); (1) Bauhaus Luftfahrt e.V., Taufkirchen/Germany; (2) Leibniz University Hannover, Institut für Thermodynamik, Garbsen/Germany; (3) AIRBUS SAS, Blagnac/France;

A09: Systems I

Design Options and Performance Considerations for Pre-Reformer Reactors in SOFC Systems (A0907)

Christian Hulteberg (1), Christian Breuer (2), Pragati Joshi (2)
(1) Hulteberg Chemistry & Engineering AB, Malmö/Sweden;
(2) Heraeus Precious Metals GmbH & Co. KG, Hanau/Germany;

B02: Cell Lifetime I

AC:DC operation of 70-cell SOE stack – enabling dynamic operation and years of lifetime (B0207)

Thomas Erik Lyck Smitschuysen (1), Vasileios Bilalis (1,2), Olivia Fjord Sloth (1,2), Martin Nørby Nielsen (1), Benjamin Hartz (1), Oliver Mohr (1), Dario Montinaro (3), Jan Pieter Ouweltjes (4), Marie Lund Traulsen (1), Mogens Bjerg Mogensen (2), Søren Højgaard Jensen (1,5)

- (1) Dynelectro, R&D, Viby Sjælland/Denmark;
- (2) DTU Energy, Kgs. Lyngby/Denmark;
- (3) SolydEra SpA, Mezzolombardo/Italy;
- (4) SolydEra SA, Yverdon-les-Bains/Switzerland;
- (5) AAU, Department of Energy, Aalborg/Denmark;

Stability and Degradation of Glass-Ceramic Composite Sealants under SOEC Operating Conditions (B0208)

Mahtab Mirabbasi; Forschungszentrum Jülich GmbH, ITE, Jülich/Germany;

Boosting Performance and Suppressing Carbon: Steam Effects on CH₄/CO₂ Internal Reforming in Solid Oxide Cells (B0209)

Vaibhav Vibhu, Jan Uecker, Vipin Kamboj, Rüdiger-A. Eichel
Forschungszentrum Jülich GmbH (FZJ), Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Jülich/Germany;

Phase field modeling of microstructure evolution in patterned solid oxide fuel cell anode (B0210)

Junyi Tao, Junya Onishi, Yosuke Komatsu, Anna Sciazko, Takaaki Shimura, Takao Okabe, Katsuhiko Nishimura, Naoki Shikazono
The University of Tokyo, Institute of Industrial Science, Tokyo/Japan;

A Small Scale SOFC Power Generator based on Methane and Oxygen for Deep Space Missions to Enceladus (A0908)

Laura Nousch (1,2), Mathias Hartmann (1), Florian Hewelt (1), Theodor Heutling (3), Christian Bach (3), Brandon Buergher (4), Martin Haag (4), Jakob Schöne (1), Sebastian Hielscher (1), Stefan Megel (1)

- (1) Fraunhofer Institute of Ceramic Technologies and Systems IKTS, Dresden/Germany;
- (2) TUD Dresden University of Technology, Institute for Aerospace Engineering, Dresden/Germany;
- (3) European Space Agency, ESTEC, Noordwijk/Netherlands;
- (4) University of Applied Sciences Dresden (HTW), Friedrich-List-Platz 1, 01069 Dresden, Germany;

Comparative Assessment of Diesel Generator and Grid-Forming SOFC Based Micro-Grids (A0909)

Philippe Alexandre, Marie-Lise Tremblay, Guillaume Jeanmonod, Charles Cyr
Hydro-Québec, Varennes/Canada;

Research and Development of E-fuel Production with SOEC in Japan (A0910)

Yohei Tanaka (1), Naoki Takada (2), Po-Chih Kuo (2), Minoru Nakagawa (2), Katsuhiko Yamaji (2), Takuya Yamaguchi (2)

- (1) National Institute of Advanced Industrial Science and Technology, Research Institute for Energy Conservation, Tsukuba/Japan;
- (2) National Institute of Advanced Industrial Science and Technology, Research Institute for Energy Efficient Technologies, Tsukuba/Japan;

Techno-economic analysis of modular SOE systems: scale-up effects on Capex and hydrogen cost (A0912)

Marco Ficili, Stefano Campanari, Paolo Colbertaldo
Politecnico di Milano, Department of Energy, Milan/Italy;

Concept Development and Design of a Multi-fuel SOFC System using Ammonia and Natural Gas (A0913)

Florian Hewelt (1), Mathias Hartmann (1), Laura Nousch (1,2)

- (1) Fraunhofer Institute of Ceramic Technologies and Systems IKTS, Dresden/Germany;
- (2) University of Applied Science HTW, Dresden/Germany;

SOFC system with MK35x stacks operated with gasified wood pellets (A0914)

S. Megel, A. Seidl, S. Hielscher, S. Rothe, L. Conti, C. Mandl, T. Brunner, I. Obernberger, F. Silversand, A. Morosanu, T. Götz; Fraunhofer Gesellschaft, IKTS, Dresden/Germany;

Analysis of preheating strategy & heat transfer mechanism of the MS-SOEC system (A0915)

Jenn-Kun Kuo

National Sun Yet-sen University, Department of Mechanical and Electro-Mechanical Engineering, Kaohsiung/Taiwan;

From Materials to System: A Multi-scale Simulation Platform at CEA-Liten for Lifetime Optimization of Solid Oxide Electrolyzers (B0211)

Mathias Gerard, Jérôme Laurencin, Maxime Hubert, Cintia Hartmann, Thomas Carlioz, Felix Bosio, Axelle Hego, Christian Tantolin, Federico Mazzelli, Mathilde Grandjacques
CEA, Liten, Grenoble/France;

Mapping Local Conditions in Co-Electrolysis using segmented SOC (B0212)

Vojtech Kunc (1), Julian Taubmann (1), Anke Hagen (1), Arash Nemati (1), Romuald Coupan (2), Patrice Tochon (2), Henrik Lund Frandsen (1)

- (1) Technical University of Denmark, DTU Energy, Kgs. Lyngby/Denmark;
- (2) Genvia SAS, Beziers/France;

B03: Cell Lifetime II

Influence of Temperature on Early Degradation of High Temperature Electrolysis Stacks (B0307)

Jerome Aicart, Pierre Hanoux, Silvere Panisset, Thibaut Disparti, Marie Petitjean, Stephane Di Iorio
CEA, LPH, Grenoble/France;

Performance & Durability of Electrolyte Supported Cells with Thin Electrolyte in Steam Electrolysis: 10000 h Stable Operation at 1.2 A cm⁻² Current Density (B0308)

Josef Schefold (1), Aline Léon (1), Christian Geipel (2)

- (1) European Institute for Energy Research, EIFER, Karlsruhe/Germany;
- (2) Sunfire GmbH, Dresden/Germany;

Enhancing the durability of solid oxide cells via processing optimization (B0309)

Xiufu Sun (1), Riccardo Caldogno (1), Miao Yu (1), Ivan Vakulko (2), Andrei Denissenko (2), Janis Zideluns (3), Pāvels Nazarovs (3)

- (1) Technical University of Denmark, Department of Energy Conversion and Storage, Kgs. Lyngby/Denmark;
- (2) Elcogen AS, Liivamäe/Estonia;
- (3) SIA Naco Technologies, Riga/Latvia;

Long-Term Performance and Degradation Study of Commercial Single Cells and Stacks in Co-Electrolysis for Power-to-X Applications (B0310)

Daniel Reiner (1), Hartmuth Schröttner (2, 3), Stefan Megel (4), Christoph Hochenauer (1), Vanja Subotić (1)

- (1) Institute of Thermal Engineering, Graz University of Technology, Graz/Austria;
- (2) Institute of Electron Microscopy and Nanoanalysis (FELMI), Graz University of Technology, Graz/Austria;
- (3) Graz Centre for Electron Microscopy (ZFE), Graz/Austria;
- (4) Fraunhofer Gesellschaft, IKTS, Dresden/Germany;

Impact of Hydrogen Addition on Efficiency, Reformer Temperature and NO_x Emissions in a Stationary SOFC (A0916)

Sreejoe Kaniyamparambil (1), Marvin Schmidt (1), Stefan Sterlepper (1), Adrian Schloßhauer (2), Simon Mertes (1), Stefan Pischinger (1)

(1) Chair of Thermodynamics of mobile energy conversion systems, Fuel Cell / Electrolysis, Aachen/Germany;

(2) FEV, Fuel Cell / Electrolysis, Aachen/Germany;

Microtubular Solid Oxide Fuel Cells systems powered by liquefied petroleum gas for portable applications (A0917)

Joaquin Mora Larramona

Green Grouping Energia SL, Barbastro/Spain;

Interfacial design of GDC layer with textured YSZ-electrolyte for enhanced electrochemical performance of symmetric half-cell (A0918)

Sharanya Dattamandal, Didier Fasquelle

Université du Littoral Côte d'Opale (ULCO), UDSMM, Calais/France;

Hydrogen Recirculation for Solid Oxide Electrolysis System (A0919)

Hua Liu (1), Xiaoli Wang (1), Liwen Zhao (2), Zhanzhen Yang (2), Xingyu Xiong (1)

(1) Beijing Huairou Laboratory, Beijing/China;

(2) North China Electric Power University, Beijing/China;

100/33kW rSOC system for grid interconnection (A0920)

Stefan Diethelm (1), Florian Waeber (1), Zacharie Wuillemain (1), Mariana Martin (2), Mariana Martin (2), Gabriela Reyes (2), Luca Schmidlin (3), Salvatore Oricchio (3)

(1) SolydEra SA, Yverdon-les-Bains/Switzerland;

(2) INERCO, Hydrogen Technologies, Sevilla/Spain;

(3) OST, IET Institut für Energietechnik, Rapperswil-Jona/Switzerland;

SOFC system with MK35x stacks operated with gasified wood pellets (A0921)

Stefan Megel (1), Anna Seidl (1), Sebastian Hielscher (1), Stefan Rothe (1), Luc Conti (2), Christoph Mandl (3), Thomas Brunner (3), Ingwald Obernberger (3), Fredrik Silversand (4), Alexandru Morosanu (5), Thomas Goetz (6)

(1) Fraunhofer Gesellschaft, IKTS, Dresden/Germany;

(2) Inergio, Renens/Switzerland;

(3) BIOS, Graz/Austria;

(4) Catator, Lund/Sweden;

(5) Hysytech, Orbassano/Italy;

(6) Wuppertal Institute, Wuppertal/Germany;

Accelerated stress testing of SOE stack via 30,000 current cycles (B0311)

Werner Huhtinen (1), Antonio Alfano (2), Santeri Saxelin (1), Olli Himanen (1)

(1) VTT Technical Research Centre of Finland, Espoo/Finland;

(2) Elcogen Oy, Vantaa/Finland;

Stabilization of impregnated cobaltite-based oxygen electrodes for high-performance, intermediate-temperature metal-supported solid oxide cells (B0312)

Federico Capotondo, Adam Alemayehu, Noemie Schirpke, Matilde Castagna, Bhaskar Sudireddy, Anke Hagen

Denmark Technical University, Energy Conversion and Storage, Kongens Lyngby/Denmark;

Electrochemical and material insight into DA-SOFC stack failure and degradation (B0313)

Krystian Machaj (1,2,*), Yevgeniy Naumovich (1,2), Magdalena Kosiorek (1,2), Leszek Ajdys (1,2), Anna Niemczyk (1,2), Piotr Ostrowski (1,2), Monika Łazor (1,2), Michał Wierzbicki (1,2), Michał Skrzypkiewicz (1,2), Marek Skrzypkiewicz (1,2)

(1) Institute of Power Engineering, Department of High Temperature Electrochemical Processes, Warsaw/Poland;

(2) Center for Hydrogen Technologies CTH2, Institute of Power Engineering, Warsaw/Poland;

SOC Operation at Elevated Current Density: Electrochemical and Microstructural Characterization (B0315)

Daniel Ewald (1), Adrian Lindner (1), Daniel Esau (1), Isaac Burdge (2), André Weber (1)

(1) Karlsruhe Institute of Technology, Institute for Applied Materials – Electrochemical Technologies, Karlsruhe/Germany;

(2) Arizona State University, Tempe, AZ, United States

Insights into SOEC durability and material interactions from a rainbow short stack of modified Elcogen cells (B0316)

Kaarel Kisand, Adrien Lamibrac, Olga Volobujeva, Olga Kurapova, Jan Grolig

Elcogen, Tallinn/Estonia;

Analysis of Cell Performance and Degradation Factors of Co-electrolysis in SOEC (B0317)

KOICHI ASANO, Takumi Imabayashi, Yoshihiro Mugikura

Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka/Japan;

B05: Modelling & Simulation

A Multi-Physics SOEC Model Coupling Gas Flow, Electrochemistry, and Microstructure for Performance and Degradation Studies (B0507)

Niklas Eyckeler, Shidong Zhang, Vaibhav Vibhu, Remzi Can Samsun, Rüdiger-A. Eichel
Forschungszentrum Jülich GmbH, Institute of Energy Technologies, Jülich/Germany;

Design and Analysis of a High-Temperature Solid Oxide Electrolysis System (A0922)

Julian Gruber (1), Stefan Beringer (2), Alexander Trattner (3)

(1) Technical University Graz, Institute of Thermodynamics and Sustainable Propulsion Systems, Graz/Austria; (2) HyCenta GmbH, ECT, Graz/Austria; (3) HyCenta GmbH, Graz/Austria;

Hydrogen Storage and Fuel Cells for Optimised Renewable Energy Communities (H2SCORE) (A0923)

Paolo Marocco, Omar Najoui, Massimo Santarelli, Marta Gandiglio

Politecnico di Torino, Department of Energy, Torino/Italy;

State-of-the-art review of heat management in SOE systems: challenges and opportunities (A0924)

Michael Bagnolini (1,2), Marco Pellegrini (1), Fabio Cavina (2), Alessandro Guzzini (4)

(1) University of Bologna, Industrial Engineering, Forlì/Italy;

(2) Fores Engineering Srl, Forlì/Italy;

Innovative High Temperature Electrolyzer Pilot Plant for Clean Hydrogen Production (A0925)

Khayom Hakimov, Aziz Nechache, Juan Delgado, Mani Sarathy

KAUST, Clean Energy Research Platform, Thuwal/Saudi Arabia;

A11: Cell & Stack Development**A 0D Digital Twin Framework for Real-Time Degradation Diagnosis of Solid Oxide Cell (A1107)**

Sejin Park, Seowoo Jeong, Wonjae Choi

Ewha Womans University, Mechanical and Biomedical Engineering, Seoul/South Korea;

Numerical Simulation of Multi-physics Field Uniformity in SOFC Stack Configuration (A1109)

Shuang Zhao (1), Xiaolu Wang (1), Chengzhou Li (1), Hangyu Yu (2), Ligang Wang (1), Jan Van Herle (2)

(1) North China Electric Power University, Beijing/China;

(2) École Polytechnique Fédérale de Lausanne (EPFL), Sion/Switzerland;

Benchmark of openfuelcell2 based on experimental SOC data in standard, pressurized and co-electrolysis conditions (A1110)

Krystian Machaj (1,2), Anna Niemczyk (1,2), Kornel Rastawicki (1,2), Stanislaw Szumowski (1,2), Maciej Bakała (1,2), Yevgeniy Naumovich (1,2)

(1) Institute of Power Engineering, Department of High Temperature Electrochemical Processes, Warsaw/Poland;

(2) Center for Hydrogen Technologies CTH2, Institute of Power Engineering Augustówka, Warsaw/Poland;

Chasing carbon deposition in co-electrolysis: Impedance-driven modelling for Ni-based SOECs (B0502) = (B0508)

Ana García Romafach (1,2), Federico Mattera (1,3), Henrik Lund Frandsen (2), Ming Chen (2), Marie Lund Traulsen (1), Thomas Erik Lyck Smitshuysen (1), Mogens Bjerg Mogensen (2), John Bøgild Hansen (4) and Søren Højgaard Jensen (1,3)

(1) Dynelectro ApS, Viby Sjælland/Denmark;

(2) DTU, Department of Energy Conversion and Storage, Lyngby/Denmark;

(3) AAU, Department of Energy, Aalborg/Denmark;

(4) Aarhus University, Department of Biological and Chemical Engineering, Aarhus/Denmark;

Virtual EIS analysis using Python (nest-soc): validating microstructure evolution prediction for SOFC degradation (B0509)

Rafael Nogueira Nakashima (1), Javid Beyrami (1), Julian Taubmann (1), Giovanni Aldegheri (1), XiuFu Sun (1), Yash Raka (2), Henrik Lund Frandsen (1)

(1) Technical University of Denmark, Department of Energy Conversion and Storage, Kgs.

Lyngby/Denmark;

(2) HD Hyundai Europe Research & Development Center GmbH, Düsseldorf/Germany;

Impact of biogas-derived sulphur contaminants on SOFC: experiments and 0D modelling (B0510)

Lucia Pera (1), Hangyu Yu (2), Cédric Frantz (2), Marta Gandiglio (1), Paolo Marocco (1), Jan Van Herle (2), Massimo Santarelli (1)

(1) Politecnico di Torino, Torino/Italy;

(2) Swiss Federal Institute of Technology in Lausanne (EPFL), Sion/Switzerland;

Defining the Applicability of the Transmission Line Model for SOFC Anode Electrokinetics (B0511)

Panagiotis Giotakos, Dimitrios Niakolas, Stylianos Neophytides

FORTH/ICE-HT, LEP, Patras/Greece;

Multiscale modeling of solid oxide fuel cells: Accounting for oxidation and reduction electrochemical reactions at the electrode microstructure level (B0512)

Masoud Babaei (1), Constantinos Theodoropoulos (2)

(1) University of Manchester, Manchester/United Kingdom;

(2) University of Manchester, Chemical Engineering, Manchester/United Kingdom;

New physically based model for the fuel electrode impedance and charge transfer reaction in an SOC (B0513)

Christoffer P. Nielsen (1), Kevin Thomas McCabe (1,2), Jens Sehested (1)

Topsoe A/S, Kgs. Lyngby/Denmark;

Thermoelastic-Fatigue Analysis of Direct Ammonia Solid Oxide Fuel Cell Stacks: A Paris Law-Integrated Computational Framework Incorporating Endothermic Decomposition Effects for Lifetime Prediction (A1111)

Priyanka Rajeev

IIT Kanpur, Mechanical Engineering, Kanpur/India;

Integrated Experimental–Digital Twin Validation of High-Current-Density Solid Oxide Electrolysis Cell (SOEC) for Large-Scale Hydrogen Production System (A1112)

Syed Shaheryar Ali Shamsi (1,2), Tak-Hyoung Lim (1,2)

(1) Hydrogen Fuel Cell Laboratory, Korea Institute of Energy Research (KIER), Daejeon/Republic of Korea; (2) Department of Advanced Energy and System Engineering, University of Science and Technology (UST), Daejeon/South Korea;

3D simulation of a Reversible Solid Oxide Cell-Thermal Battery System: Stack Behavior and Hotbox Design (A1113)

Dajung Kim, Wonjae Choi

Ewha Womans University, Mechanical and Biomedical Engineering, Seoul/South Korea;

One-dimensional steady-state modeling and structure optimization of segmented-in-series tubular SOFCs (A1115)

Huiyu Zhang

Xi'an Jiaotong University, State Key Laboratory of Mechanical Behavior of Materials, Xi'an/China;

Addressing Cell-to-Cell Inconsistencies in Methane-Rich Solid Oxide Fuel Cell (SOFC) Stacks (A1116)

Chen Lin, Florian Kerscher, Benjamin Steinrücken, Sören Ohmstedt, Hartmut Spliethoff
Technical University of Munich, TUM School of Engineering and Design, Munich/Germany;

Analysis of internal states in SOC-stacks for targeted optimization of performance based on a fully experimentally parametrized 3D model (A1117)

Marius Mueller (1,2), Markus Klinsmann (1), Ulrich Sauter (1), Jean-Claude Njodzefon (1), André Weber (2)

(1) Robert Bosch GmbH, Corporate Research, Renningen/Germany;

(2) Karlsruhe Institute of Technology (KIT), Institute for Applied Materials— Electrochemical Technologies (IAM-ET), Karlsruhe/Germany;

Evaluation of Operating and Thermal Effects on PCEC Stack Performance and Heat Distribution (A1118)

Ming-Xian Lin (1), Wan-Rou Lin (1), Yen-Hsin Chan (1), Wei-Mon Yan (2), Wei-Hsuan Hung (3), Sheng-Wie Lee (3); Feng Chia University, Department of Mechanical and Computer-Aided Engineering, Taichung City /Taiwan;

Theoretical insights into equilibrium potentials in electrochemical cells with multiple mobile charge carriers (B0515)

Felix Ehrlich (1), Akhil Ashar (2), Oscar Furst (1), Philipp Blanck (1), Huayang Zhu (2), Robert J. Kee (2), Robert J. Braun (2), Olaf Deutschmann (1)

(1) Karlsruhe Institute of Technology, Chemistry and Biosciences, Karlsruhe/Germany;

(2) Colorado School of Mines, Mechanical Engineering, Golden/United States;

Data-driven Design of Spinel Oxides for Oxygen Electrocatalysts (B0517)

Incheol Jeong

Korea Institute of Geoscience and Mineral Resources, Resources Utilization Center, Daejeon/South Korea;

Development of Anode Decomposition Layer for Ammonia-Fueled PCFCs (B0518)

(1) Department of Mechanical Engineering, Taiwan;

(2) Institute of Energy Engineering, Taiwan;

(3) Department of Sustainability and Green Energy, Taiwan;

(4) Hydrogen Energy Research Center, Taiwan;

(5) Institute of Materials Science and Engineering, Taiwan

Enhanced Solid Oxide Fuel Cell Performance Using a Ruthenium-Doped Layered Double Perovskite Anode with Exsolved Nanoparticles (B0519)

Sivaprakash Sengodan, Timileyin Aworinde

Khalifa University, Mechanical & Nuclear Engineering, Abu Dhabi/United Arab Emirates;

Parameter Identification and Modeling of Solid Oxide Electrolysis Segmented Cells (B0520)

Xiaolu Wang (1), Shuang Zhao (1), Xinyu Guo (1), Hangyu Yu (2), Ligang Wang (1)

(1) North China Electric Power University, Beijing/China;

(2) École Polytechnique Fédérale de Lausanne (EPFL), Beijing/China;

A modern approach to Equivalent Circuit Model parameter estimation in electrochemistry (B0521)

Luka Žnidarič, Žiga Gradišar, Pavle Bošković, Đani Juričič

Jožef Stefan Institute, E2, Ljubljana/Slovenia;

Upcycling Spent Li-ion Battery NMC Electrodes as Fuel Electrodes for Solid Oxide Electrochemical Cells (B0522)

Kimin Roh

Korea Institute of Geoscience and Mineral Resources, Daejeon/South Korea;

Coupled Electrochemical and System-Level Modelling for Long-Term Operation of SOE Co-Electrolysis Plants (A1120)

Stefan Beringer (1), Klara Treusch (1), Marie-Gabrielle Macherhammer (1), Julian Gruber (2), Alexander Trattner (1)

(1) HyCentA Research GmbH, Graz/Austria;

(2) Graz University of Technology, Institute of Thermodynamics and Sustainable Propulsion Systems, Graz/Austria;

3D Multiphysics modeling of a Solid Oxide Electrolyzer Repeating Unit (A1121)

Dante Fronterotta (1), Mathieu Zysset (1), Hangyu Yu (1), Dario Montinaro (2), Jan Van Herle (1)

(1) EPFL, Lausanne/Switzerland; (2) SolydEra SpA, Mezzolombardo/Italy;

Parameterization and Validation of a Quasi-2D Model for Solid Oxide Cell Co-Electrolysis Performance (A1122)

Simon Dreyman (1), Daniel Reiner (2), Christoph Hochenauer (2), Vanja Subotic (2), Tilman Barz (1)

(1) AIT Austrian Institute of Technology, Sustainable Thermal Energy Systems, Wien/Austria;

(2) Graz University of Technology, Institute of Thermal Engineering, Graz/Austria;

A Digital Twin of a Solid Oxide Fuel Cell (A1123)

Zahraa Al-Jazaeri, Yousif Al-Sagheer, Robert Steinberger-Wilckens

University of Birmingham, School of Chemical Engineering, Birmingham/United Kingdom;

Multiphysics simulation of thermally induced stress in solid oxide electrolysis cells (A1124)

Ming-Xian Lin, Yen-Hsin Chan, Chen-Hsien Yu

Feng Chia University, Mechanical and Computer-Aided Engineering, Taichung/Taiwan;

Development of Ni-Fe Alloy Based Metal-Supported Protonic Ceramic Electrochemical Hydrogen Pumps (A1125)

Yeongwoo Kim, Joongmyeon Bae

Korea Advanced Institute of Science and Technology, mechanical engineering, Daejeon/South Korea;

A12: Systems II

Semi-supervised Deep Learning for Fault Diagnosis in Solid Oxide Cells via Electrochemical Impedance Spectroscopy (A1207)

Hangyu Yu (1), Bodhi Légeret (1), Vincent Jacques Perrin (1), Cédric Frantz (1), Guillaume

Jeanmonod (2), Florian Bernard Berset (1), Jan Van Herle (1)

(1) École Polytechnique Fédérale de Lausanne, Group of Energy Materials, Faculty of Engineering Sciences, Sion/Switzerland;

(2) HydroQuébec, Montréal/Canada;

Control-Oriented Stability Analysis of a One-Dimensional Multi-Physics Model for Solid Oxide Electrolyzers (B0524)

Juan Camilo Giraldo Delgado (1), Aziz Nechache (1), Jérôme Laurencin (2), Maxime Hubert (2), S. Mani Sarathy (1)

(1) King Abdullah University of Science and Technology, CERP, Thuwal/Saudi Arabia;

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B06: Systems III & System Modelling

Electrochemical-assisted methane production: Use of Ni/YSZ-based solid oxide electrochemical cells (B0608)

Genki Horiguchi, Toshiaki Yamaguchi, Hajime Toriumi, Hiroyuki Tateno, Katherine D. Bagarinao,

Haruo Kishimoto, Takehisa Mochizuki

National Institute of Advanced Industrial Science and Technology, Ibaraki/Japan;

Reversible Solid Oxide Electrolysis for Renewable Peak Power and Large-scale Industrial Hydrogen Utilization (AP102) = (B0609)

Robert Weiss (1), Ville Saarinen (1), Werner Huhtinen (1), Veli-Pekka Tokola (2), Markus Rautanen (1), Olli Himanen (1)

(1) VTT Technical Research Centre of Finland Ltd, VTT, Espoo/Finland

(2) Industrial Engineering and Management, University of Oulu, Oulu/Finland

Impurity-Driven Degradation in High-Temperature Solid Oxide Electrolyzers Cells during Seawater Electrolysis (B0610)

Sreeshyam Vadake Adat, Vaibhav Vibhu, Rüdiger-A Eichel

Forschungszentrum Jülich GmbH (FZJ), Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Jülich/Germany;

A 4 MW high-temperature electrolyser for steel decarbonisation: the SYRIUS project (B0611)

Stefano Campanari (1), Martina Fantini (2), Elena Crespi (3), Andrei Denissenko (4), Minna Toivola

(5), Claudio Leoncini (6), Felix Kaiser (7), Silvia Rossetti (8), Stephen J. McPhail (9), Giovanni

Camarda (10), Paolo Colbertaldo (1), Sara Guazzi (1) Giulio Guandalini (1)

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(3) FONDAZIONE BRUNO KESSLER, Trento/Italy;

(4) AKTSIASELTS ELCOGEN, Tallinn/Estonia;

(5) ELCOGEN OY, Vantaa/Finland;

(6) TENOVA, Castellanza (Varese)/Italy;

(7) RWTH-AACHEN IOB, Aachen/Germany; (8) ARVEDI ACCIAI SPECIALI TERNI, Terni/Italy;

(9) KIWA Corporation, EA Rijswijk/Netherlands; (10) Baker Hughes, Firenze/Italy;

Digital routes to next generation solid oxide cells (A1208)

Elias Assaad (1), Troy Manning (1), Matthew Dyer (1), Bei Peng (2), Kerys Trathen (3), Carla Lupo (3), Subhasish Mukerjee (3), Matthew Rosseinsky (1)

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Solid oxide electrolysis development through the Open Innovation Test Bed H2SHIFT project (A1209)

Lucile Bernadet (1), Walter Zambelli (1), Antonio Maria (1), Ekpo Jean Baptiste Sams (2), Delia Muñoz (2), Morten N. Andersen (3), Micaela Labrador Aranguren (3), Davide Bonalumi (4), Marc Torrell (1), Pietro Giovanni Santori (5), Albert Tarancón (1,6)

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(2) H2B2, Dos Hermanas/Spain;

(3) Resolvent, Måløv/Denmark;

(4) Politecnico di Milano, Milano/Italy;

(5) SNAM, San Donato Milanese/Italy;

AI-driven real-time techno-economic analysis of green hydrogen from renewable energy curtailment (A1210)

Subin Eom (1), Sojung Kim (2), Gwangwoo Han (3), Sanghun Lee (4)

(1) Department of Climate and Energy System Engineering, Ewha Womans University;

(2) Energy ICT Research Department, Korea Institute of Energy Research;

Pressure Control for Pressurised Solid Oxide Cell Short Stack Characterisation (A1211)

Benjamin Steinrücken, Sören Ohmstedt, Florian Kerscher, Hartmut Spliethoff

Technical University of Munich, School of Engineering and Design, Garching bei München/Germany;

A13: Electrolyser Stacks

Overcoming scale barriers in Solid Oxide Electrolyzers: Development of scaled-up and high performance cell and stack technologies (A1307)

Claire Ferchaud, Cahit Benel, Michiel Langerman, Eduardo Da Rosa Silva, Maksim Kutuzau, Frans van Berkel

TNO, STIP-SOE team, Petten/Netherlands;

Techno-Economic and Life-Cycle Assessments of a Solid-Oxide Electrolyzer Integrated with Green Methanol Production (B0612)

Mario Cascetta, Enrico De Sole, Matteo Marchionni, Vittorio Tola

University of Cagliari, DIMCM, Cagliari/Italy;

Advances in the production of low-carbon methanol for transportation via solid oxide co-electrolysis: feasibility results from the COMECOCO2 project (B0613)

Gonzalo Jiménez-Martín (1), Xabier Judez (1), Carmen Arbeloa (1,2), Iñigo Garbayo (1)

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Green Methanol Production via SOEC Co-Electrolysis Coupled with Solar Energy: Process Design and Optimization (B0614)

Gianpaolo D'Andrea (1), Elio Jannelli (1), Alberto Giaconia (2), Massimiliano Della Pietra (2), Mariagiovanna Minutillo (3)

(1) Parthenope University of Naples, Department of Engineering, Naples/Italy;

(2) ENEA, Rome /Italy;

(3) University of Salerno, Fisciano (SA)/Italy;

Optimal Control of SOFC Systems for CHP Applications (B0616)

Yousif Al-Sagheer, Ali Vafadar Isfahani, Robert Steinberger-Wilckens

University of Birmingham, Chemical Engineering, Birmingham/United Kingdom;

Development Strategy and Vision for Chinese Solid Oxide Electrolysis Cell Industry (B0617)

Zhibin Yang (1,2), Hua Liu (1), Mengyuan Guo (1)

(1) Beijing Huairou Laboratory, Beijing/China

(2) Research Center of Solid Oxide Fuel Cell, Beijing/China

Integrated design and operation of reversible solid oxide cell systems for decarbonizing secondary aluminium (B0618)

Daniel Florez-Orrego (1), Meire Ellen Ribeiro Domingos (1), Dareen Dardor (1), Oktay Boztas (1), Reginald Germanier (2), François Maréchal (1)

(1) École Polytechnique Fédérale de Lausanne, Mechanical Engineering, Sion/Switzerland;

(2) Novelis Inc., Energy Management, Sierre/Switzerland;

Advancements in Co-SOEC System Development for High-Efficiency Power-to-Liquid Applications (B0619)

Vincent Lawlor (1), Bernd Reiter (1), Bernhard Stoeckl (1)

AVL List GmbH, Graz/Austria;

Pressurized hydrogen produced by high temperature steam electrolysis: an overview of the European project PressHyous (A1308)

Marie Petitjean (1), Claire Houzé (1), Jérôme Aicart (1), Karl Vulliez (1), Christian Tantolin (1), Bastien Gervasoni (1), Ibrahim Dündar (2), Andrei Denissenko (2), Philippe Aubin (3), Romain Jordan (3), Jan Van Herle (3), Aurélien Breton (4), Nicolas Valaye (4), Nicolas Massué (4), Patrice Tochon (4), Gabriel Magnaval (5), Manuele Margni (5), Hans ten Dam (6), Michiel Langerman (7), Eduardo Da Rosa Silva (7), Robert Makkus (7), Marjut Suomalainen (8), Jari Pennanen (8), Meire Domingos (9), François Maréchal (9)

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(5) Haute école d'ingénierie HES-SO Valais/Switzerland;

(6) HyGear B.V., AV Arnhem/the Netherlands;

(7) Sustainable Technologies for Industrial Processes, TNO, , Petten/The Netherlands;

(8) VTT Technical Research Centre of Finland, Espoo/Finland;

(9) Industrial Process and Energy Systems Engineering group, Swiss Federal Institute of Technology in Lausanne (EPFL), Sion/Switzerland;

Bioethanol-Driven SOECs: Ultra-Low Voltage Hydrogen Production with Enhanced Stability and Scalability (A1309)

Massimiliano Lo Faro

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Intermediate temperature proton conduction in a novel hybrid cell – integrating molten salt and solid-oxide electrolytes (A1310)

Pooja Dhami, Rauf Sharpe, Sandie Dann, Ian McPherson

Loughborough University, Chemistry, Loughborough/United Kingdom;

Reversible Solid Oxide Cells with Mesoscale-Modified Interfaces: Performance Difference between SOFC and SOEC Modes (A1312)

Cheng DING, Yuting GUO, Masashi KISHIMOTO, Hiroshi Iwai

Kyoto University, Department of Mechanical Engineering and Science, Kyoto/Japan;

Conceptual Design of Facility for Liquefied Hydrogen Production Using Offshore Wind Power (B0620)

Youngkyun Seo, Eunyoung Park, Yeonji Choi, Seongjong Han

KRISO, Offshore R&BD Center, Geoje-si/South Korea;

Optimal solar photovoltaic-reversible solid oxide cells coupling and hydrogen storage integration (B0622)

Alexandros Arsalis (1), Pavlos Papadopoulos (1), Aravind PV (2), George E. Georgiou (1)

(1) University of Cyprus, PHAETHON Centre of Excellence, Nicosia/Cyprus;

(2) University of Groningen, Energy and Sustainability Research Institute Groningen, Groningen/Netherlands;

Operating windows for methane conversion on asymmetric SOECs: electrolysis, SRM and POM on commercial cells (B0623)

Raphael Anacleto Martins Pires de Oliveira, Débora Cristina de Oliveira Souza Neves, Leandro da Conceição, Layssa Aline Okamura, Vivian Vazquez Thyssen

Instituto SENAI de Inovação Biomassa, Tecnologias de Descarbonização, Três Lagoas - MS/Brazil;

Demonstration of a Power-to-X Process Chain with SOE and Fischer-Tropsch under Real Marine Conditions (B0624)

Florian Stährfeldt (1), Matthias Metten (1), Max Gerlinger (2), Karunsagar Pondugula (2), Christian Schnegelberger (1), Matthias Riegraf (1), Jan Hollmann (1), Faisal Sedeqi (1), Anis Taissir (1), Gaël Corre (2), Marc P. Heddrich (1), Katja Haas-Santo (2), Roland Dittmeyer (2), S. Asif Ansar (1)

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The PROMETH2eus project - progress toward the demonstration of an integrated SOEC pilot plant-methanol production from renewable sources: materials, cells, and processes (B0625)

M. Paola Carpanese (1), Gabriella Garbarino (1), Luciano Atzori (2), Nancy Artioli (3), Olena Bielska (1), Carla Cannas (2), Mario Cascetta (4), Alfonso Damiano (5), Marina Delucchi (1), Umer Draz (1), Elisabetta Finocchio (1), Marina Maddaloni (3), Matteo Marchionni (4), Michele Mascia (4), Marco Panizza (1), Paola Riani (6), Alessandro Serpi (5), Vittorio Tola (4), Amir Yazdani (1)

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(5) University of Cagliari, DIEE, Cagliari/Italy;

(6) University of Genova, DCCI, Genova/Italy;

Processing and durability of fuel electrode supported-cells with Ni-GDC electrode (A1313)

Christian Lenser (1), Denise Ramler (1,2), Stefan Kucharski (1), Luzie Wehner (3), Egbert Wessel (3), Jürgen Malzbender (3), Lukas Schöller (4), Daniel Schneider (4,5), Britta Nestler (4,5), Iuri Kogut (6), André Weber (6), Norbert H. Menzler (1,2)

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Large Cell Tester Setup with Water Injection for Electrolysis (A1314)

Pierre Coquoz, Xavier Lapres, Dumitru Dumcenco, Jean Girardon, Raphael Ihringer

Fixaxell Sarl, Lausanne/Switzerland;

Low-Parasitic-Resistance Integration Scheme for Scalable, High-Power, Thin-Film SOFC Stacks (A1315)

Yuto Uwabo (1), Yoshitaka Sasago (1), Ryusei Fujita (1), Noriyuki Sakuma (1), Hiroyuki Uchiyama

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High-Temperature Compression Structure Development for Durable SOEC OperationHigh-Temperature Compression Structure Development for Durable SOEC Operation (A1316)

Wonjoon Kim (1), Janghyun Lim (1), Jonggeun Shin (1), Sungjae Yang (1), Inchang Chu (2), Jongsup Hong (1)

(1) Yonsei University, Mechanical Engineering, Seoul/South Korea;

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Innovative Freeze-Tape-Cast Solid Oxide Electrolyser for Seawater Electrolysis Integrated with Downstream Methanol Synthesis (A1317)

Amir Yazdani (1), Davide Cademartori (2), Olena Bielska (2), Umer Draz (2), Elena Spennati (2), Paola Riani (3), Gabriella Garbarino (2), Maria Paola Carpanese (2)

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Thermodynamic Analysis of Combustion-Based Preheating in SOFC-GT Hybrid Aircraft Propulsion (B0626)

Pascal Köhler, Tobias Rebholz, Nozeen Al-barakat, Markus Richter, Stephan Kabelac
Leibniz University Hannover, Institute of Thermodynamics, Garbsen/Germany;

Ceres Reversible Solid Oxide Operation for Carbon Capture and E-Methane Production (B0627)

Oujen Hodjati-Pugh, Vasileios Ntoulaveris, Subhashish Mukerjee, Caroline Hargrove
Ceres Power Ltd., private, Horsham/United Kingdom;

Life Cycle Assessment of Solar-Powered SOEC: Comparison of Photovoltaic and Concentrated Solar Power Pathways for Green Hydrogen Production (B0628)

Luis Mario Rendón (1), Holkan Vazquez-Sanchez (1,2), Monserrat Echegoyen Lopez (1,2), Aziz Nechache (1), S. Mani Sarathy (1,2)

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A Modular Dynamic Modeling Approach for an HTGR– SOEC Nuclear Hydrogen Production System (B0629)

Jiwon Ahn, Hyoung Kyu Cho

Seoul National University, Department of Nuclear Engineering, Seoul/South Korea;

Advances in Hydrogen-fueled Solid Oxide Fuel Cell - Gas Turbine (SOFC-GT) Propulsion System Design (B0630)

Anis Taissir (1), Cécile Rossignol (2), Cagatay Necati Dagli (3), Pascal Köhler (3), Philipp Maas (4), Francesca De Domenico (5), Matthias Metten (1), Paul-Emile Roux (6), Pavel Hladík (7), Vanessa Bezerra Vilela (2), Meriem Fikry (4), Jan Hollmann (1), Maurice Hoogreef (5), Ardyia Inderawan (5), Lily Koops (4), Marlu César Steil (2), Florian Winter (4)

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(4) Bauhaus Luftfahrt (BHL), Taufkirchen/Germany;

(5) Technische Universiteit Delft (TUD), Delft/Netherlands;

(6) AIRBUS (AI SAS), Blagnac/France;

(7) Eaton European Innovation Center, Eaton, Roztoky/Czech Republic;

Scaling relations for lab-scale SOE cells to application-scale stacks (A1318)

Wisse Hersbach, Aayan Banerjee

University of Twente, Department of Chemical Engineering, Enschede/Netherlands;

Microstructure and performance of Tubular Segmented-in-Series SOFCs Enabled by Wet Processing and Co-firing Technology (A1319)

Cheng-Xin Li

Xi'an Jiaotong University, School of Materials Science and Engineering, Xi'an/China;

Direct Seawater Electrolysis for Integrated Hydrogen Production and Comprehensive Resource Utilization (A1320)

Yang Yang, Shengzhong Zhang, Hongtao Wang, Fangzhou Hu, Yanpeng Zhang, Dequan Fan, Huibing Liu

SINOPEC Dalian Research Institute of Petroleum and Petrochemicals Co., Ltd., Dalian/China;

Highly Efficient and Durable CO₂ Electrolysis via Encapsulated Alloy Catalysts: From Catalysts to Stack-Level Operation (A1321)

Jiaming Tian, Wenchao Ma, Qiucheng Xu, Xile Hu

École Polytechnique Fédérale de Lausanne, Institute of Chemical Sciences and Engineering, Lausanne/Switzerland;

Modeling Segmented Tubular Solid Oxide Fuel Cells for Minimizing In-Plane Ohmic Losses (A1322)

Cagatay Necati Dagli, Johannes Mellmann, Markus Richter, Stephan Kabelac

Institute of Thermodynamics, Mechanical Engineering, Garbsen/Germany;

Symmetric Solid Oxide Cell Fabricated by Freeze Tape Casting for Seawater Electrolysis Applications (A1323)

Olena Bielska (1), Amir Yazdani (1), Elisabetta Finocchio (1), Marina Delucchi (1), Marco Panizza (1), Paola Riani (2), Umer Draz (1), Gabriella Garbarino (1), M. Paola Carpanese (1)

(1) University of Genova, DICCA, Genova/Italy;

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Mechanically robust SOECs for CO₂ reduction (A1324)

Celine Wing See Yeung, Xile Hu

Ecole Polytechnique Fédérale de Lausanne, Institute of Chemical Sciences and Engineering, Lausanne/Switzerland;

Upscaling of proton conducting ceramic cells (A1325)

Wolff-Ragnar Kiebach, Hendrik Marc Vincent Bohn, Sara Hjelm, Anne-Kathrin Juhl

Technical University of Denmark, Department of Energy Conversion and Storage, Kongens Lyngby/Denmark;

Modeling and simulation of a methanol-fueled SOFC system with integrated carbon capture using Aspen HYSYS (B0631)

Eirik Vaa Beyer, Yulia Arinicheva Skåtun, Ivar Wærnhus

Western Norway University of Applied Sciences (HVL), Department of Mechanical engineering and Maritime studies, Bergen/Norway;

B08: Interconnects**Industrializing the supply chain for pre-coated interconnects (B0807)**

Niklas Norrby, Shunyi Li, Mikael Stenström

Alleima EMEA AB, Sandviken/Sweden;

Glass seal – interconnect interactions in solid oxide electrolysis cells (B0808)

André Germain (1), Fabien Rouillard (1), Stéphane Mathieu (2)

(1) CEA, S2CM, Gif-sur-Yvette/France; (2) Université de Lorraine, IJL, Nancy/France;

Impact of selected ferritic steel grades on the functional properties of cobalt-free protective coating for SOC interconnect application (B0810)

Monika Lazor (1,2), Yevgeniy Naumovich (1), Leszek Ajdys (1), Agnieszka Zurawska (1), Paulina Wiecinska (2)

(1) Institute of Power Engineering - National Research Institute, Warsaw/Poland;

(2) Warsaw University of Technology, Warsaw/Poland;

Investigation of (Mn,Co,Ni,Fe,Cu)₃O₄-based High-Entropy coating on Fe-Cr alloys for SOFC interconnect application (B0811)

Yutian Yu, Chengzhi Guan, Guoping Xiao, Jian-Qiang Wang

Shanghai Institute of Applied Physics, Chinese Academy of Science, Shanghai/China;

Diffusion between ferritic interconnects and Ni components – Impact on lifetime (B0812)

Anton Chyrkin (1), Shrikanth Syamprasad (1), Jan Froitzheim (1), Sine Ellemann Olesen (2), Tobias Holt Nørby (2)

(1) Chalmers, Chemistry and Chemical Engineering, Göteborg/Sweden;

(2) Topsoe A/S, Power-to-X – Technology Development, Kongens Lyngby/Denmark;

Fingerprinting Chromium Poisoning in SOCs: Durability testing and Cross-Validation Across Scales (B0813)

Andrea Stefani (1), Nathalie Giacometti (1), Manon Bouvet (1), Justine Poncelet (2), Fabien Rouillard (3), Romain Chanson (3), João Gustavo Mallmann (3), Karine Couturier (1)

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A15: Alternative Fuels & Fuel Production

Advancing Ammonia SOFCs for Sustainable Shipping: CHP Synergies, Cost Pathways, and Deployment Challenges (A1505) = (A1507)

Sookyung Kang, Luca Prattico, Matteo Testi
Fondazione Bruno Kessler (FBK), Povo /Italy;

Demonstration of renewable fuels production from CO₂ via Fischer-Tropsch reaction pathway (A1501) = (A1508)

Michele Hollist (1), S. Elango Elangovan (2), Don Claus (2), Joelle Hess (2), Abel Gomez (2), Piotr Czernichowski (2), Joseph Hartvigsen (2)
(1) OxEon Energy, Design and Analysis, North Salt Lake, UT/United States;
(2) OxEon Energy, North Salt Lake, UT/United States;

Multi-Mode Electrochemical Characterization of SOC Short Stacks under Steam- and Co-Electrolysis Operation (A1510)

Sadhana Golani, Ute de Haart, Dominik Schäfer, Remzi Can Samsun, Rüdiger-A. Eichel
Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich, Jülich/Germany;

Performance Analysis of a Short Stack SOFC Operated with Pre-Cracked Ammonia Fuel (A1511)

Michele Rizzi, Luca Prattico, Matteo Testi
Fondazione Bruno Kessler - FBK, Sustainable Energy Center, Trento/Italy;

Exploring carbon formation during heating and quench-cooling of syngas mixtures from high-temperature co-electrolysis (A1513)

Miran Karim (1,3), An Phuc Dam (1), Robert Deja (1), Wilfried Tiedemann (1), Robert Styn (1), Christian Mänken (1), Steffen Dirkes (1), Remzi Can Samsun (1), Rüdiger-A. Eichel (1,2,3)
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Fuel-Flexible Double-Sided SOFC: Evaluation of Performance and Stability using Conventional and Alternative Fuels (A1514)

Adrian Mizera (1), Anis Akel (1), Łukasz Bereś (1), Łukasz Jóźwiak (1), Bartłomiej Lis (1), Mateusz Pielech (1), Dagmara Uhl (2,3), Jacek Wesół (1), Marcin Włodarczyk (1), Anna Zięba (1), Tomasz Siwek (1)
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(3) AGH University of Krakow, Faculty of Materials Science and Ceramics; Kraków/Poland

Effect of minor alloying chemistry and microstructure on oxide scale morphology on Interconnect Steels (B0815)

Kimons Schmidt (1), Torsten Rieger (2), Dmitry Naumenko (3)
(1) Forschungszentrum Jülich, Jülich/Germany;
(2) VDM Metals International GmbH, Altena/Germany;
(3) Forschungszentrum Jülich, Jülich/Germany;

Effect of Silicon Content on High-Temperature Oxidation and Electrical Performance of Ferritic Stainless-Steel Interconnects (B0817)

Selli Astuti, Shrikanth Syamprasad, Jan Froitzheim
Chalmers Tekniska Högskola, Chemistry and Chemical Engineering, Göteborg/Sweden;

B09: Electrode Mechanisms

Self Assembled BaPrO_{3-δ} / PrBaCo_{1.8}Ni_{0.2}O_{5+δ} Composite Cathodes with Enhanced Oxygen Vacancy Engineering for Protonic Ceramic Fuel Cells (B0908)

Huimin Liu, Hanchen Tian; Xi'an Jiaotong University, Xi'an City/China;

High electrical conductivity of 0.01 - 0.001 S/cm at room temperature in yttria-stabilised zirconia (B0911)

Luke Thompson, Begum Tokay, David Grant, Ming Li*
University of Nottingham, Engineering (Advanced Materials Group, Sustainable Hydrogen CDT), Nottingham/United Kingdom;

Anion (Cl-) doped LSCF7382 electrode for proton conducting solid oxide cell (H-SOC): Electrochemical and Electrokinetic studies (B0912)

SUBHRAJYOTI GHOSH, Suddhasatwa Basu, Mohammad Ali Haider
Indian Institute of Technology Delhi, Chemical Engineering, New Delhi/India;

Comparison of oxygen and proton conducting solid oxide electrolysis cells from 550°C to 750°C (B0914)

Cédric Frantz (1), Hangyu Yu (1), Chunyu Yuan (1,2), Xiaofeng Tong (2), Jan Van Herle (1)
(1) EPFL, Group of Energy Materials, Sion/Switzerland;
(2) North China Electric Power University, National Energy Storage Industry-Education Platform, Beijing/China;

Challenges and Mitigation Pathways for Chromium Poisoning in Solid Oxide and Protonic Ceramic Electrolysis Cells (B0916)

Muhammad Hanif, Mihalís N. Tsampas, Muhammad Usman Ahmad
DIFFER, Eindhoven/Netherlands;

Propane Electrochemical Conversion in Solid Oxide Cells: Anode Material Impact on Propylene Selectivity (A1516)

Cesar Steil (1), Thales Guimarães-Rocha (2), Franck Fournet-Fayard (3), Stephane Loridant (4)
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A16: Cell & Stack Manufacturing

Design and Processing Methods for High-Performance Proton-Conducting Cells (A1601) = (A1607)

Angela Gondolini (1), Elisa Mercadelli (1), Andrea Bartoletti (1), Massimiliano Lo Faro (2), Martina Marasi (3), Alessandro Donazzi (3), Alessandra Sanson (1)
 (1) National Research Council (CNR), Institute of Science, Technology and Sustainability for Ceramics (ISSMC), Faenza/Italy;
 (2) National Research Council (CNR), Institute for Advanced Energy Technologies "Nicola Giordano" (ITAE), Messina/Italy;
 (3) Politecnico di Milano, Department of Energy, Milano/Italy;

Testing of a material to improve the gas tightness of stacks and their compression system (A1601) = (A1608)

Pierre Douguet (1,2), Karl Vulliez (1), Annabelle Laplace (2)
 (1) Univ. Grenoble Alpes – CEA/LITEN, Grenoble/France;
 (2) CEA, DES, ISEC, DPME, Laboratoire de Formulation des Matériaux Minéraux, Univ. Montpellier, Marcoule/France;

Emerging hybrid manufacturing techniques for protonic ceramic fuel cells (A1609)

Sini Virtanen, Axel Savikko, Buse Bilbey, Muhammad Imran Asghar
 Tampere University, Renewable Energy Technologies Group, Faculty of Engineering and Natural Sciences, Tampere/Finland;

Innovative Screen-Printing Approach for Large-Area Fuel Electrodes on Pre-Corrugated SOEC Substrates (A1610)

Mona Yarahmadi (1), Anne Lyck Smitshuysen (1), Elango Elangovan (2), Joseph Hartvigsen (2), Søren Højgaard Jensen (1)
 (1) Dynelectro ApS, Viby Sjaelland/Denmark;
 (2) OxEon Energy, North Salt Lake/United States;

Improving Performance and Long-Term Durability of PCFC Cathodes via Yttrium Doping in BaZr_{0.1}Fe_{0.9} Perovskites (B0917)

Guanzhen Li
 The Hong Kong Polytechnic University, BRE, Hongkong/Hong Kong SAR of China;

High-temperature proton conductive molten carbonate fuel cells as a key factor to sustainable future (B0918)

Karolina Majewska
 Warsaw University of Technology, Warszawa/Poland;

B11: Stack Modelling

Advancements and Experimental Results in Convion's SOEC system Development (B1107)

Tuomas Hakala, Kim Åström, Ahti Myllymäki
 Convion Oy, Vantaa/Finland;

Electrothermal P2D Model for Operando Diagnostics and Adaptive Control of Solid Oxide Electrolysis Stacks (B1110)

Steffen Dirkes (1), Remzi Can Samsun (1), Rüdiger-A. Eichel (1,2,3)
 (1) Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich, 52425 Jülich/Germany;
 (2) Institute of Physical Chemistry, RWTH Aachen University, Aachen/Germany;
 (3) Faculty of Mechanical Engineering, RWTH Aachen University, Aachen/Germany;

Scalable PVD fabrication of dense YSZ electrolytes and GDC barrier layers for advanced SOC architectures (B1112)

M^a de la Paz Cumia Espinosa de los Monteros (1), José Antonio Santiago (1), Iván Fernández (1), Aida Alconchel (2), Carmen de la Torre (2), Juan Zueco (2), Miguel Ángel Laguna (2), Alodia Orera (2)
 (1) Nano4Energy, Alcalá de Henares, Madrid/Spain;
 (2) INMA, CSIC-Universidad de Zaragoza, Zaragoza/Spain;

B12: Fuel Electrodes I

Tailoring Interstitial Oxygen-Mediated Ionic Conductivity in Mo-Doped K₂ZnV₂O₇: A Promising Solid Oxide Electrolyte (B1207)

Deepanshu Kaneria, Kanhaiya Lal Yadav
 Indian institute of technology, Department of Physics, Roorkee/India;

Magnetron Sputter Deposited Anode Functional Layers for Solid Oxide Fuel Cells and Electrolysers. (A1611)

Justyna Kulczyk-Malecka, Kleitos Panagi, David Shaw, Peter Kelly
Surface Engineering Group, Manchester Fuel Cell Innovation Centre, Manchester Metropolitan University, Manchester/United Kingdom;

Bridging Manufacturing to Operation: A Validated Multi-Scale SOFC Stack Model for Digital Twin Deployment (A1612)

Martin Leskovjan
VÚTS, Liberec -Růžodol/Czech Republic;

DLP 3D-printing Proton-Conducting Ceramic Cells (A1614)

Yutong Ding, Zhipeng Zhou, Meng Ni
The Hong Kong Polytechnic University, BEEE, Hong Kong/Hong Kong SAR of China;

Development of Electrolyte-Supported SOFC Half-Cells via Uniaxial Pressing and Microextrusion-Based Additive Manufacturing (A1615)

Dino Boccaccini (1), Enrico Paradisi (1), Marcello Romagnoli (1), Liliana Moggi (2), Maria José Escudero (3), Elena Millán (3), Maria Cannio (4), Cecilia Mortaro (5), Rosa Taurino (6)
(1) Università degli Studi di Modena e Reggio Emilia, Modena/Italy;
(2) CONICET-CNEA, Centro Atomico Bariloche, Bariloche/Argentina;
(3) CIEMAT, Madrid/Spain;
(4) Resoh Solutions, Modena/Italy;
(5) Istituto di Chimica della Materia Condensata e di Tecnologie per l'Energia, Consiglio Nazionale delle Ricerche (CNR-ICMATE), Padova/Italy;
(6) Department of Industrial Engineering, University of Florence, Department of Industrial Engineering, University of Florence, Firenze/Italy;

Effect of Bi_2O_3 Sintering Aid on Electrode–Electrolyte Interface and Durability of Electrochemical Cells (A1618)

Bonhyuk Goo, Taeho Kim
Korea Research Institute of Chemical Technology, Hydrogen energy research center, Daejeon/South Korea;

Performance and degradation behavior of Ni/Fe-GDC electrode under high temperature SOEC conditions (B1208)

Willie Yang (1), Vaibhav Vibhu (1), Rüdiger-A. Eichel (1, 2)
(1) Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich GmbH, Jülich, Germany
(2) Institute of Physical Chemistry, RWTH Aachen University, Aachen, Germany

NiFe-Based Protective Coatings and Low-Cost Sorbents for Durable SOFC Operation on Biogas (B1209)

Michele Bruno
EPFL, Lausanne/Switzerland;

Entropy engineering regulates alloy catalysts for high-durable direct ammonia solid oxide fuel cells (B1210)

Zixuan Xue (1), Yuechao Yao (1), Yucun Zhou (1), Jun Zhou (2)
(1) Beijing Huairou Laboratory, Beijing/China;
(2) National Key Laboratory of Electrical Insulation, Electrical Materials, Xi'an Jiaotong University, Xi'an/China;

Investigating Pr-Doped Ceria as a High-Performance SOEC Fuel Electrode (B1202) = (B1212)

Rishabh Kumar (1,2), Vaibhav Vibhu (1), Hebatallah Ali (1), Rüdiger-A. Eichel (1,2)
(1) Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich GmbH, Jülich, Germany
(2) Institute of Physical Chemistry, RWTH Aachen University, Aachen, Germany

Solid oxide steam electrolysis with Fe/Au-modified Ni-based fuel electrodes, by varying the ion/electron conductor phases through novel chemical methods (B1213)

Evangelia Ioannidou (1), Konstantinos Stamatelatos (1), Pavlos Douvalis (1), Christine Papadopoulou (2), Stylianos Neophytides (1), Dimitrios Niakolas (1,3)
(1) FORTH/ICE-HT, LEP, Patras/Greece;
(2) University of Patras, Chemistry, Patras/Greece;
(3) Department of Chemistry, University of Ioannina, Ioannina/Greece;

In-situ Quaternary Alloy Exsolution for Ammonia-Fueled Protonic Ceramic Fuel Cells (B1214)

Daehan Chung, Joongmyeon Bae
Korea Advanced Institute of Science and Technology, Mechanical Engineering, Daejeon/South Korea;

Recycling Strategies for SOC Stacks and Cells within the re-CELL Project: Towards a Circular Value Chain for High-Temperature Electrochemical Technologies (A1619)

Anna Niemczyk (1), Magdalena Kosiorek (1), Leszek Ajdys (1), Julia Jeżewska (1), Dominik Borowiec (2), Piotr Ostrowski (1), Piotr Winiarz (3)

(1) Institute of Power Engineering - National Research Institute, High Temperature Electrochemical Processes, Warsaw/Poland;

(2) Institute of Power Engineering - National Research Institute, Cerel, Warsaw/Poland;

(3) AGH University of Kraków, Faculty of Energy and Fuels, Krakow/Poland;

A17s: Education, Training & Proposal Assessment (just posters)

The European Hydrogen Academy – Progress in coordinating formal education in the field of hydrogen (A17s07)

Robert Steinberger-Wilckens, Hana Bartkova, Karel Bouzek, Martin Paidar

Vysoká škola chemicko-technologická, Praha/Czech Republic;

Training Permitting Staff for Hydrogen Projects (A17s08)

Yousif Al-Sagheer, Robert Steinberger-Wilckens

University of Birmingham, Centre for Fuel Cell & Hydrogen Research, Birmingham/United Kingdom;

Practical Training in FCH Technologies (A17s09)

Birgit Thoben (1), Patricia Poppendick (2), Andrea Cabrera (2), Aravind Purushothaman Vellayani (2), Dennis Kruse (3), Merle Heykens (3), Robert Steinberger-Wilckens (4)

(1) Future Solutions GmbH, n/a, Denges/Switzerland;

(2) Rijksuniversiteit Groningen, Faculty of Science and Engineering, Groningen/Netherlands;

(3) Deutsche Windguard, Varel/Germany;

(4) University of Birmingham, Centre for Fuel Cell & Hydrogen Research, Birmingham/United Kingdom;

A European Platform for Educational Material in Hydrogen, Electrolysers, and Fuel Cells (A17s10)

Robert Steinberger-Wilckens

Vysoká škola chemicko-technologická, Praha/Czech Republic;

End A Posterlist

B13: Air Electrodes

High-performance solid oxide cells enabled by optimized ceria-based barrier layers (B1307)

Lucile Bernadet (1), Natasha Di Benedetto (1), Fjorelo Buzi (1), Antonio Maria (1), Kosova Kreka (1), Dario Montinaro (2), Marc Torrell (1), Alex Morata (1), Albert Tarancón (1)

(1) IREC, Advanced Materials for Energy, Sant Adrià del Besòs/Spain;

(2) SOLYDERA, Mezzolombardo/Italy;

A GC-DFT Study of ORR on LSCF Cathodes (B1308)

Goel Parul, Paul Jean-Francois, Berrier Elise, Pipolo Silvio

Universite de Lille, Catalysis and Solid-State Chemistry Unit, Lille/France;

Hierarchical Core-Shell Cathode with Triple Conductivity: Toward Efficient and Durable Protonic Ceramic Fuel Cells (B1309)

Wenlu Li

Hubei University, School of Materials Science and Engineering, Wuhan/China;

High-entropy perovskite air electrodes investigated with advanced 3D imaging (B1310)

Andreas Egger (1), Patrick Pretschuh (1), Ines Mostböck (1), Johanna Kramer-Schöggel (2), Roland Brunner (2), Edith Bucher (1)

(1) Technical University of Leoben, Chair of Physical Chemistry, Leoben/Austria;

(2) Materials Center Leoben Forschung GmbH, Leoben/Austria;

Low-Critical Raw Materials Solutions for Solid Oxide Oxygen Electrodes (B1311)

Kosova Kreka (1), Fjorelo Buzi (1), Antonio Maria Asensio (1), Natasha Di Benedetto (1), Federico Baiutti (1), Lucile Bernadet (1), Jan Pieter Ouweltjes (2), Dario Montinaro (2), Mohana V. Kante (3), Miriam Botros (3) Marc Torrell (1), Albert Tarancón (1,4)

(1) IREC, Nanoionics and Fuel Cells Group, Sant Adrià del Besòs, Barcelona, Spain

(2) SolydEra SpA, Mezzolombardo, Italy

(3) KIT, Institute of Nanotechnology, Karlsruhe, Germany.

(4) ICREA, Barcelona, Spain

Study of $\text{La}_2\text{BaCu}_4\text{NiO}_{13\pm\delta}$ as air electrode for planar solid oxide cells (B1312)

Jhoan Francisco Tellez (1), Juan Zueco-Vincelle (1), Miguel Morales-Zapata (2), Jesús Castillo (2), Alodia Orera (1), Miguel Laguna-Bercero (1)

(1) Instituto de Nanociencia y Materiales de Aragón (INMA) / CSIC - Universidad de Zaragoza, Zaragoza/Spain;

(2) Universidad Tecnológica de Panamá, Ciudad de Panamá/Panamá;

Constructing a High-Entropy Perovskite-Based Tri-phase Composite Electrode Towards Efficient Reversible Solid Oxide Cells (B1313)

B15: Analytics

Reconstruction of temperature distributions in SOC stacks from optimally placed temperature sensors (B1507)

Christian Mänken (1), Shidong Zhang (1), Dominik Schäfer (1), Remzi Can Samsun (1), Rüdiger-A. Eichel (1,2,3)

(1) Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich GmbH, Jülich/Germany;

(2) Institute of Physical Chemistry, RWTH Aachen University, Aachen, Germany;

(3) Faculty of Mechanical Engineering, RWTH Aachen University, Aachen/Germany;

An Unambiguous Topological Criterion for Representative Volume Element Determination in Solid Oxide Cells Anodes (B1508)

Aleksandra Kukiela (1), Maksym Szemer (2), Szymon Buchanec (1), Katarzyna Berent (3), Grzegorz Brus (1)

(1) AGH University of Krakow, Faculty of Energy and Fuels, Kraków/Poland;

(2) AGH University of Krakow, Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering, Kraków/Poland;

(3) AGH University of Krakow, Academic Centre for Materials and Nanotechnology, Kraków/Poland;

SOCEIS - Electrochemical Impedance Spectroscopy Analysis Suite (B1510)

Hangyu Yu (1), Guillaume Jeanmonod (2), Priscilla Caliendo (3), Cédric Frantz (1), Dante Fronterotta (1), Florian Bernard Berset (1), Jan Van Herle (1)

(1) École Polytechnique Fédérale de Lausanne, Group of Energy Materials, Faculty of Engineering Sciences, Sion/Switzerland;

(2) HydroQuébec, Montréal/Canada;

(3) Bern University of Applied Sciences, Biel/Switzerland;

Mode-Dependent Performance and Degradation of a 10-Cell SOEC Stack Across Steam, Co-Electrolysis, and Dry CO₂ Operation, Resolved by Operando EIS-DRT (B1511)

S. Elango Elangovan (1), Tyler Hafen (1), Dennis Larsen (1), Michele Holliet (1), Mariam Awara (2), Essam Elsayhi (2)

(1) OxEon Energy, LLC, North Salt Lake, UT/United States;

(2) Pulsenics Inc, Toronto ON/Canada;

Combustion synthesis of LaNi_{0.6}Fe_{0.4}O₃ perovskite as cathode contact material for IT-SOFCs (B1512)

Ilaria Bombarda, Nico Langhof, Stefan Schafföner
University of Bayreuth, Bayreuth/Germany;

Yuechao Yao, Jun Zhang, Yucun Zhou

Beijing Huairou Laboratory, Beijing/China;

Sustainable Ca-Fe-O-based Air Electrodes for Solid Oxide Cells (B1315)

Mehmet Aksoy (1), Andreas Egger (1), Johanna Kramer-Schöggel (2), Fereshteh Falah Chamasemani (2), Roland Brunner (2), Edith Bucher (1)

(1) Technical University of Leoben, Chair of Physical Chemistry, Leoben/Austria;

(2) Materials Center Leoben Forschung GmbH, Leoben/Austria;

Theoretical and Experimental Investigation of Sr₂CoNbO_{6-δ} as a Potential Electrode for Solid Oxide Fuel Cells (B1316)

Mohammad Ali Haider (1), Jyotsana Kala (2)

(1) Indian Institute of Technology Delhi, Chemical Engineering, Delhi/India;

(2) Indian Institute of Technology Delhi, Physics, Delhi/India;

Rational Design of a High Entropy Perovskite Oxide for Solid Oxide Fuel Cells (B1317)

Mohammad Ali Haider (1), Jyotsana Kala (2)

(1) Indian Institute of Technology Delhi, Chemical Engineering, Delhi/India;

(2) Indian Institute of Technology Delhi, Physics, Delhi/India;

Alternative Oxygen Electrodes for SOEC: A Path to Critical Raw Material Reduction (B1318)

Ozden Celikbilek (1), Léa Marty (1), Castay Blandine (1), Elisa Grindler (1), Simon Hubert (2), Armelle Ringuedé (2), Konstantin Tarasov (1)

(1) CEA, LITEN, Grenoble/France;

(2) Chimie Paris, IRCP, Paris/France;

Enhancement of triple conductivity in single-perovskite air electrode materials for protonic ceramic fuel cells via aliovalent doping (B1319)

Minkyong Jo, Jun-Young Park

Sejong University, Nanotechnology and Advanced Materials Engineering, Seoul/South Korea;

Effect of O-Site Doping on Triple Conductive Perovskite Air Electrodes: A DFT Calculation (B1320)

Rui nan Wang, Meng Ni; The Hong Kong Polytechnic University, BEEE, Hong Kong/China;

A constricted potassium evaporation strategy promoting ordered segregation for superior air electrodes in protonic ceramic fuel cells (B1321)

Shuo Zhai; Shenzhen University, Shenzhen City/China;

A constricted potassium evaporation strategy promoting ordered segregation for superior air electrodes in protonic ceramic fuel cells (B1322)

Shuo Zhai; Shenzhen University, Shenzhen City/China;

Performance prediction of SOC by ex-situ characterisation of electrodes and physical modelling (B1513)

Mohammad Hadi Mohammadi, Hamid Reza Abbasi, Arash Rabbani, Constantinos Theodoropoulos, Masoud Babaei

University of Manchester, Department of Chemical Engineering, Manchester/United Kingdom;

Estimation of Exchange Current Density of Nickel-Yttria Stabilized Zirconia Composite at Various Microstructural Scales (B1515)

Takaaki Shimura (1), Yosuke Komatsu (2), Anna Sciazko (2), Naoki Shikazono (2)

(1) National Institute of Advanced Industrial Science and Technology, Research Institute for Energy Conservation, Ibaraki/Japan;

(2) The University of Tokyo, Tokyo/Japan;

Robust comparison of distributions of relaxation times (B1516)

Pavle Bošković (1), Žiga Gradišar (1), Žan Gorenc (1), Vanja Subotić (2)

(1) Jožef Stefan Institute, Ljubljana/Slovenia;

(2) TU Graz, Institute of Thermal Engineering, Graz/Austria;

In-situ simultaneous characterization of in-plane inhomogeneity of electrochemical performance and temperature field of solid oxide fuel cells (B1517)

Yulong Lv (1), Xinyu Guo (1), Hangyu Yu (2), Cheng Weng (1), Jan Van Herle (2), Ligang Wang (1)

(1) North China Electric Power University, Beijing/China;

(2) École Polytechnique Fédérale de Lausanne, Sion/Switzerland;

Total Harmonic Distortion with Quasi-sinusoidal Input Signal (B1518)

Žiga Gradišar, Luka Žnidarič, Žan Gorenc, Pavle Bošković

Jožef Stefan Institute, Department of Systems and Control, Ljubljana/Slovenia;

A convolutional encoder-decoder framework for robust Distribution of Relaxation Times estimation (B1519)

Žan Gorenc, Žiga Gradišar, Pavle Bošković

Jožef Stefan Institute, E2, Ljubljana/Slovenia;

End B15 Posterlist

B16: Fuel Electrodes II

Doped $\text{Sr}_2\text{FeMo}_{0.65}\text{M}_{0.35}\text{O}$ (M = Ni, Co, Cu, Mn and Ti) as fuel electrode materials for high-temperature CO₂ electrolysis (B1607)

Saranya Thankappakurup (1), Stephanie E. Wolf (1), Vaibhav Vibhu (1), Rüdiger-A. Eichel (1,2)

(1) Institute of Energy Technologies, Fundamental Electrochemistry (IET-1);

(2) Institute of Physical Chemistry, Forschungszentrum Jülich GmbH, Jülich/Germany;

Symmetric cells with $\text{Sr}_2\text{Fe}_{1.5}\text{Mo}_{0.5}\text{O}_{6.5}$ -based electrodes for Power-to-Gas and Power-to-Liquid applications (B1203) = (B1608)

Vladislav Kolotygin (1), Walter Zambelli (1), Kimberly Toala (1), Lucile Bernadet (1), Antonio Maria

(1), Gina Grabulosa-Morera (2), Raúl Bonet (2), Jaume Caro (2), Jordi Orrit-Prat (2), Maria Carmen

Monterde Gascon (3), Jose Antonio Calero Martínez (3), Marc Torrell (1), Albert Tarancón (1,4)

(1) IREC, Nanoionics and Fuel Cells group, Barcelona, Spain

(2) Eurecat, Centre Tecnològic de Catalunya, Manresa, Spain

(3) AMES PM Tech Center, Sant Vicenç dels Horts, Spain

(4) ICREA, Barcelona, Spain

Redox stable and electrochemical performance of a perovskite electrode material (SrFeO_{3-x} -based) for IT-RSOCs (B1610)

Amir Yazdani, Maria Paola Carpanese, Juan Basbus, Sara Massardo, Davide Cademartori

University of Genoa, DICCA, Genoa/Italy;

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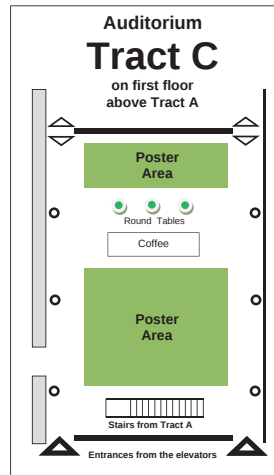
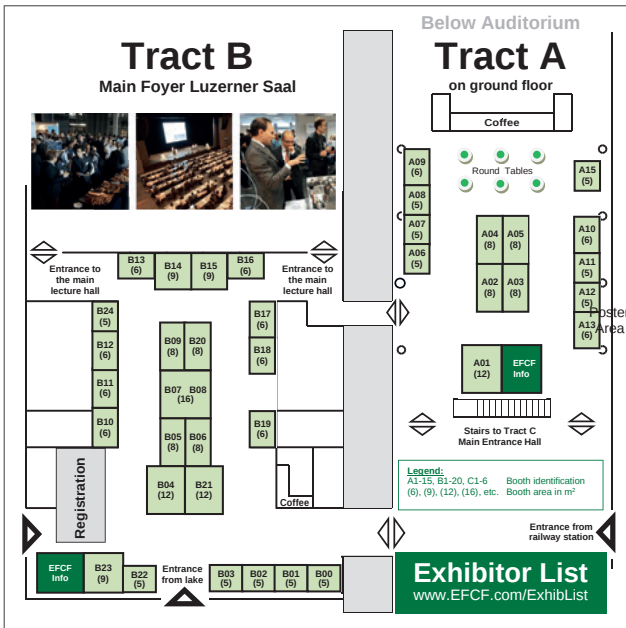
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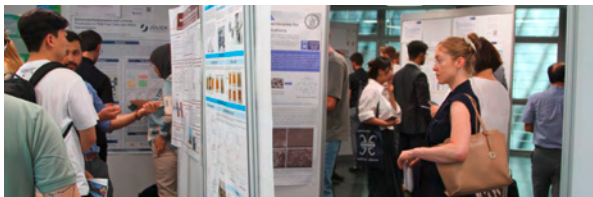
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B02	SulfaTrap LLC Colorado / United States	Desulfurization and purification sorbents/systems	www.sulfatrap.com
B03	Nexceris Lewis Center, Ohio / United States	Lab-to-Launch materials & technology development partner for companies commercializing SOC innovations	www.nexceris.com
B04	Burkert Schweiz AG Hünenberg / Switzerland	Shut-off, Proportional solenoid valve, Mass Flow Meters, Mass Flow Controller, Electromotive Valves, Proportional motor valve, Sensors	www.buerkert.ch

B05	I-GraphX GmbH Reinbek / Germany	Analysis of: H2 O2 N2 CO CO2 H2S NH3, microGC, H2 Purity measurement 5.0 (99.999%), Gas chromatography	www.i-graphx.com
B06	BioLogic Science Instruments GmbH Göttingen / Germany	Premium Potentiostats and BluPEM Fuel Cell and Electrolysis Test Station	www.biologic.net
B07/B08	Forschungszentrum Jülich GmbH Jülich / Germany	High-temperature fuel cell and electrolyzers – from materials to systems	www.fz-juelich.de
B09	Morgan Advanced Materials Windsor / United Kingdom	WDS Microporous Granulate / rigid and flexible boards	morganadvancedmaterials.com
B10	smk systeme metall kunststoff gmbh & co. kg Filderstadt / Germany	Heat exchangers, reformers, control valves & hot box design for SOFC/SOEC systems	www.smk-systeme.de
B11	Feintool International Holding AG Lyss / Switzerland	Development and global high-volume production of metallic bipolar plates and interconnects for fuel cells and electrolyzers	www.bipolarplates.com
B11	SITEC Industrietechnologie GmbH Chemnitz / Germany	Development and global high-volume production of metallic bipolar plates and interconnects for fuel cells and electrolyzers	www.bipolarplates.com
B12	Bosal Energy N.V. Vianen / The Netherlands	Integrated HotBop solutions with own patented high temperature and high efficiency Heat Exchangers	www.bosal.com
B13	FLEXITALLIC Ltd West Yorkshire / United Kingdom	Gaskets and Sealing Solutions for Solid Oxide Cell technologies	www.flexitallic.com
B14	Keramischer OFENBAU GmbH Hildesheim / Germany	Kiln plants for sintering and debinding of SOFC & SOEC components	www.KeramischerOFENBAU.de
B15	ONEJOON GmbH Bovenden / Germany	Debinding & Sintering furnaces to produce Solid Oxide Electrolyser Cells & Solid Oxide Fuel Cells	www.onejoon.de
B16	SRT-Microcéramique Vendôme / France	Solid Oxide Cells for fuel cell (SOFC), electrolysis (SOEC) and reversible (rSOC) applications	srt-microceramique.com
B17	Scribner Southern Pines / United States	SOFC/EC Test Systems	www.scribner.com

B18	Haiku Tech Europe B.V. Maastricht / The Netherlands	Manufacturing and Quality Inspection Equipment for Multilayer Ceramics and SOC Production	www.haikutech.com
B19	HORIBA FuelCon Barleben / Germany	SOFC/SOEC test systems and sintering stations for production environments	www.horiba-fuelcon.com
B20	Elcogen Tallinn / Estonia	Highly efficient Solid Oxide Cells, Stacks & Modules for SOEC / SOFC	www.elcogen.com
B21	Kerafol Keramische Folien GmbH & Co. KG Eschenbach / Germany	Electrolytes, Solid-Oxide Cells, Glass tapes, Sintering Setters, Thermal Interface Materials	www.kerafol.com
B22	VERMES Microdispensing GmbH Holzkirchen / Germany	Supplier of SOC stacks and stack modules to system integrators	www.soc.vermes.com
B23	ZAHNER-Elektrik GmbH & Co. KG Kronach / Germany	Zahner potentiostats: intuitive software and precise hardware for electrochemistry on all scales	www.zahner.de
B24	Linde AMT GmbH Wiggensbach / Germany	High phase purity complex oxides from low to large volumes made with our proprietary CSP process	www.linde-amt.com



Special Networking Events

www.EFCF.com/Events

Welcome Gathering

Tuesday, 30 June: 18:00, in the exhibition, ground floor: Meet old friends, find new contacts, and exchange already with the exhibitors – a perfect start to the conference.

Swiss Surprise (optional, limited to 80 participants)

Wednesday, 1 July: 18:30, place to be announced. A special surprise is offered in an unusual place close to Lucerne: An enjoyable evening with Swissness, music, drinks, and dinner. Tickets are sold on a first-come-first-serve-basis for CHF 140 per person. During your on-line registration (www.EFCF.com/Registration) please select the option to purchase tickets in advance for you and your guests.

Dinner on the Lake

Thursday, 2 July: 19:30 Pier 6 („Brücke 6“) next to Congress Center: A very special pleasure-boat (flagship of the fleet) will take us on a tour of the lake past a magnificent landscape to the „Rutli“ glade, birthplace of Switzerland (1291). Enjoy the unique blend of music, drinks, and a candle-light dinner while gliding past beautiful scenery. Live music contributes to this unforgettable evening. Included in the EFCF registration fee. Please choose this option during your on-line registration on www.EFCF.com/Registration to purchase additional tickets for your guests (CHF 140 per person).



Entertainment for Accompanying Persons

During the European Full Cell Forum your guests and yourself have the possibility to explore the beautiful region of Lucerne together with an experienced local guide. Bucher Travel Inc. and the Lucerne Tourist Office are able to organize for you and your guests entertaining trips around local attractions. It is possible to take a tour of Lucerne visiting the medieval part of the city, followed by a tour of the picturesque surrounding area e.g. Mount Pilatus, the Glass Factory & Mount Stanserhorn, etc. The excursions are arranged locally on a daily basis depending on weather conditions and requests. To get more information about the programmes and to book an activity, please visit www.EFCF.com – Registration – Spouse Programmes or contact in advance Bucher Travel Inc., booking@buchertravel.ch, +41 41 418 55 46 and/or visit www.luzern.com. The EFCF team can support you on-site at the registration desk in finding further offers and opportunities, except during the main registration time (Tuesday afternoon, Wednesday morning). Accompanying persons may participate in the „Swiss Surprise“ and „Dinner on the Lake“ for CHF 140.– per person as well as in the lunches on the terrace of the KKL. Please purchase guest tickets as long as they are available during your on-line registration. Additional lunch tickets are only sold on site until fully booked. The exhibitions can always be visited for free.

Exhibit at the next EFCF

- | | |
|--|---|
| ► Combine Exhibition & Conference Participation | enjoy up to 70% rebate on booth fee |
| ► Book your Booth until 31 October | get up to 9% discount on booth fees |
| ► Safeguard your Booth for 2027 & 2028 | nonbinding with 3% return on booth fees |
| ► Advertise your Product & Services | profit from single & package offers |

contact Leandra exhibition@efcf.com +41 79 622 02 27

www.EFCF.com/

Library

Programs,
Proceedings,
Special Issues
DOI publications,
Impressions, ...

www.EFCF.com/

Community

EFCF Member lists,
Poster presentations,
On-demand session streams,
Tutorials,
Presentation slides,
Proceedings of the conference,
Networking, Awards, Live streams, ...

EFCF 2027 29 June – 2 July

BOOK your BOOTH

www.EFCF.com/ByB



EFCF 2028 4 – 7 July

SAFEGUARD your BOOTH

www.EFCF.com/SyB



Int. Project Meetings

in the EFCF week are popular
EFCF helps to organise www.EFCF.com/FPM



The EFCF community in one boat...
...reaches its goals faster & more efficiently

How to get to Lucerne

www.EFCF.com/Lucerne

By car, train or bus:

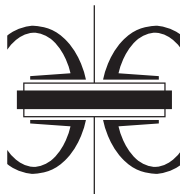
The Gotthard trans-alpine **autobahn and railway pass through Lucerne**, and provide easy access by car, train or bus from north or south. Lucerne is ca. 1 hour from Zurich.

EFCF also offers info and support, if you would like to get picked up by a taxi or bus, preferable when you travel in groups, and/or intend to add a business or private trip possibly with accompanying persons, please send your requests to forum@efcf.com.

By air:

Zurich is the gateway for the European Fuel Cell Forum. Choose **Zurich as your destination**. From Zurich airport you can take a **train to Lucerne**. The train station is below the airport terminal complex, and trains with one change (at Zurich main station) leave every 20 minutes with one direct train at 39 minutes past the hour. The pleasant train journey takes a little over 1 hour. Most hotels are within walking distance from the Lucerne train station and the conference location at the KKL.

**We hope you have a pleasant journey and
we look forward to welcoming you in Lucerne!**



European Fuel Cell Forum
Olivier Bucheli & Michael Spirig
Obgardihalde 2
CH-6043 Luzern-Adligenswil/Switzerland
forum@efcf.com, www.EFCF.com



Organized by:

European Electrolyser and Fuel Cell Forum
Olivier Bucheli & Michael Spirig
Obgardihalde 2
CH-6043 Luzern-Adligenswil/Switzerland
forum@efcf.com, +41 78 252 0245

www.EFCF.com

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Hydrogen Moves
HyFindr
IHEA – International Hydrogen Energy Association
Journal of Fuel Cell Technology
SIA (Berufsgruppe Technik und Industrie)
Smarter E Europe
Swiss Academy of Engineering Sciences
Swiss Gas and Water Industry Association
UK HFC Association
Vätgas Sverige
VDI Verein Deutscher Ingenieure
Wiley – VCH Publishers

Switzerland 

Fuel Cell, Electrolyser & Hydrogen

Kick-Starter, 0.5 ECTS
for
→ Newcomers
→ Medium-experienced

Live onsite 30 June 2026
In Lucerne Switzerland 
Live virtual & on-demand

FCH Tutorial

- ✓ Basic understanding of chemical, physical & technical principles
- ✓ Application requirements & practical examples of current developments
- ✓ Strong base to exchange with your partners & clients

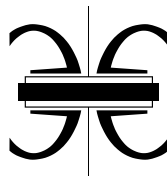
Tutors:



Dr. Günther G. Scherer
formerly PSI, Switzerland



MER Dr. Jan Van Herle
EPFL, Switzerland



Part of

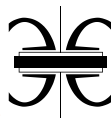
EFCF 2026, 30 June - 3 July

17th European SOFC and SOE Forum

30th International Conference Series
with Tutorials & Exhibition, est. 1994

www.EFCF.com/FCH

PROGRAM



FCH Tutorial: Live 30 June 2026

www.EFCF.com/FCH

09:30 Registration, Welcome Refreshments

10:00 Welcome & Introduction

10:00 **Lecture 1 Fundamentals of Electrochemical Energy Conversion**

11:00 **Lecture 2 Characteristics of important Fuel Cell & Electrolyser Technologies**

11:45 Coffee break

12:00 **Lecture 3 Fuels for Fuel Cells, Fuel Processing**

12:45 Lunch break

14:00 **Lecture 4 Applications of Polymer Electrolyte Technologies**

such as PEFC, DMFC, H₂FC, ...

14:45 **Lecture 5 System Aspects, Applications of Solid Oxide Technologies**

such as SOFC, SOE, SOMR

15:30 Coffee break

15:45 **Lecture 6 State-of-the-art, “FCH-Contest”, Summary**

17:00 End of FCH Tutorial, Visit the exhibition & poster area of EFCF

The FCH Tutorial Language is English.

Registration, Services & Fees

On-site & virtual* participation includes: *at least 7 attends.

Complete documentation of the tutorial lectures,
exchange with FCH experts & users, VAT &

certificate of attendance with confirmation of
0.5 ECTS credits after completing the FCH -Contest.

Additionally for **onsite participants**:

Welcome refreshments, business lunch, snacks, drinks &
admission to EFCF poster session & exhibition.

On-line Registration : www.EFCF.com/TutReg

CHF 590 for live, on-site participation

CHF 350 for live, virtual participation
+CHF 100 late fee from 15 May

CHF 350 for on-demand access to former
& new recorded lectures, email
exchange with the tutors is possible

Exhibitors & groups are entitled to rebates.

Ask forum@efcf.com.



Electrochemical Impedance Spectroscopy

Advanced Know-how
Booster, 0.5 ECTS
→ Medium - Top ^{for} Experienced

Live onsite 30 June 2026
In Lucerne Switzerland 
Live virtual & on-demand

EIS Tutorial

- ✓ Basic principles of EIS for analyzing Solid Oxide Cells & Stacks
- ✓ Advanced applications, sophisticated cases & practical details
- ✓ Discussions & exchange of experience with top-class experts

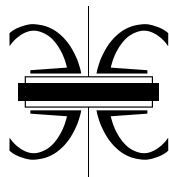
Tutors:



Dr. André Weber
KIT, Germany



Dr. Dino Klotz
Twelve Corp, USA



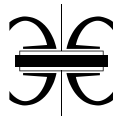
Part of

EFCE 2026, 30 June - 3 July

17th European SOFC and SOE Forum

30th International Conference Series
with Tutorials & Exhibition, est. 1994

www.EFCE.com/EIS



EIS Tutorial: Live 30 June 2026

PROGRAM

- 09:30 Registration, Welcome Refreshments
- 10:00 Welcome & Introduction
- 10:10 **Lecture 1 Fundamentals of Electrochemical Impedance Spectroscopy**
- 11:00 **Lecture 2 Evaluation of Impedance Spectra, Kramers-Kronig Test, DRT-Analysis, CNLS Fit**
- 11:45 Coffee break
- 12:00 Industry Pitch – Power pitch from relevant industrial supplier
- 12:10 **Lecture 3 Applications I - Analysis - Materials & (Model-) Electrodes**
- 12:55 Lunch break
- 14:00 Industry Pitch - Power pitch from relevant industrial supplier
- 14:10 **Lecture 4 Applications II - Analysis - Single Cells & Stacks**
- 14:55 **Lecture 5 Impedance Modelling & Simulation**
- 15:40 Coffee break
- 15:55 **Lecture 6 "EIS challenge" - Summary**
- 17:10 End of EIS Tutorial, Visit the exhibition & poster area of EFCF

www.EFCF.com/EIS

The EIS Tutorial language is English.

Registration, Services & Fees

On-site & virtual* participation includes: *at least 7 attends.

Complete documentation of the tutorial lectures,
exchange with EIS experts & users, VAT &

certificate of attendance with confirmation of
0.5 ECTS credits after completing the EIS challenge.

Additionally for **onsite participants**:

Welcome refreshments, business lunch, snacks, drinks &
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On-line Registration : www.EFCF.com/TutReg

CHF 590 for live, on-site participation

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+CHF 100 late fee from 15 May

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exchange with the tutors is possible

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FINAL ANNOUNCEMENT

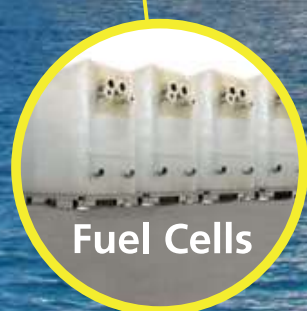
SSD 2026
29 – 30 June

Lucerne, Switzerland 

SUSTAINABLE SHIPPING DAYS

Electrolysers & Fuel Cells for waterborne transport

Conference
Exhibition
Network



Fuel Cells



Batteries



Fuel Tanks

Chaired by:

Dr. Syed Asif Ansar

ESI – Energy System Integration

DLR – German Aerospace Center



Ports

Fuel Delivery & Production
with Electrolysers

Featuring

- Advanced Marine Fuel Cell & Low-Emission Propulsion Systems
- Integrated Fuel Cell Drivetrains incl. Reforming & Carbon Capture
- High-Performance Electrolysers & Green Marine Fuel Production
- System-Level Innovations for a De-fossilized Maritime Value Chain
- Port & Ecosystem Integration, Rules, Regulations & Classification



Organised by EFCF

www.SSDship.com

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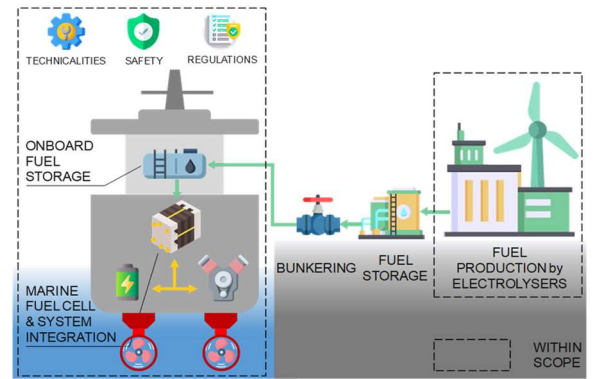


MISSION

The **Sustainable Shipping Days** aims to explore and promote advancements in maritime sustainability through the integration of **onboard fuel-cell energy systems** and **electrolysis technologies at ports** to enable green fuel supply.

Associated with the European **Electrolyser & Fuel Cell Forum** - www.EFCF.com, the SSD brings together experts, industry leaders and researchers to discuss **how hydrogen & fuel cell technologies can decarbonise the maritime sector**, enhance energy efficiency and accelerate the transition towards

ZERO-EMISSION SHIPPING.



Scope

www.SSDship.com/Scope

Who should contribute?

Shaping the Maritime Future

SSD will again offer a platform for experts, researchers and industry leaders to explore the future of sustainable shipping. Over 1½ days, the program will feature high-level keynotes, invited talks, and presentations on results from national and EU research projects. Key discussions will focus on the integration of technologies into the maritime sector, addressing impacts on environmental sustainability, energy security and market transformation.

Networking for Innovation

SSD is designed to foster knowledge exchange and networking. Alongside the main conference and poster sessions, the program includes networking breaks and side events such as a welcoming aperitif and a sunset dinner on the lake. The highlight: A hydrogen fuel cell-powered pleasure boat, creating the ideal atmosphere for collaborations and idea-sharing.

Input your valuable contribution

SSD also invites you to join the Electrolyser & Fuel Cell Forum (EFCF 2026) community at its Welcome Reception, Exhibition or the 3-day conference. This event, taking place after SSD in Lucerne, will gather global experts in electrolysis and fuel cell technologies. The combined events of SSD & EFCF present the chance to contribute to the field of sustainable shipping and energy solutions.

✓ **Researchers, OEMs**

✓ **Shipbuilders**

✓ **Operators**

✓ **Port authorities**

✓ **Classification societies**

✓ **Investors**

✓ **Policymakers**

involved in:

⇒ Marine fuel cells & electrolysers

⇒ Energy storage & management systems

⇒ Sustainable propulsion technologies

⇒ Port & fuel infrastructure development

⇒ Maritime regulation & safety

Session Overview

Full SSD Conference (incl. Breakout Sessions): Register at www.SSDship.com/registration

Monday, June 29 2026

- 12:45 S01 **Welcome & Opening / Keynote**
- 13:40 S02 **Implementing Fuel Cells in Ship Operations**
- 15:20 S03 **Renewable Fuels, Ports & Infrastructure**
- 17:15 **SB1/2 Breakout Sessions SPo Poster Session I (parallel)**
- SB1 PEM Fuel Cell Applications in the Maritime Sector**
- SB2 Hydrogen as Cargo and Fuel in Maritime Sector: LH2CRAFT and SAFeCRAFT Projects**
- 18:45
- 19:45 **Sunset Dinner on the Lake**

Tuesday, June 30 2026

- 8:00 **On-site Registration & Welcome Coffee**
- Warm-up: Possibility to view & discuss mounted posters
- 9:00 S04 **Maritime Fuel Cells Systems**
- 11:00 S05 **Advanced Propulsion Systems & on-board Integration**
- 13:30 **SB3 Breakout Sessions SPo Poster Session II**
- SB3 Maritime SOFC drivetrains: Key findings of NAUTILUS and HELENUS**
- 15:30 S06 **Policy, Strategy & Alternative Concepts**
- 17:00 S07 **Wrap up & closing session**
- 17:30 End of SSD 2026**
- 18:00 Welcome Reception of EFCF**

Lecture Program



Lucerne, Switzerland 

SUSTAINABLE SHIPPING DAYS

Electrolysers & Fuel Cells for waterborne transport

Program Overview

Monday, June 29

11:30 On-site Registration & Welcome Coffee
Warm-up: Opportunity to view & discuss pre-mounted posters

**KKL Luzern
Auditorium**

12:45 S01 Welcome & Opening / Keynote

S0101	Welcome by the Organizers	Olivier Bucheli, Michael Spiring European Electrolyser & Fuel Cell Forum, Lucerne/Switzerland
S0102	Welcome by the Chair	Syed Asif Ansar German Aerospace Center (DLR), Stuttgart/Germany
K	S0103 Smart is green - Use of smart technology to decarbonise shipping	Sören Ehlers, Institute of Maritime Technologies and Propulsion Systems, DLR, Kiel/Germany

13:40 S02 Implementing Fuel Cells in Ship Operations

Session Chairs: Malte Zeretzke, Kevin Koosup Yum

I	S0201 Unlocking the full decarbonation potential of SOFC technology for marine application	Sébastien Luis Ponant, Marseille/France
	S0202 Experience from megawatt PEM fuel cell marine installations	Andreas Bodén, Karl Samuelsson, Stig Kallestad PowerCell Group, Gothenburg/Sweden
	S0204 Hybrid SOFC-ICE Propulsion for Maritime Decarbonisation: Multi-Fuel Modelling and Techno-Economic Assessment on a Short-Distance Ferry	Marta Gandiglio Department of Energy, Politecnico di Torino, Torino/Italy;

14:50 Coffee break in the poster area

15:15 S03 Renewable fuels, Ports and Infrastructure

Session Chairs: Laurence Grand-Clément

I	S0301 Enabling Renewable Marine Fuels: Port Infrastructure Readiness Through Repurposing and New Energy Hubs	Mateo Garzón MB Energy Holding GmbH & Co. KG, Hamburg/Germany
	S0302 Ammonia fueled SOFC for zero carbon shipping	Mihails Kusnezoff* (1), Paul Adam (1), Stefan Megel (1), Stefan Rothe (1), Jonas Peter (1), Erik Reichelt (1), Laura Nusch (1), Mathias Hartman (1), Daniela Herold (1), Matthias Jahn (1), Teruhisa Horita (2), Katherine Bagarinao (2), Haruo Kishimoto (2), Mark Hartmann (3), Julius von Einsiedel (3), Toshiaki Matsui (4), Hiroki Muroyama (5), Yasuo Kakinuma (6), Hiroshi Sumi (6) (1) Fraunhofer Institute for Ceramic Technologies and Systems (IKTS), Dresden/Germany (2) National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba/Japan (3) EDL Anlagenbau Gesellschaft mbH, Leipzig/Germany (4) Kyoto University, Kyoto/Japan (5) Kindai University, Higashi-Osaka/Japan (6) MORIMURA SOFC Technology Co., Ltd., Tokyo/Japan
	S0303 Integrated Power-to-X Conversion via SOE and Fischer-Tropsch: Demonstration under Real Marine Conditions	Max Gerlinger (1), Karunsagar Pondugula (1), Harald Bürgmayr (1), Darshan Jain (1), Zeynep Senel (1), George Parku (1), Niklas Brinker (1), Florian Stährfeldt (2), Matthias Metten (2), Christian Schnegelberger (2), Matthias Riegraf (2), Jan Hollmann (2), Faisal Sedeqi (2), Anis Taissir (2), Gaël Corre (1), Marc P. Heddrich (2), Katja Haas-Santo (1), Roland Dittmeyer (1), S. Asif Ansar (2) (1) Karlsruhe Institute of Technology (KIT), Institute for Micro Process Engineering, Karlsruhe/Germany (2) German Aerospace Center (DLR), Institute of Engineering Thermodynamics, Stuttgart/Germany
	S0304 Economic Assessment of Syngas Production by SOC Co-Electrolysis for Green Methanol	Timo Roeder, Jonas Martin, Enric Prats Salvado, Nathalie Monnerie, Christian Sattler Institute of Future Fuels, German Aerospace Center(DLR), Köln/Germany

16:45 Coffee break in the poster area

17:15 SB1/2 Breakout Sessions & SPo Poster Session I

see separat Flyers: www.SSDship.com/Breakout-Sessions

SB1	PEM Fuel Cell Applications in the Maritime Sector: High-Durability and High-Power-Density PEMFC Stacks, Advanced Diagnostics and Monitoring Procedures	H2Marine & MiNaMi Projects -EU-funded Clean Hydrogen JU projects Kyriakos D. Panopoulos, Chemical Process and Energy Resources Institute (CPERI), Centre for Research and Technology Hellas (CERTH), Thessaloniki/Greece Partners: CERTH, VTT, PowerCell Group, ZSW, University of Freiburg, Greenerity, Dana, CluBE, TKMS, EH Group, CLEOS, EPFL, Beyond Gravity, SINTEF AS, ABB Oy, Fondazione Bruno Kessler, Vaisala Oyj, Allengra SRL and DFDS.
SB2	Hydrogen as Cargo and Fuel in Maritime Sector: R&D&I Applications from the LH2CRAFT and SAFeCRAFT Projects - Highlights, Lessons Learned and Key Challenges for H ₂ applications in the waterborne sector.	LH2CRAFT & SAFeCRAFT Projects - EU-funded Horizon Europe projects Astrinos Papadakis, HYDRUS Engineering S.A., Agia Paraskevi/Greece Christos Papaleonidas, WMG Sustainable Innovation, Athens/Greece Partners: HYDRUS Engineering S.A., RINA Services S.p.A., ABS Hellenic Single Member LLC, Bureau Veritas, TWI Ltd, University of Strathclyde, Technische Universität Dresden, National Technical University of Athens, HD Korea Shipbuilding & Offshore Engineering Co. Ltd., GABADI S.L., University of Patras, EASN Technology Innovation Services, Foundation WEGEMT, Actemium NDT Engineering & Services, Metacon S.A., MOTOR OIL, and SEANERGY.

18:45 Day 1 Technical Program Ends

19:45 Meeting point for registered guests > pier 6

19:50-22:30 Sunset Dinner on the Lake

Tuesday, June 30

8:00 On-site Registration & Welcome Coffee
Warm-up: Opportunity to view & discuss pre-mounted posters

**KKL Luzern
Auditorium**

9:00 S04 Maritime Fuel Cell Systems

Session Chairs: Dheeraj Gosala, Øystein Ulleberg

I	S0401	The next generation of maritime hydrogen fuel cells	Jogchum Bruinsma Nedstack Fuel Cell Technology, Arnhem/Netherlands
	S0402	Developing a Scalable and Robust SOFC System for Sustainable Shipping	Phil Sharp Genevos, Lagord/France
	S0403	Modular Hybrid Ammonia-Fueled Solid Oxide Fuel Cell Systems for Maritime Applications	Du Wen, Xinyi Wei, François Maréchal, Jan Van Herle École Polytechnique Fédérale de Lausanne (EPFL), Sion/Switzerland
	S0404	Optimal Operation of Hybrid Fuel Cell–Battery Marine Power Systems using a Real-Time Energy Management Approach	Mustapha Jamma Institute for Energy Technology (IFE), Kjeller/Norway
10:30 Coffee break in the poster area			

11:00 S05 Advanced Propulsion Systems and on-board Integration

Session Chairs: Berend van Veldhuizen, Ahmed Abdelhakim

I	S0501	Overview into Fuel Cell Integration with Marine Power Systems	Sami Kanerva Marine & Ports, ABB Pte. Ltd, Singapore/Singapore.
	S0502	SOFC upscaling and maritime integration: SolydEra's experience	Alexandre Closset SolydEra SA, Yverdon-les-Bains/ Switzerland
	S0503	Insights from the first projects demonstration hydrogen fuel cells in maritime transport at MW-scale: FLAGSHIPS, RH2IWER, and SHIP-AH2OY	Jyrki Mikkola, Markus Rautanen VTT Technical Research Centre of Finland, Espoo/Finland
	S0504	Safety-Driven Design of a Multi-Megawatt SOFC System for Cruise Ship Applications: A Joint Development Project with Key Stakeholders	Lukas Kistner, Gahyeong Kang, Byoungyoung Yoon, Kevin Koosup Yum HD Hyundai Europe Research and Development Center, Düsseldorf/Germany.
12:30 Lunch Break			

13:30 SB3 Breakout Sessions & Spo Poster Session II

see separat Flyers: www.SSDship.com/Breakout-Sessions

	SB3	Maritime SOFC drivetrains: Key findings of research projects NAUTILUS & HELENUS	NAUTILUS & HELENUS Projects - EU-funded Horizon 2020 / Horizon Europe projects Jan Hollmann, German Aerospace Center (DLR), Stuttgart/Germany Partners: German Aerospace Center (DLR), Chantiers de l'Atlantique, Carnival Maritime GmbH, École Polytechnique Fédérale de Lausanne (EPFL), GRANT Garant, Lloyd's Register EMEA, MAN Energy Solutions, Meyer Werft Papenburg, Royal Caribbean Cruise Line, RWTH Aachen University, SOLIDPower S.p.A., Delft University of Technology, Lund University, VTT Technical Research Centre of Finland, SOLIDPower SA, Alma Clean Power, Wärtsilä, Bureau Veritas Marine & Offshore, MSC, BALance Technology Consulting, and IFEU.
15:00 Coffee break in the poster area			

15:30 S06 Policy, Strategy and Alternative Concepts

Session Chairs: Syed Asif Ansar

I	S0601	Waterborne technology leadership: towards a resilient, competitive, and sustainable future	Jaap Gebraad Waterborne Technology Platform VZW, Brussels/Belgium
	S0602	A Power-to-Methanol process utilizing SOEC and condensing methanol reactor technology	Robert Braun (1), Shane Conley (1), Akhil Ashar (1), John Bogild Hansen (2) (1) Colorado School of Mines, Mechanical Engineering, Golden/United States; (2) BogildConsult.dk, Humlebæk/Denmark
	S0603	A next generation power system-solid oxide fuel cell integrated with onboard carbon capture system	Ilgu Hong, Yonghwan Kang, Eunji Park Korea Shipbuilding & Offshore Engineering (KSOE), Seongnam/Korea
	S0604	Hydrogen and Fuel Cells for Ships – Advancing from Risk-Based Designs toward Prescriptive Requirements	Tomas H. Tronstad DNV, Oslo/Norway

17:00 S07 Wrap up and closing session

Syed Asif Ansar & All Board Members

	S0701	Closing by the Chair	Syed Asif Ansar German Aerospace Center (DLR), Stuttgart/Germany
	S0702	Closing by the Organizers	Olivier Bucheli, Michael Spirig European Electrolyser & Fuel Cell Forum, Lucerne/Switzerland
17:30 End of SSD event - Goodbye coffee			
18:00-19:00 Welcome Reception of EFCF - SSD participants are kindly invited to join!			

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P	SPo01	Integrated Power-to-X Conversion via SOE and Fischer-Tropsch: Demonstration under Real Marine Conditions	Florian Stährfeldt (1), Matthias Metten (1), Max Gerlinger (2), Karunasagar Pondugula (2), Christian Schnegelberger (1), Matthias Riegraf (1), Jan Hollmann (1), Faisal Sedeqi (1), Anis Taissir (1), Gaël Corre (2), Marc P. Heddrich (1), Katja Haas-Santo (2), Roland Dittmeyer (2), Syed Asif Ansar (1) (1) German Aerospace Center (DLR), Institute of Engineering Thermodynamics, Stuttgart/Germany (2) Karlsruhe Institute of Technology (KIT), Institute for Micro Process Engineering, Karlsruhe/Germany
P	SPo02	Thermal stress-aware control for an AOGR SOFC system with allothermal pre-forming	Matthijs de Lange (1), Pablo Segovia (2), Rudy R. Negenborn (1), Lindert van Biert (1) (1) Delft University of Technology, Maritime & Transport Technology, Delft/Netherlands; (2) Universitat Politècnica de Catalunya - BarcelonaTECH, Automatic Control, Barcelona/Spain
P	SPo03	Maritime Fuel Cell System Condition Monitoring and Controls	Øystein Ulleberg, Mustapha Jamma Institute for Energy Technology (IFE), Kjeller/Norway
P	SPo05	A Modular Hybrid Design Framework for Scaling Ammonia-Fueled Solid Oxide Fuel Cell Systems	Du Wen, Xinyi Wei, François Maréchal, Jan Van herle EPFL, Sion/Switzerland
P	SPo06	Electrochemical-assisted methane production: Use of Ni/YSZ-based solid oxide electrochemical cells	Genki Horiguchi, Toshiaki Yamaguchi, Hajime Toriumi, Hiroyuki Tateno, Katherine D. Bagarinao, Haruo Kishimoto, Takehisa Mochizuki National Institute of Advanced Industrial Science and Technology, Ibaraki/Japan
P	SPo07	A Power-to-Methanol process utilizing SOEC and condensing methanol reactor technology	Robert Braun (1), Shane Conley (1), Akhil Ashar (1), John Bogild Hansen (2) (1) Colorado School of Mines, Mechanical Engineering, Golden/United States; (2) BogildConsult.dk, Humlebæk/Denmark
P	SPo09	Concept Development and Design of a Multi-fuel SOFC System using Ammonia and Natural Gas	Laura Nusch, Mathias Hartmann, Florian Hewelt Fraunhofer Institute of Ceramic Technologies and Systems IKTS, Dresden/Germany
P	SPo11	Evaluating Design Trade-offs Towards Enabling Power-dense SOFCs in Transportation Applications	Akhil Ashar, Greg Jackson, Robert Braun* Department of Mechanical Engineering, Colorado School of Mines Golden, Colorado/USA
P	SPo12	Simulation of an Ammonia-Fueled PEM Fuel Cell System for Maritime Propulsion Using Aspen HYSYS	Daniel Ågotnes (1), Yulia Arinicheva Skåtun* (1), Ivar Wærnhus (1,2) (1) Western Norway University of Applied Sciences (HVL), Department of Mechanical Engineering and Maritime Studies, Bergen/Norway; (2) NORCE Norwegian Research Centre, Division of Energy and Technology, Bergen/Norway
P	SPo13	Towards a sustainable and cost-effective energy and fuel infrastructure in harbors – Case study in Port of Hamburg	Yoga Rahmat, Owais Khokar, Dirk Ullmer, Ralph-Uwe Dietrich, Fatemeh Razmjooei, Asif Ansar Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Stuttgart/Germany
P	SPo14	Same Technology. Different System - Lessons from Maritime Hybrid Energy Systems for Resilient Grid and Industrial Energy Infrastructure	Hein de Wit Independent Project Initiator – Hybrid Energy Systems, Amsterdam/ The Netherlands

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Breakout Session

Lucerne, Switzerland 

SSD 2026
29 – 30 June 

SUSTAINABLE SHIPPING DAYS

Electrolysers & Fuel Cells for waterborne transport



SB1-4

Parallel

Overview

■ SB1

PEM Fuel Cell Applications in the Maritime Sector:

High-Durability and High-Power-Density PEMFC Stacks, Advanced Diagnostics and Monitoring Procedures

■ SB2

Hydrogen as Cargo and Fuel in Maritime Sector:

R&D&I Applications from the LH2CRAFT and SAFeCRAFT Projects - Highlights, Lessons Learned and Key Challenges for H2 applications in the waterborne sector

■ SB3

Maritime SOFC drivetrains:

Key findings of research projects NAUTILUS & HELENUS

Free Breakout Sessions: Register at www.SSDship.com/SBregistration



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Breakout Session Overview

SSD 2026 features four dynamic parallel breakout sessions bringing together leading EU projects, industry experts, and innovators shaping the future of sustainable shipping. Explore real-world applications of PEM fuel cells, hydrogen technologies, SOFC drivetrains, and maritime decarbonization strategies through highly focused and interactive mini-events. Gain direct insights into flagship projects including H2Marine, MiNaMi, LH2CRAFT, SAFeCRAFT, NAUTILUS, and HELENUS. The sessions provide valuable opportunities for discussion, networking, collaboration, and technology exchange within the international maritime hydrogen community. Join us in Lucerne and connect with the key players driving the maritime energy transition forward.

REGISTER FREE FOR BREAKOUT SESSIONS at: www.SSDship.com/SBregistration

SB1



PEM fuel cells applications in the maritime sector
SB1: Monday 29 June 2026, 17: 15 - 18: 45 (parallel)
Auditorium, Lucerne KKL/Switzerland
Featuring:
High durability & High Power Density PEMFC stacks
Advanced diagnostics and monitoring procedures

→

SB2



Hydrogen as cargo and fuel in maritime sector R&D&I applications
SB2: Monday 29 June 2026, 17: 15 - 18: 45 (parallel)
Club Rooms 3-4, Lucerne KKL/Switzerland
Featuring:
LH2CRAFT and SAFeCRAFT projects break out session – project highlights, lessons learned and key..

→

SB3



Maritime SOFC drivetrains
SB3: Tuesday 30 June 2026, 13: 30 - 15: 00 (parallel)
Auditorium, Lucerne KKL/Switzerland
Featuring:
Key findings of research projects NAUTILUS and HELENUS

→

PEM Fuel Cell Applications in the maritime sector

Monday 29 June 2026, 17:15 - 18:45 KKL Lucerne, Switzerland

High-Durability & High-Power-Density PEMFC stacks, Advanced Diagnostics and Monitoring Procedures

The H₂MARINE project focuses on designing, testing, and validating two 250–300 kW PEM stacks for marine use. In parallel, the MiNaMi project is developing the first MW-sized PEMFC for the maritime sector, targeting an 80,000-hour lifetime to cover over a million nautical miles at 12.5 knots. The H₂Marine & MiNaMi workshop will explore the main findings of these projects, specifically addressing challenges in stack durability, maritime environmental factors and the upscaling of FC systems.

Organised by:



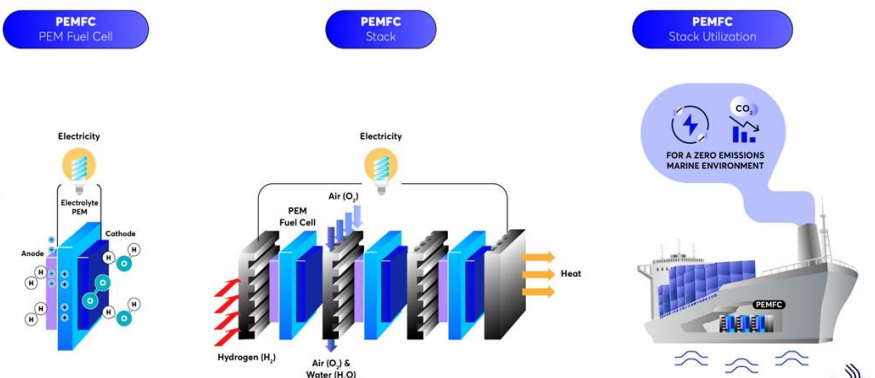
H₂MARINE

<https://h2marineproject.eu>



MiNaMi
MILLION NAUTICAL MILE
FUEL CELL SYSTEM

<https://minami-project.eu>





Clean Hydrogen
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H₂MARINE is supported by the Clean Hydrogen Partnership and its members Hydrogen Europe and the Swiss State Secretariat for Education Research and Innovation under grant agreement No 101137965

MiNaMi is supported by the Clean Hydrogen Partnership and its members Hydrogen Europe and Hydrogen Europe Research under grant agreement No 101250260.



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29 – 30 June

Breakout Session Program:

see also **SSD program**
www.SSDship.com/program

16.00	Registration & visit the SSD poster session
17.15	Welcome & Introduction
17.25	H₂Marine & MiNaMi Projects: Powering Cleaner Shipping Kyriakos Panopoulos, CPERI/CERTH, Greece
17.45	Recent findings on the development of PEMFC stacks for marine applications Andreas Bodén PowerCell Group, Sweden
18.05	Advanced diagnostics and monitoring methods for PEMFC stacks and systems in maritime applications Mikkola Jyrki VTT, Finland
18.25	Discussion panel
18.45	End of Breakout Session
19.45	SSD Sunset Dinner on the Lake

Who should join:

- OEMs of Fuel Cells, Electrolysers & Storage Systems
- Marine Fuel Suppliers
- Marine Genset Manufacturers
- Ship Yards, Ship Owners & Ship Operators
- Hydrogen transportation and logistics
- R&D specialists in the related fields
- Policy makers
- Regulatory authorities
- Inventors project developers, banks
- Classification Organisations

Registration

Free Breakout Session:

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Full SSD Conference (incl. Breakout Sessions):

Register at www.SSDship.com/REGISTRATION
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Contacts for:

SSD & EFCF

Min Zhang & Michael Spirig
m.zhang@SSDship.com
m.spirig@EFCF.com

Breakout Session

Your contact

SB2 Parallel Breakout Session

Hydrogen as Cargo and Fuel in Maritime Sector R&D&I Applications

Monday, 29 June 2026, 17:15 – 18:45, KKL Lucerne, Switzerland

LH2CRAFT & SAFeCRAFT Project Highlights, Lessons Learned Key Challenges for H₂ applications in the waterborne sector.

This breakout session will present key highlights and lessons learned from the EU-funded LH2CRAFT and SAFeCRAFT projects, focusing on hydrogen-based solutions for the waterborne sector. LH2CRAFT addresses safe and efficient liquid hydrogen storage and transportation, while SAFeCRAFT explores the safe use of sustainable alternative fuels in maritime applications. Together, the projects provide insights into technical, safety, regulatory and economic challenges for H₂ applications on board vessels. Participants will gain a concise overview of project outcomes, practical lessons learned and key barriers to the wider adoption of hydrogen-based fuels in shipping.



Organised by: **HYDRUS** ENGINEERING EXCELLENCE www.hydrus-eng.com

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LH2CRAFT funding acknowledgement



**Co-funded by
the European Union**

UK participation in LH2CRAFT Project is funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe guarantee (grant numbers 10070575 and 10082044).

SAFeCRAFT funding acknowledgement



**Co-funded by
the European Union**

UK participation in SAFeCRAFT Project is funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe guarantee (grant number 10110519).

Breakout Session Program:

 see also **SSD program**
www.SSDship.com/program

16.00	Registration & visit the SSD poster session
17.15	Introduction by Project Leaders
17.30	Project Highlights & Lessons Learned of LH2CRAFT Safe and Efficient Marine Transportation of Liquid Hydrogen Astrinos Papadakis Senior Innovation Hub Manager / HYDRUS Engineering S.A.
17.45	Project Highlights & Lessons Learned of SAFeCRAFT Safe and Efficient Use of Sustainable Fuels in Maritime Transport Application Konstantinos Sykaras Innovation Hub Project Manager - HYDRUS Engineering S.A
18.00	Pannel Discussion on Q&A Key Challenges for H ₂ applications in the waterborne sector <u>Moderator:</u> Astrinos Papadakis – HYDRUS Engineering S.A. <u>Panellists:</u> Kevin Koosup Yum – HD Hyundai Europe R&D Center, Jaap Gebraad – ZEWT TP, Genevos Representative (TBC), VTT Representative (TBC)
18.45	End of Breakout Session
19.45	SSD Sunset Dinner on the Lake

Who should join:

- OEMs of Fuel Cells, Electrolysers & Storage Systems
- Marine Fuel Suppliers
- Marine Genset Manufacturers
- Ship Yards, Ship Owners & Ship Operators
- Marine Safety & Classification Organisations
- Regulators, Consultants
- R&D specialists in the related fields

Registration

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Contacts for: SSD & EFCF

 Min Zhang & Michael Spirig
f.moore@SSDship.com
m.spirig@EFCF.com

Breakout Session

Your contact

SB3

Parallel Breakout Session NAUTILUS & HELENUS Projects & System integration

Maritime SOFC Drivetrains

Tuesday 30 June 2026 13.30 - 15.00, KKL Lucerne, Switzerland

Key Findings of Research Projects NAUTILUS and HELENUS

This breakout session brings together the findings of the recently completed NAUTILUS project and the ongoing HELENUS project. Both projects aim to develop multi-MW maritime SOFC drivetrains, using hybrid LNG-fueled SOFC systems for long-haul passenger ships as a reference case. Within this context, NAUTILUS delivered a land-based proof-of-concept demonstrator (60 kW_{el} + battery), while HELENUS advances the technology toward a 200 kW_{el} demonstration under relevant environmental conditions on a research vessel. The session will address key technical challenges, including drivetrain design and ship integration, maritime stressor testing, transient system operation, emissions analysis, and degradation-aware control development.

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The research has received funding from the Horizon Europe research and innovation programmes under grant agreement IDs 861647 (NAUTILUS) and 1010567 (HELENUS). Views and opinions expressed are however those of the European Union or CINEA. Neither the European Union nor the grant



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NAUTILUS



HELENUS

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Breakout Session Program:

see also **SSD program**
www.SSDship.com/program

12.30 Lunch Break

13.30 Introduction, NAUTILUS and HELENUS project scopes

Jan Hollmann, German Aerospace Centre (DLR), DE

13.40 On the Marinisation of SOFC Systems: Findings on Inclination Experiments and Hybrid Drivetrain Sizing

Berend van Veldhuizen, Feadship, formerly TU Delft, NL

14.00 Operational Performance and Emissions Analysis of a natural gas-fueled Battery-hybrid SOFC System in Load-following Operation

Fabian Grimm, Everllence, formerly MAN Energy Solutions, DE

14.20 Thermal-stress aware model predictive control of maritime SOFC systems: process simulations and hardware-in-the-loop testing

Mathis de Lange, TU Delft, NL

15.00 End of Breakout Session, Coffee break in the poster area

Who should join:

- OEMs of Fuel Cells, Electrolysers & Storage Systems
- Marine Fuel Suppliers
- Marine Genset Manufacturers
- Ship Yards, Ship Owners & Ship Operators
- Marine Safety & Classification Organisations
- Regulators, Consultants
- R&D specialists in the related fields

Registration

Free Breakout Session:

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Register at www.SSDship.com/REGISTRATION
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Contacts for: SSD & EFCF

Min Zhang & Michael Spirig
m.zhang@SSDship.com
m.spirig@EFCF.com

SOFC Drivetrain Breakout Session

Jan Hollmann
jan.hollmann@dlr.de



NAUTILUS



HELENUS

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The SB breakout sessions are part of the wider SSD 2026 conference programme, bringing together leading experts, EU projects, industry partners, and maritime decarbonization stakeholders.

Explore the full programme, keynote lectures, networking events, and registration information in the SSD 2026 Final Announcement.

Final Announcement:

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• Industry & commerce includes 440 CHF student support donation & <i>FREE OFFER*</i> for power pitch	1'100	+150	+100 CHF	350	+100 CHF
• Single Day	550	+150	+100 CHF		

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Chair of the Conference & Co-Organizer

www.SSDship.com/Chair



Dr. Syed Asif Ansar

currently holds the position of **Head of the Department of Energy System Integration (ESI) at the German Aerospace Center (DLR)**. His primary focus centers around the development of technologies aimed at reducing carbon intensity in both waterborne and airborne transport sectors.

To achieve this, his department, comprising a dedicated team of over 70 professionals, concentrates on advancing the domains of Fuel Cell and Battery powertrains, as well as the generation of hydrogen and its derivatives through cutting-edge Electrolyser technologies. The laboratories are equipped with comprehensive experimental facilities spanning from laboratory to pilot-scale operations.

Dr. Ansar has also served as a member of the Roadmap Leaders Committee of the EU Clean Hydrogen Partnership and a steering board member of the EERA Fuel Cell and Hydrogen. He has authored over 80 published papers, multiple book chapters and secured 10 patents. He attained his doctorate from the University of Limoges, France in 2004.

Organizer

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**Olivier Bucheli
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The Sustainable Shipping Days SSD 2026 is held at the **Culture & Convention Centre Lucerne (KKL)** in conjunction with the Fuel Cell, Electrolyser & H₂ Technology Conference and Exhibition.

The KKL conference centre is a well-known location on the **picturesque waterfront of the Lake Lucerne**, **easy to reach** by plane & train, & within a short walk from charming hotels & the historical town centre.

SSD 2026 will take place as a physical & virtual event, offering participants from all continents regardless of restrictions & origin the opportunity to contribute & participate. However, being present in Lucerne in person is mandatory for presenter & an unbeatable win-win situation for all. Networking in Lucerne is always very productive and the **inspiring atmosphere is unique & highly valued**.



Session Chairs & Invited Speakers

S01 | Welcome & Opening / Keynote



29 – 30 June

| Organizer

S0101



**OLIVIER
BUCHELI**

President
European Electrolyser &
Fuel Cell Forum

| Welcome by the Organizers



29 – 30 June

| Organizer

S0101



**MICHAEL
SPIRIG**

CEO
European Electrolyser &
Fuel Cell Forum

| Welcome by the Organizers



29 – 30 June

| Chair of the SSD

S0102



**SYED ASIF
ANSAR**

Head of the Department
of Energy System
Integration
German Aerospace
Center (DLR)

| Welcome by the Chair



29 – 30 June

| Keynote Speaker

S0103



**SÖREN
EHLERS**

Director
Institute of Maritime
Technologies and
Propulsion Systems
DLR

| Smart is green - Use of smart technology to
decarbonise shipping



Session Chairs & Invited Speakers

S02 | Implementing Fuel Cells in Ship Operations

SSD 2026
29 – 30 June

| Session Chair S02



**MALTE
ZERETZKE**

Head of R&D
Carnival Maritime

| Scientific Board Member

SSD 2026
29 – 30 June

| Session Chair S02



**KEVIN
KOOSUP YUM**

Senior Vice President
HD Hyundai Europe
R&D Center

| Scientific Board Member

SSD 2026
29 – 30 June

| Invited Speaker S0201



**SÉBASTIEN
LUIS**

Deputy Director
Newbuilding and R&D
PONANT Explorations Group

| Unlocking the full decarbonation potential of SOFC technology for marine application



Session Chairs & Invited Speakers

S03 | Renewable fuels, Ports and Infrastructure



29 – 30 June

Session Chair

S03



**JAN
EGBERTSEN**

Manager Marketing
Manager Strategy Innovation
Port of Amsterdam

Scientific Board Member



29 – 30 June

Session Chair

S03



**LAURENCE
GRAND-
CLÉMENT**

Founder & CEO
Persee

Scientific Board Member



29 – 30 June

Invited Speaker

S0301



**MATEO
GARZÓN**

Business Development Manager
Group's New Energy Division
MB Energy Holding GmbH & Co. KG

Enabling Renewable Marine Fuels: Port Infrastructure
Readiness Through Repurposing and New Energy Hubs



Session Chairs & Invited Speakers

S04 | Maritime Fuel Cells Systems I

SSD 2026
29 – 30 June

| Session Chair

S04



**DHEERAJ
GOSALA**

Research scientist
Institute of Maritime
Technologies and Propulsion
Systems
German Aerospace Center
(DLR)

SSD 2026
29 – 30 June

| Session Chair

S04



**ØYSTEIN
ULLEBERG**

Chief Scientist
IFE - Institute for Energy
Technology

Professor
UiO - University of Oslo

| Scientific Board Member

SSD 2026
29 – 30 June

| Invited Speaker

S0401



**JOGCHUM
BRUINSMA**

Commercial Director
Carbon Technology Energies
Nedstack Fuel Cell Technology

| The next generation of maritime hydrogen fuel cells



Session Chairs & Invited Speakers

S05 | Advanced Propulsion Systems and on-board Integration

SSD 2026
29 – 30 June

| Session Chair S05



**BEREND
VAN
VELDHUIZEN**

Power System Researcher
Feadship

| Scientific Board Member

SSD 2026
29 – 30 June

| Session Chair S05



**AHMED
ABDELHAKIM**

Global Product Manager
Onboard DC Grid™
System

ABB Marine & Ports

| Scientific Board Member

SSD 2026
29 – 30 June

| Invited Speaker S0501



**SAMI
KANERVA**

Global Product Manager for fuel cell
solutions
ABB Marine & Ports

| Overview into Fuel Cell Integration with Marine Power
Systems



Session Chairs & Invited Speakers

S06 | Policy, Strategy and Alternative Concepts

SSD 2026
29 – 30 June

| Session Chair S06



MATTEO TESTI

Senior Researcher
Foundation Bruno Kessler

SSD 2026
29 – 30 June

| Session Chair S06



SYED ASIF ANSAR

Head of the Department
of Energy System
Integration
German Aerospace
Center (DLR)

Chair of the SSD Conference

SSD 2026
29 – 30 June

| Invited Speaker S0601



JAAP GEBRAAD

Secretary General
Waterborne Technology Platform VZW

Waterborne technology leadership: towards a resilient,
competitive, and sustainable future



Session Chairs & Invited Speakers

S07 | Wrap up and closing session



SSD 2026
29 – 30 June

| Chair of the SSD

S0701



**SYED ASIF
ANSAR**

Head of the Department
of Energy System
Integration
German Aerospace
Center (DLR)

| Wrap up and closing by Chair



SSD 2026
29 – 30 June

| Organizer

S0702



**OLIVIER
BUCHELI**

President
European Electrolyser &
Fuel Cell Forum

| Wrap up and closing by the Organizers



SSD 2026
29 – 30 June

| Organizer

S0702



**MICHAEL
SPIRIG**

CEO
European Electrolyser &
Fuel Cell Forum

| Wrap up and closing by the Organizers



Final Announcement

**8th GRID SERVICES &
MARKETS CONFERENCE**

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- **Prof. Carlo Alberto Nucci**
- **Dr. Bastian Schwark**
- **Andreas Svendstrup-Bjerre**
- **Dr. Johannes Henkel**
- **Dr. Ksenia Tolstrup**

SFOE, Switzerland
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Magnus Energy, Netherlands

GSM SCOPE

The rise of distributed renewable resources, ongoing electrification and growing system volatility are reshaping how the grid is planned, operated, and developed. This transition is expanding the need for flexibility across all parts of the system - generation, storage, transportation, distribution, and demand - while challenging long established operational practices and market structures.

GSM focuses on strengthening the common understanding of these developments, and the coordinated actions needed across the European electricity sector. The conference examines how system operators, market participants, technology providers, and regulators can cost-effectively maintain stability and unlock grid capacity. GSM26 analyses how these developments interact, where solutions complement or compete, and what is required to ensure that Europe's evolving power system remains secure, efficient, resilient and fit for a sustainable future.

www.GSMconf.com/Scope

GSM AIM

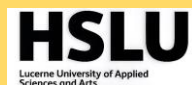
The 8th GSM Conference is a two-day international event that brings together research, industry, and policy perspectives. GSM 2026 serves as a dynamic platform for knowledge exchange and co-creation, focusing on the technologies, strategies, and human factors essential for a secure, inclusive, and sustainable energy future. GSM aims to outline recent developments in the European grid service markets, to highlight advancements and challenges in international cooperation and to reflect the technological progress. In addition, it reports on experiences and success stories, which support a rating of the performance, and future potential of emerging sustainable technologies.

GSM STAKEHOLDERS

The GSM Conference addresses grid and technology experts, innovators, and managers from the electricity industry, public authorities, and researchers interested in the technological, commercial and regulatory aspects of grid services. The international audience will exchange on market logic, regulations and harmonization activities, future trends, operations, technology capabilities, and long-term business strategies, and other key aspects of European grid service markets.

GSM Conference Session Overview

Monday, June 29, 2026		Tuesday, June 30, 2026	
9:45	Onsite GSM Registration	8:30	Onsite GSM Registration
10:45	G01 Opening & Welcome	9:00	G07 Panel Discussion: Operations of Grid Services
11:30	G02 Pushing the Limits	10:50	G08 Evolution of Grid Services & Markets II
13:45	GP1 Industry Pitch	13:30	G09 Provision of Flexibility II
14:00	G03 Evolution of Grid Services & Markets I	14:35	G10 International Projects II - P3: Forming & Upgrading the Grid
16:00	G04 Provision of Flexibility I	15:50	G11 Supporting Technologies
17:15	G05 International Projects I - P1: Unlocking Distributed Flexibility	16:45	Closing by the Chairs & Organisers
18:00	G06 International Projects I - P2: Planning & Providing Technologies	17:00	End of GSM Conference
18:45	End of Sessions		
19:45	GSM Networking "Sunset Dinner on the Lake" Boat Cruise	18:00	EFCF Welcome Reception: GSM participants are kindly invited
22:00	Return to Lucerne (boat standing until 22:30)		



www.GSMconf.com/REGISTRATION



Monday, 29 June

9:45	On-site GSM registration		Legend: K - Keynote Speaker I - Invited Speaker
10:45	G01	OPENING & WELCOME	Presenter, Organisation, City/Country
	G0101	Welcome by the organisers	Michael Spirig, Olivier Bucheli European Electrolyser & Fuel Cell Forum AG, Lucerne/Switzerland
	G0102	Welcome by the chairs	Christoph Imboden (1), Thomas Kudela (2) (1) Lucerne University of Applied Sciences & Arts, Horw/Switzerland, (2) Orsted A/S, Fredericia/Denmark
K	G0103	Welcome by the president of CIGRE	Konstantin Papailiou CIGRE, Paris/France
			Session chairs: Thomas Kudela Christoph Imboden
11:30	G02	PUSHING THE LIMITS	
K	G0201	Energy transition towards climate neutrality	Carlo Alberto Nucci University of Bologna, Bologna/Italy
I	G0202	Market Design Options for congestion management	Javier Barrantes Egaña Red Eléctrica (REE), ENTSO-E, Brussels/Belgium
	G0203	Stretching the envelope: Next steps in the evolution of flow-based capacity calculation in Continental Europe	Iacopo Bertelli, Balász Riskutia, Reinhard Kaisinger Magnus Energy, DD Naarden/Netherlands
12:45	Lunch break & coffee		
13:45	GP1	INDUSTRY PITCH	Session chair: Thomas Kudela
	GP101	Smart flexibility management for imbalance energy reduction: A new approach for energy suppliers www.Netzoptimal.ch	Theo Auckenthaler Netzoptimal AG, St. Gallen/Switzerland 
			Session chair: Bastian Schwark Nikos Hatzigiorgiou
14:00	G03	EVOLUTION OF GRID SERVICES & MARKETS I	
I	G0301	From wasted watts to flexible load: Redefining the value of renewable energy	Jared Balavender Head of Rune Energy Europe, Copenhagen/Denmark
I	G0302	Flexibility challenges in Ireland: Overview of inertia services procurement	Robert O'Rourke Commission for Regulation of Utilities, Dublin/Ireland
	G0303	Germany's reactive power market: Practical market insights	Paula Munstermann, Florian Sass 50Hertz Transmission GmbH, Berlin/Germany
	G0304	How to unlock distributed flexibility? – A Croatian balancing market use case (see G07)	Antun Andrić (also as G07 panelist) Croatian Transmission System Operator Plc., Zagreb/Croatia, Hops, Zagreb/Croatia
15:30	Coffee break		
16:00	G04	PROVISION OF FLEXIBILITY I	Session chairs: Johannes Henkel Andreas Svendstrup-Bjerre
I	G0401	Making it work: Connecting a 20 MW BESS to a weaker distribution grid	Andreas Svendstrup-Bjerre BattMan Energy, Aarhus/Denmark
	G0402	CKW PV4Flex: Providing ancillary services with distributed PV assets	Michael Lustenberger, Caspar Thut CKW, Emmen/Switzerland
	G0403	Second-Life batteries for renewable integration and grid flexibility	Stefano Lilla, Carlo Alberto Nucci, Martina Morini, Alberto Borghetti, Fabio Napolitano, Fabio Tossani University of Bologna, Department of Electrical, Electronic and Information Engineering, Bologna/Italy
17:05	10 min break		
	INTERNATIONAL PROJECTS I		Sponsored by: 
17:15	G05	P1: UNLOCKING DISTRIBUTED FLEXIBILITY	Session chairs: Michael Moser Christoph Imboden
	G0501	Project ENFLATE: Enabling distributed flexibility through local markets: Lessons from a living lab	Joëlle Clot Lucerne University of Applied Science and Arts, Horw/Switzerland
	G0502	Project GLOCALFLEX: Tools for estimating available flexibility in districts: A Swiss case study	Pierre-Jean Alet, Diya Achi, Tomasz Gorecki CSEM, Digital Energy Solutions, Neuchâtel/Switzerland
	G0503	Project Bluebird: Building integrated user empowered flexibility trading	Matthias Strobbe (1), Josep Mayos (2) (1) imec, Ghent/Belgium, (2) CIMNE, Lleida/Spain
	G0504	Q&A projects discussion	
			Sponsored by: 
18:00	G06	P2: PLANNING & PROVIDING TECHNOLOGIES	Session chairs: Michael Moser Christoph Imboden
	G0601	Project OPENTUNITY: Planning methodology for the distribution grid	Ioannis Karakitsios, Aris Dimeas, Dimitrios Lagos, Athanasios Vasilakis, Nikos Hatzigiorgiou NTUA, Athens/Greece
	G0602	Project BeFlexible: When flexibility signals interact: Quantifying the interplay of mechanisms for acquiring DSO services	Eliana Ormeño-Mejía, José Pablo Chaves Ávila, Matteo Troncia Instituto de Investigación Tecnológica (IIT), Universidad Pontificia Comillas, Madrid/Spain
	G0603	Project THUNDER: Thermochemical storage Utilization enabling data center energy recovery	Zita Salajková (1), Matteo Porta (1), Andrea Rocchetti (2), Luca Socci (2), Carlo Lisini (2) (1) RINA Consulting, Genova/Italy (2) Università degli Studi di Firenze, ThermoGroup at DIEF Dept, Firenze/Italy
	G0604	Q&A projects discussion	
18:45	End of sessions		
19:45	GSM networking "Sunset Dinner on the Lake" boat cruise SoL		
22:00	Return to Lucerne (boat standing until 22.30)		

Tuesday, 30 June

8:30 On-site GSM registration

9:00 G07 Panel Discussion OPERATIONS OF GRID SERVICES Session chair & panel moderator: **Ksenia Tolstrup**

I	G0701	Introductory presentation see G0304 How to unlock distributed flexibility? – A Croatian balancing market use case	Antun Andrić Croatian Transmission System Operator Plc., Zagreb/Croatia, Hops, Zagreb/Croatia
I	G0702	Introductory presentation Recent developments in Flexibility Markets: a market operator's perspective (Distributed flexibility trading platform)	Philippe Vassilopoulos EPEX Spot, Paris/France
I	G0703	Introductory presentation Operating and planning Distribution Grids in the next decade: Dynamic tariffs, flexibility products, voltage control and DSO-TSO coordination	Stéphane Dätwyler Romande Energie, Morges/Switzerland
I	G0704	Introductory presentation Balancing services provided by weather-dependent renewables	Karol Wolański Respect Energy, Warsaw/Poland
	G0705	Panel Discussion	

10:20 Coffee break

10:50 G08 EVOLUTION OF GRID SERVICES & MARKETS II Session chairs: **Bastian Schwark**
Thomas Kudela

I	G0801	Flexibility provider's journey - A rocky road	Ksenia Tolstrup Magnus Energy, Naarden/Netherlands
	G0802	Design and impact of capacity tariffs	Christian Winzer, Ali Darudi ZHAW School of Management and Law, Winterthur/Switzerland
	G0803	Economic evaluation of energy storage participation in the Greek electricity markets	Ioannis Karakitsios, Nikos Hatzigiorgiou, Aris Dimeas National Technical University of Athens, Greece, Zografou/Greece
	G0804	Lithuania's Green Engine: BBCM enables 100% renewables by unlocking GWh-scale storage	Lili Béres, Christoph Malzer, Attila Ságodi Navitasoft, Budapest/Hungary

12:15 Lunch break & coffee

Supported by:



Session chairs:
Johannes Henkel
Andreas Svendstrup-Bjerre

13:30 G09 PROVISION OF FLEXIBILITY II

I	G0901	Market design for efficient balancing prices: A call option	Ingmar Schlecht Neon Neue Energieökonomik, Berlin/Germany
	G0902	Quantifying operational electric power flexibility of a district heating network	Edouard Nordmann, Jean-Philippe Bacher, Antoine Giraldi, Mokhtar Bozorg HES-SO University of Applied Sciences and Arts Western Switzerland, Fribourg/Switzerland
	G0903	Thermal energy storage as a key enabler of an electrified and flexible energy system	Anastasia Stamatou Lucerne University of Applied Sciences and Arts, Engineering and Architecture, Horw/Switzerland

14:35 G10 INTERNATIONAL PROJECTS II
P3: FORMING & UPGRADING THE GRID

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Session chairs:
Michael Moser
Christoph Imboden

	G1001	Project EU-TRACE: Anticipated replacement of old distribution transformers	Tomas Jezdinsky ICA-Europe, Brussels/Belgium
	G1002	Project GridForLoads: Proving grid forming functionality from the loads to enhance maximum power system flexibility	Oriol Gomis Bellmunt, Joan-Marc Rodriguez, Adolfo Anta, Barbara Herndler, Florian Errigo, Florent Morel, Pol Olivella-Rosell, Josep Fanals-Batllo, Antonios Valtis, Tino Wymann CITCEA-UPC, Barcelona/Spain, AIT, Vienna/Austria, Supergrid Institute, Lyon/France, Wallbox, Barcelona/Spain, eRoots Analytics, Barcelona/Spain, Ecovibes, Edessa/Greece, SBB, Bern/Switzerland
	G1003	Project STORE: Energy storage as a multi-use asset: Applications across the power system	Fabrizio Sossan Gridlab, School of Engineering, Institute of Energy and Environment, HES-SO Valais-Wallis/Switzerland
	G1004	Q&A projects discussion	

15:20 Coffee break

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Session chair:
Christoph Imboden

15:50 G11 SUPPORTING TECHNOLOGIES

I	G1101	AI in the driver's seat: How Swissgrid automates grid stability with massive economic impact	Jacob Tran Swissgrid, Aarau/Switzerland
K	G1102	Power system resilience against natural disasters	Nikos Hatzigiorgiou National Technical University of Athens, Athens/Greece

16:45 CLOSING

	G1103	Closing by the chairs	Christoph Imboden (1), Thomas Kudela (2) (1) Lucerne University of Applied Sciences & Arts, Horw/Switzerland (2) Orsted A/S, Fredericia/Denmark
	G1104	Closing by the organisers	Michael Spirig, Olivier Bucheli European Electrolyser & Fuel Cell Forum AG, Lucerne/Switzerland

17:00 End of GSM Conference

Networking possibilities on Tuesday evening

18:00 EFCF welcome reception: GSM participants are kindly invited by EFCF**19:00 End of GSM 2026**

Events

www.GSMconf.com/Events

29 June	10:45 – 18:45	GSM Opening session, invited speakers, followed by oral & project presentations
	19:45	GSM networking "Sunset Dinner on the Lake" boat cruise
30 June	9:00 – 17:00	Invited speakers, followed by oral & project presentations, summary, outlook & closing
	17:00	Good bye coffee & possibility to join EFCF exhibition & welcome reception (18:00)
29 – 30 June	9:00 – 18:00	SSD 2026: Sustainable Shipping Days www.EFCF.com/SSD Focuses on more sustainable energy conversion & supply in ports & on board
30 June – 3 July		EFCF 2026: Electrolyser & Fuel Cell Forum www.EFCF.com 30 th international event on new energy technologies, with exhibitions & tutorials

Venue

www.GSMconf.com/Lucerne

The GSM is held at the **Culture & Convention Centre Lucerne** (KKL) on the picturesque waterfront of the lake Lucerne in the heart of Switzerland. The venue is easy to reach by plane & train. It is close to car parks, the railway station with top connection to the airport & walking distance from charming hotels & the historical centre.

Registration

www.GSMconf.com/Registration

Conference Participation	Physical			Virtual	
	Early - 31 March	Regular from 1 April	Late from 15 May	Regular - 14 May	Late from 15 May
• Students 28 or younger, Trainees & Unemployed with valid identification	390	+150	+100 CHF	200	+100 CHF
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• Industry & commerce includes 440 CHF student support donation & FREE OFFER for 5min power pitch*	1'290	+150	+100 CHF		
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Regular fees include: access to **complete GSM Conference** (sessions/posters/networking events); **Conference Proceedings**, **Conference Bag**, **Business Lunch's**, **Refreshments**, **publication fees for paper authors** and the "GSM Networking Dinner" on Monday 29 June (supported by EFCF & HSLU, guest tickets for 140.- CHF); **EFCF Welcome Reception** on 2 July; visit of **EFCF 2026 Exhibition & Poster Hall**; Attractive rebates to join **EFCF Sessions**, **additional events** and **FCH Tutorials** (online & onsite); **Post conference access** to all available, live streams, impressions and proceedings on "GSMlibrary" and "Lucerne Open Repository" (HSLU-LORY) of GSM 2026 and at least 5 years before.

Ask for group rebate. All fees include the 8.1% VAT, where applicable.

One Swiss Franc (CHF) is valued at approximately 1.09 EUR, 1.27 USD, 201 JPY, and 8.72 CNY (March 2026).

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Prof. Christoph Imboden

Institute for Innovation & Technology Management,
Lucerne Uni. of Applied Sciences, Switzerland www.HSLU.ch



Christoph is a recognized full professor in product innovation at HSLU and chairs the Institute for Innovation & Technology Management. With 20+ years of experience in the energy, Powerline Communications PLC, communications, and IT sectors, he specializes on power economics, demand-side management, sector coupling, techno-economic optimization, market analyses and efficiency measures.

His work spans national and international projects e.g. in sustainable technologies, decentralized flexibility or P2G market introduction. Christoph has held roles as Director of R&D and Product Management in the power and operational communication industry. He is co-inventor and Chair of GSM.

Thomas Kudela

Regulatory Affairs Manager
Ørsted A/S, Denmark, www.Orsted.dk



Regulatory Affairs Manager with over fifteen years of expertise in European, German, GB, and Nordic energy market policy and regulation. He has played a key role in shaping frameworks that drive the energy transition. His background in business development and stakeholder engagement has enabled him to influence regulatory landscapes and support the evolution of renewable energy markets.

Marking 15 years at Ørsted, Thomas reflects on a career shaped by transformation. He is proud to have contributed to Ørsted's extraordinary journey and remains committed to driving change in the energy sector.

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8th GRID SERVICES & MARKETS CONFERENCE
GSM 2026
 Lucerne, 29 - 30 June
 SWITZERLAND

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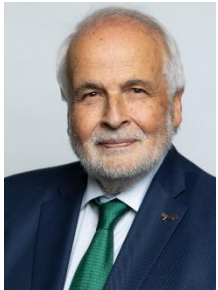
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Invited Speakers

GSM 2026
KKL Lucerne 29-30 June
Switzerland

G0103



Professor Konstantin Papailiou,
President of CIGRE
CIGRE, Paris/France

www.session.cigre.org

Speech: Welcome by president of CIGRE

In a time of profound energy transformation, it is worth recalling the values that have guided CIGRE for more than a century—technical excellence, independence, and global collaboration. As the world moves toward an all-electric future, electricity is becoming the backbone of modern society.

Power systems are evolving into highly dynamic and interconnected ecosystems. The integration of renewable energy, electrification, and digitalization requires new approaches to planning and operation.

Grid services and market design play a central role. Markets must enable flexibility, reliability, and innovation, while grid services will increasingly be delivered by diverse technologies and actors.

CIGRE contributes through its global community by fostering knowledge exchange, developing best practices, and supporting the transition toward reliable and sustainable power systems.

Bio: Konstantin O. Papailiou has spent his entire career of more than 40 years in Power Systems and in particular Overhead Lines. He received his PhD from the Swiss Federal Institute of Technology (ETH) Zürich and his post-doctoral qualification as lecturer (Dr.-Ing. habil.) from the Technical University of Dresden. Until his retirement, he was CEO of the Pfisterer Group and has published more than 100 papers as well as several reference books, like the CIGRE Green Book “Overhead Lines” and the “Springer Handbook of Power Systems”. Konstantin Papailiou is strongly involved with CIGRE and has served from 2010 to 2016 as Chairman of CIGRE Study Committee “Overhead Lines”. He is a CIGRE Fellow, the founding Editor-in-Chief of the CIGRE Science & Engineering Journal and the recipient of the CIGRE Medal.



Professor Carlo Alberto Nucci

**Full Professor, Department of Electrical, Electronic, and Information Engineering “Guglielmo Marconi”
University of Bologna, Bologna/Italy**

www.Unibo.it

Speech: Energy transition towards climate neutrality

Achieving climate neutrality has become one of Europe’s most urgent and complex undertakings, and cities stand at the heart of this transformation. With a high concentration of people, economic activity and emissions, they offer the greatest capacity for coordinated action and innovation. This work examines how the European Union is approaching this challenge, with particular attention towards the “100 Climate-Neutral and Smart Cities by 2030” mission. This mission supports pioneering cities in developing Climate City Contracts and in shaping integrated pathways that can guide Europe’s broader transition.

Bio: Full Professor and Head of the Power Systems Laboratory at the Department of Electrical, Electronic and Information Engineering “Guglielmo Marconi,” University of Bologna. Author or co-author of over 300 scientific papers published in peer-reviewed journals or presented at international conference proceedings, and of six book chapters with international circulation.

Fellow of IEEE and CIGRE, he has received several international awards for best papers and technical contributions, including the ICLP Golde Award and the CIGRE Fellow Award. Prof. Nucci holds an honorary doctorate from the University Politehnica of Bucharest and is a member of the Bologna Science Academy.

He served as President of the Italian Group of University Professors of Electrical Power Systems (GUSEE) from 2012 to 2015, and has been Coordinator of the Electrical Engineering Program at the University of Bologna since 2012. He was Chairman of the CIGRÉ Study Committee C4 “System Technical Performance” from 2006 to 2012. Since 2010, he has been Editor-in-Chief of the journal Electric Power Systems Research (Elsevier). Since 2014, he has represented PES in the IEEE Smart City Initiatives Program.



Javier Barrantes Egaña

**Senior Expert in European Energy Markets
Red Eléctrica de España (REE), ENTSO-E, Brussels/Belgium**

www.Ree.es

Speech: Market design options for congestion management

As the European electricity system transitions towards higher shares of renewables, deeper electrification and stronger cross-border integration, grid congestions are increasing in frequency, variability, scale and complexity, making effective congestion management essential for system security, affordability and preserve efficient market outcomes.

Addressing these challenges requires a closer alignment between market design and the physical realities of the grid. Building on this, the paper sets out ENTSO-E’s forward-looking view on market

design options to reduce congestions, improve system efficiency and ensure secure system operation in an increasingly complex energy system.

Bio: Always in the framework of electricity markets integration and creation of the European Internal Electricity Market (IEM), Javier has developed his professional career contributing both to the conception and the implementation of IEM. Currently, he combines his role as team leader at Red Eléctrica for the scheduling of international exchanges area with the co-convener role in ENTSO-E for the working group dedicated to Market Design for RES integration.

G0301



Jared Balavender
Head of Rune Energy Europe
Rune Energy, Copenhagen/Denmark

www.Rune.Energy

Speech: From wasted watts to flexible load: Redefining the value of renewable energy

Every solar and wind farm generates energy that never reaches the grid — lost to curtailment, inverter clipping, and low-price dispatch decisions. Rune was built to capture that value.

By co-locating modular, interruptible compute infrastructure directly at renewable generation sites, Rune has created an entirely new class of flexible load — one that thrives on oversupply, requires no grid connection, no storage, and no firming power, and can be operational in under 30 minutes. Where conventional flexibility solutions attempt to shift or store excess energy, Rune absorbs it productively at the point of generation.

For grid operators and market participants, this represents something genuinely novel: demand that is structurally aligned with renewable output, scaling up when generation exceeds grid needs and stepping back instantly when it doesn't. For renewable asset owners, Rune's RELIC (Renewable Energy Linked Interruptible Compute) converts what were previously operational and financial losses into a new, zero-burden revenue stream.

Sitting at the intersection of high-performance computing, renewable energy, and grid market design, Rune offers a provocative and practical answer to one of the energy transition's most persistent challenges — what to do with the power no one currently wants.

Bio: Jared's career has been dedicated to the scaled development of profitable renewable energy systems, spanning early-stage venture investment, technical innovation, and R&D. In his current role, Jared is the overall responsible for Rune's expansion across Europe.

Jared has over a decade of wind energy R&D experience from Vestas & Ørsted. During his last 4 years at Vestas, as a Principal in Vestas Ventures, Jared scouted hundreds, and led expert teams in evaluating dozens of CleanTech startups, culminating in a set of venture capital investments in globally compelling Series Seed, A and B stage companies.

Jared holds a MSc in EE from the Technical University of Denmark, and completed his undergraduate degree at Elon University in North Carolina.



Robert O'Rourke
Senior Manager Electricity Networks
Commission for Regulation of Utilities, Dublin/Ireland

www.cru.ie

Speech: Flexibility challenges in Ireland: Overview of inertia services procurement

Ireland's needs for flexibility are increasing due to the large-scale build of renewable generation, mostly wind power, and the growth in electricity demand from data centres. This requires more flexibility in grid access through the connection process, efficient price signals in the market, and the procurement of system and flexibility services to improve system operation. Increasing flexibility will be critical to transitioning to a low carbon power system, and maintaining secure reliable supply. One key area will be ensuring sufficient system inertia at times of high wind generation without relying on thermal generation. Building on the success of Phase I of the Low Carbon Inertia Services procurement, a new procurement phase will be launched this year. This presentation will provide an overview of the current flexibility challenges in Ireland and an overview of the procurement of inertia services.

Bio: Robert O'Rourke is the senior manager for Electricity Networks at the Commission for Regulation of Utilities in Ireland and is responsible for the economic regulation of the transmission and distribution network companies, and the integration of renewables onto the Irish system, including the design of a new ancillary services market.



Andreas Svendstrup-Bjerre
Director of Business Development and Regulatory Affairs
BattMan Energy, Aarhus/Denmark

www.Battman.Energy

Speech: Making It Work: Connecting a 20 MW BESS to a weaker distribution grid

This presentation shares practical lessons from connecting a 20 MW / 40 MWh stand-alone BESS to a weaker distribution grid. The aim is to deliver ancillary services and wholesale arbitrage, but rapid power ramping causes unacceptable voltage fluctuations. This required unprecedented cooperation between battery operator and DSO — a first in Denmark. We cover the benefits and drawbacks of socialised grid connection costs, practical dos and don'ts, and how both parties matured in an environment lacking established regulation but with mutual willingness to make it work.

Bio: Andreas Svendstrup-Bjerre is Director of Business Development and Regulatory Affairs at BattMan Energy, Denmark's largest stand-alone storage developer and operator.

With 18 years dedicated exclusively to electrical flexibility, Andreas has held key roles at Vestas, Ørsted, and DONG Energy. He was part of Ørsted's first flexibility platform, mobilized flexibility assets across multiple European markets, and implemented Vestas's first dynamic ancillary services offering.



Dr. Ksenia Tolstrup,
Director at Magnus Energy
Magnus Energy, Naarden/Netherlands

www.MagnusEnergy.com

Speech: Flexibility provider's journey - A rocky road

The European electricity system is entering a new phase of complexity, where flexibility is no longer a niche topic but a core system resource. Rapid growth in variable renewable generation, increasing electrification, and tighter network constraints are reshaping operational realities across EU Member States. Volatility has intensified across all timeframes, balancing volumes are expanding, and congestion management and connection queues are becoming systemic rather than exceptional across geographies. Against this backdrop, flexibility providers find themselves navigating a system that is both richer in opportunity and more demanding in terms of strategy, risk management, and execution.

This presentation traces the evolution of the European flexibility landscape, from relatively siloed market participation toward an increasingly interconnected ecosystem of day-ahead, intraday, balancing, and emerging local or congestion-related mechanisms. While the proliferation of market segments offers new revenue streams, it also introduces significant coordination challenges. Flexibility providers must now optimize across multiple products with different gate closures, activation logics, and remuneration schemes. This often happens under conditions of heightened price uncertainty and strong cross-border interdependencies.

At the same time, the regulatory framework continues to evolve, further shaping both opportunities and constraints. Developments such as the forthcoming Network Code on Demand Response, alongside ongoing refinements in balancing platforms and congestion management approaches, aim to unlock additional flexibility while ensuring system security and market integrity. However, these changes also raise important questions around market access, product design, and the distribution of value across participants.

The presentation combines market insights with practical perspectives and concludes by outlining key open questions for flexibility as a sector and exploring potential pathways toward successful business strategies. What capabilities will differentiate leading flexibility providers? How can actors balance optionality with operational complexity? And what role will data, analytics, and decision-support tools play in navigating this “rocky road”?

Bio: Dr. Ksenia Tolstrup is Director at Magnus Energy. She leads Magnus Energy's Technical Advisory practice along with multiple strategic projects related to wholesale electricity & balancing markets, flexibility integration, and hydrogen transition for all types of stakeholders in the flexibility value chain. Ksenia has over a decade of experience in the energy sector in consulting and research.

As a Senior Research Engineer at AIT Austrian Institute of Technology, she further focused on TSO and DSO system services, balancing and congestion management, and their modelling. She led multiple national and international projects across Europe and authored over 40 top-journal articles, book chapters, conference papers and project reports.

She has a PhD cum laude in energy economics from Delft University of Technology and a Master's degree in Environmental Technology & International Affairs from TU Vienna and the Diplomatic Academy of Vienna.



Dr. Philippe Vassilopoulos
Lecturer at Sciences Po
Director of Product Development
EPEX Spot, Paris/France

www.Epexspot.com

Speech: Recent developments in flexibility markets: A market operator's perspective

Bio: Director of Product Development at EPEX SPOT where he also served as Economist and Market Surveillance Officer. Before joining EPEX SPOT, Philippe was an Associate Director with IHS Cambridge Energy research Associates (HIS CERA). He specialises in the European wholesale power and gas markets. His expertise includes market design, price formation and price modelling, asset valuation and due diligence, regulations as well as market surveillance. Philippe also conducted applied research on price signals and investment incentives in the European electricity markets for the French regulator Commission de Regulation de l'Energie.



Stéphane Dätwyler Duarte
Strategic Development Manager
Romande Energie, Morges/Switzerland

www.Romande-Energie.ch

Speech: Operating and planning distribution grids in the next decade: Dynamic tariffs, flexibility products, voltage control and DSO–TSO coordination

The increasing penetration of distributed energy resources, electrification of end uses and decentralised flexibility is transforming the operation of distribution grids. Distribution System Operators (DSOs) are evolving from passive asset management towards an active system operation role, requiring new operational tools, market-based mechanisms and closer coordination with Transmission System Operators (TSOs)

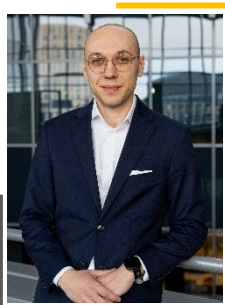
*This presentation provides an integrated overview of **dynamic grid tariffs, flexibility products, voltage control and DSO–TSO coordination** in the operation of modern distribution grids. It highlights how these elements are closely interconnected and why they must be addressed within a coherent operational framework rather than in isolation.*

Dynamic grid tariffs are presented as a lever for implicit flexibility, reflecting local grid constraints and guiding customer behaviour. The presentation then explores how explicit flexibility products can complement tariff signals to support congestion management, voltage control and peak reduction. Particular attention is given to operational prerequisites such as grid observability, data availability, forecasting and activation processes.

*Voltage control is discussed as a key operational challenge in active distribution grids, especially in systems with high photovoltaic penetration. The presentation concludes with a focus on **DSO–TSO coordination**, underlining the importance of clear roles, interfaces and information exchange to ensure secure and efficient system operation.*

Bio: Strategic Development Manager by Romande Energie, with over 10 years of experience in the energy sector, covering both transmission and distribution power grids. Coming from system operations, with hands-on experience as a System Operator (dispatching) for a TSO and as an Operations Engineer within a DSO control center. Specialized in grid modernization, system operations, flexibility integration and dynamic grid tariffs. Strong background in leading cross-functional projects and coordinating multiple stakeholders.

G0704 & Panelist



Karol Wolański

**Energy market expert specializing in renewable integration, system balancing, and flexibility services
Respect Energy, Warsaw/Poland**

www.RespectEnergy.pl

Speech: Balancing services provided by weather-dependent renewables

The growing capacity of renewables in European power grid requires new approaches to system balancing. Services traditionally provided by large-scale hydro and thermal units can now be delivered more cost-effectively and sustainably by weather-dependent renewables and battery storage.

This presentation introduces a real-time, estimate-based balancing mechanism implemented for weather-dependent renewables in Poland. It addresses key operational and technical challenges, as well as emerging commercial opportunities, drawing on a case study of the 204 MW PV Zwartowo project qualification process performed by Respect Energy.

Bio: Karol Wolański - energy market expert specializing in renewable integration, system balancing, and flexibility services. Graduate of the Warsaw University of Technology (Power Engineering) and Warsaw School of Economics (Strategic Business Development). Head of Flexibility and Aggregation at Respect Energy, the Polish power trader and optimiser, previously Business Developer at Next Kraftwerke and market coupling expert at the Polish TSO - PSE.

G0901



Dr. Ingmar Schlecht

**Partner, Neon Neue Energieökonomik GmbH, Berlin/Germany
Research Associate, Center for Energy & the Environment, ZHAW
Winterthur/Switzerland**

www.zhaw.ch

Speech: Market design for efficient balancing prices: A call option

Small balancing energy markets are vulnerable to market power: thin liquidity, repeated auctions, and pivotality reward strategic bidding. Switzerland's experience after its 2022 shift to bid-based pricing is illustrative. Price caps help but distort the merit order and impair efficiency. This talk proposes a market-design alternative: a financial call option on the balancing energy price, paired with the capacity product, curbing inflated bids while leaving dispatch and price formation intact.

Bio: Dr. Ingmar Schlecht is Partner at Neon. He has advised clients in the industry and public sector and worked intensively with Germany's economics and energy ministry on ancillary services procurement, capacity markets and renewable support. Ingmar is an energy economist focusing, on electricity market design, ancillary service procurement and power grid modelling. As a postdoctoral researcher at University of Basel and ZHAW, he has developed the electricity market model Swissmod and coordinated Swiss system adequacy studies.

G1101



Jacob Tran

**Head of Development and Optimization
Swissgrid, Aarau/Switzerland**

www.Swissgrid.ch

Speech: AI in the driver's seat: How Swissgrid automates grid stability with massive economic impact

For decades, maintaining the power grid's 50 Hz frequency through manual balancing energy activation was a task driven by human intuition. However, as Europe's energy landscape shifted toward volatile solar power and escalating market prices, this manual approach became an expensive liability. By 2024, as balancing costs in Switzerland surged, it became clear that human operators alone could no longer optimize a complex portfolio of European and national balancing markets in real time. Our answer was decisive: stop merely assisting the operator and start automating the process with the Optimizer Balancing Energy Autopilot.

The Optimizer isn't just another AI tool. It represents a fundamental shift in how our energy system must evolve to meet modern challenges and leverage digital opportunities. As the first transmission system operator worldwide to operationalize a fully cost-optimized automation approach, Swissgrid has integrated advanced AI models directly into the core of its energy procurement process.

Since going live in May 2025, the Autopilot has evolved from a bold vision into an operational reality, autonomously executing approximately 99% of all balancing energy activations. This isn't just about replacing manual labor. It's about achieving superior performance. The system delivered a 27% reduction in balancing energy forecast errors compared to traditional manual operations. Additionally, by strategically shifting the procurement mix away from expensive, last-resort balancing energy toward cheaper – albeit more uncertain – products, the Autopilot has unlocked massive economic savings. This financial impact is undeniable: the introduction of the Autopilot has slashed the gap between actual operational costs and the theoretical cost optimum. For the Swiss electricity system, this translates to measurable annual savings of €30 to €50 million.

This presentation will demonstrate how Swissgrid successfully navigated the technical and cultural "digital maturity" gap to put AI in charge of a system-critical process. From digitalizing our data ecosystem to redefining the human operator as a strategic supervisor, the Optimizer Autopilot serves as a compelling blueprint for the future of grid automation.

Bio: As the Head of Development and Optimization at Swissgrid, Jacob Tran is dedicated to bringing artificial intelligence out of the lab and into system-critical operations. He and his team develop and operationalize the automation tools that keep the Swiss power grid both stable and highly cost-efficient. An Electrical Engineer by training, his lifelong passion for computer science has been particularly energized by the rise of agentic AI. Today, he focuses on leveraging these autonomous technologies to redefine how European grid operators manage the complexities of the energy transition.



Professor Nikos Hatziargyriou

Professor Emeritus of Electric Power Division

National Technical University of Athens, Athens/Greece

www.Ece.ntua.gr

Speech: Power system resilience against natural disasters

Extreme events, primarily natural disasters and climate-driven severe weather, have caused extensive damages in power systems, leaving millions of customers without electricity for several hours. Such events include wildfires in Australia, the Americas, and South Europe; flooding events in the UK, Italy and Spain; storms in the Americas; and earthquakes in Pacific Ring, etc. Handling with their sequences requires revisiting the current, traditional reliability frameworks in power system design and operation, that center on so-called credible (or “average”) outages, such as single or double faults, commonly referred to as N-1 or N-2 contingencies. In this presentation, the concepts between reliability and resilience will be clearly distinguished and the key dimensions and frameworks of resilience will be explained. Operational strategies for enhancing resilience, such as preventive unit commitment, defensive islanding, and microgrid deployment will be described and a framework to evaluate investment and planning approaches that balance infrastructure hardening, distributed energy resources, and digital solutions will be presented.

Bio: Nikos Hatziargyriou is with the National Technical University of Athens (NTUA), professor in Power Systems, since 1995, and Professor Emeritus, since 2022. He is Part-time Professor at the University of Vaasa, Finland. He has over 10-year industrial experience as Chair and CEO of the Hellenic Distribution Network Operator (HEDNO) and as executive Vice-Chair and Deputy CEO of the Public Power Corporation (PPC). He has participated in more than 60 R&I projects funded by the EU Commission, electric utilities and industry for fundamental research and practical applications. He is author of more than 300 journal and 600 conference proceedings papers, he is included in the 2016, 2017 and 2019 Thomson Reuters lists of top 1% most cited researchers and he is 2020 Globe Energy Prize laureate, the 2017 recipient of the IEEE/PES Prabha S. Kundur Power System Dynamics and Control Award and the 2023 recipient of the IEEE Herman Halperin Electric Transmission and Distribution Award.

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Chairs of the Conference



Dr. Annabelle Brisse

EDF

Annabelle Brisse is currently an Innovation Strategy Analyst at EDF. From 2022 to 2026, she served as Head of Research and Innovation at Hynamics, a French company developing and operating low-carbon and renewable hydrogen production projects to support the decarbonization of industry and mobility. Prior to this role, she worked at EIFER in Germany, from 2006 to 2022, where she led hydrogen research activities on Power-to-X and hydrogen mobility. Annabelle holds a PhD focused on innovative ceramic materials for solid oxide fuel cells (SOFCs) operating at reduced temperatures. She has authored numerous publications on high-temperature electrolysis, hydrogen sustainability, and hydrogen supply chains, with a focus on renewable energy integration, making significant contributions to the advancement of the field.



Prof. Nadia Yousfi Steiner

University Marie & Louis Pasteur

Nadia Yousfi Steiner is Full Professor at the University Marie & Louis Pasteur and adjunct professor at Mississippi State University. With a dual MSc in Mathematics, Fluidics & Energetics and a PhD in Engineering Science (Franche-Comté & EIFER, Germany), she has over 15 years of experience in hydrogen and fuel cell systems. Her research focuses on diagnostics, prognostics, and fault-tolerant control for fuel cells and, more recently, electrolyser reliability and durability. She held a CNRS Chair of Excellence, was awarded the CNRS Bronze Medal (2019) and the Blondel Medal (2022) and currently leads the national PEPR-H2 project DuraSyS-PAC. Nadia also directed the award-winning Master of Engineering H3E in hydrogen energy. She is a corresponding member of the Moroccan Academy of Science and Technology.

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