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FUEL CELL CONFERENCE CHEMNITZ

International Conference on Hydrogen Technologies

HYDROGEN TECHNOLOGIES. EFFICIENTLY PRODUCED.

10 - 11 NOVEMBER 2026

FC³ FUEL CELL CONFERENCE CHEMNITZ 2026

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CHEMNITZ Inside

FUEL CELL CONFERENCE CHEMNITZ

GREETINGS

Hydrogen and fuel cell technologies are entering a crucial phase. While significant progress has been achieved in recent years, the **focus is increasingly shifting towards industrialisation, scalability and economic viability**. Turning innovative research into competitive products and processes is now one of the key challenges for establishing sustainable hydrogen solutions and strengthening technological leadership in an increasingly competitive international environment.

The programme of FC3 2026 reflects this transition. Over 60 international experts from science and industry come together to share their latest scientific findings and research results, exchange knowledge and discuss new approaches across the hydrogen and fuel cell value chain – covering materials and components, production and simulation, testing and diagnostics, electrolysis and hydrogen storage, as well as a wide range of mobility and stationary applications, with a particular focus on reliability, efficiency and industrial implementation.

Chemnitz and Saxony provide a strong environment for this development. The **Hydrogen Innovation Center (HIC)** in Chemnitz is a prominent example of how research infrastructure, technology development and industrial transfer can be brought together.

FC3 creates a platform for connecting these perspectives, fostering scientific exchange and initiating new collaborations. With this conference proceedings, HZwo e.V. presents the scientific contributions to FC3 2026.

We would like to thank all authors, speakers, sponsors, members of the Scientific Committee, partners and supporters for their valuable contributions and commitment to FC3 2026. May the conference provide inspiring insights, stimulating discussions and valuable opportunities for exchange and new collaboration.

Univ.-Prof. Dr.-Ing. Thomas von Unwerth
Chairman of the HZwo Board
Managing director of the automotive research institute, Chemnitz University of Technology



Univ.-Prof. Dr.-Ing. Welf-Guntram Drossel
Vice Chairman of the HZwo Board
Executive Director of Fraunhofer Institute for Machine Tools and Forming Technology IWU



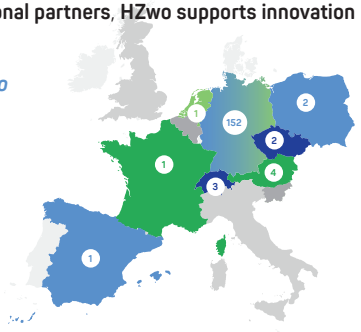
HZWO – HYDROGEN IS OUR ELEMENT

Through **collaboration and innovation**, HZwo **helps turn the potential of hydrogen into real-world solutions**. But transformation does not happen alone. It needs networks, collaboration and people who connect the dots. This year, HZwo celebrates ten years of building connections, enabling projects and advancing the hydrogen economy. Over the past decade, our network has grown from a regional initiative into an **internationally connected platform for hydrogen innovation and transformatio**n.

With over **160 members and numerous national and international partners**, **HZwo supports innovation projects, knowledge transfer and cooperation.**

Together, ***we turn connections into opportunities and ideas into progress*** *for the hydrogen economy.*

Join our network and shape the hydrogen future with us.



OUR SERVICES

We connect people.

Through workshops, seminars and networking events, we bring together experts, companies and researchers to exchange knowledge and build partnerships. Our formats create space for open dialogue, new perspectives and direct exchange on current hydrogen topics.

We offer knowledge.

Through our knowledge database and expert consultations, we make hydrogen expertise accessible to our members and partners and support them in understanding technologies, identifying opportunities, and advancing their hydrogen activities. In addition, our digital tools, factsheets, models and other knowledge formats offer practical ways to explore hydrogen technologies and specific topics in greater depth.

We initiate, advise and enable projects.

Collaboration is at the core of what we do. We initiate joint projects and working groups on key topics. We advise our members on project ideas and support them in taking the next steps towards implementation. We also implement projects ourselves – from regional initiatives such as KH2 in Saxony to the national transformation hub cH2ance and international collaborations.

We grow our network.

HZwo manages a network of more than 160 members and numerous international partners from industry, research and the public sector. Members benefit from direct access to a broad range of expertise, perspectives and contacts across the hydrogen ecosystem, creating opportunities for collaboration, innovation and new hydrogen projects.

SCIENTIFIC COMMITEE



COMMITTEE CHAIR

Prof. Dr. Thomas von Unwerth

Chairman of HZwo e.V.;

Managing director of the automotive research institute, TU Chemnitz; Director of the professorship of advanced powertrains, Chemnitz University of Technology

MEMBERS



Prof. Dr. Karel Bouzek

Director of the Department of Inorganic Technology; University of Chemistry and Technology Prague



Prof. Dr. Welf-Guntram Drossel

Vice Chairman of HZwo e.V.;

Executive Director of Fraunhofer-Institute for Machine Tools and Forming Technology IWU



Ulf Groos

Division Hydrogen Technologies, Head of Department Fuel Cell of Fraunhofer Institute for Solar Energy Systems ISE



Prof. Dr. Harry Hoster

Holder of the Chair of Energy Technology at the University of Duisburg-Essen;

Scientific Director of ZBT - Zentrum für BrennstoffzellenTechnik GmbH



Prof. Dr. Markus Hölzle

Member of the Board and Head of the Electrochemical Energy Technologies Division of Center for Solar Energy and Hydrogen Research Baden-Württemberg



Dr. Christophe Turpin

CNRS Research Director (equivalent to Professor)

LAPLACE Laboratory, Head of LAPLACE's hydrogen-related activities



Dr. Alexander Trattner

CEO and Research Director HyCentA Research GmbH;

Institute of Thermo-dynamics and Sustainable Propulsion Systems at Graz University of Technology

SCIENTIFIC PARTNERS

Fraunhofer-Institute for Machine Tools and Forming Technology IWU

Fraunhofer IWU develops innovative and resource-efficient production technologies, with a focus on advanced manufacturing processes and intelligent production systems. In the hydrogen sector, the institute develops solutions for the large-scale production of hydrogen systems and climate-neutral factories.

HyCentA – Hydrogen Research Center Austria

HyCentA is a leading Austria-based research center for hydrogen technologies and electrochemical systems, supporting the transition to green hydrogen and renewable energy. Its research spans electrolysis and Power-to-X, hydrogen storage, fuel cells and sustainable mobility. With extensive testing facilities, HyCentA develops and validates technologies along the hydrogen value chain, from research to market readiness.

LAPLACE Laboratory

LAPLACE is a joint research laboratory of CNRS, Toulouse INP and Université Toulouse III – Paul Sabatier, specializing in plasma and energy conversion. Its research spans electricity production, conversion, storage and use, with hydrogen playing an important role in sustainable energy systems. Its dedicated Hydrogen Platform combines experimental research and system integration.

Chemnitz University of Technology

Chemnitz University of Technology combines expertise across engineering and natural sciences, with a strong focus on energy technologies. Its hydrogen research spans fuel cells, electrolysis, system control and hydrogen value chains. Through advanced testing and interdisciplinary research, the university develops and optimizes hydrogen technologies from components to complete energy systems.

UCT Prague

UCT Prague is a leading Czech university for chemistry, chemical technology and engineering. Its hydrogen research focuses on water electrolysis, fuel cells and electrochemical engineering, covering PEM, alkaline and high-temperature technologies. The university develops and tests materials, components and systems for efficient hydrogen production and use.

ZBT – Zentrum für BrennstoffzellenTechnik GmbH

ZBT is one of Europe's leading research institutions for fuel cells, hydrogen technologies and electrolysis. Based in Duisburg, it bridges academic research and industry through application-oriented R&D. Its expertise spans the entire hydrogen value chain, from green hydrogen production and refueling to fuel cell systems and industrial-scale manufacturing.

ZSW – Center for Solar Energy and Hydrogen Research Baden-Württemberg

The ZSW is a leading German research institute specialising in renewable energy and energy storage technologies.
Its hydrogen research focuses on electrolysis, Power-to-X, eFuels and fuel cells, and covers the entire value chain from materials right through to industrial-scale plants.

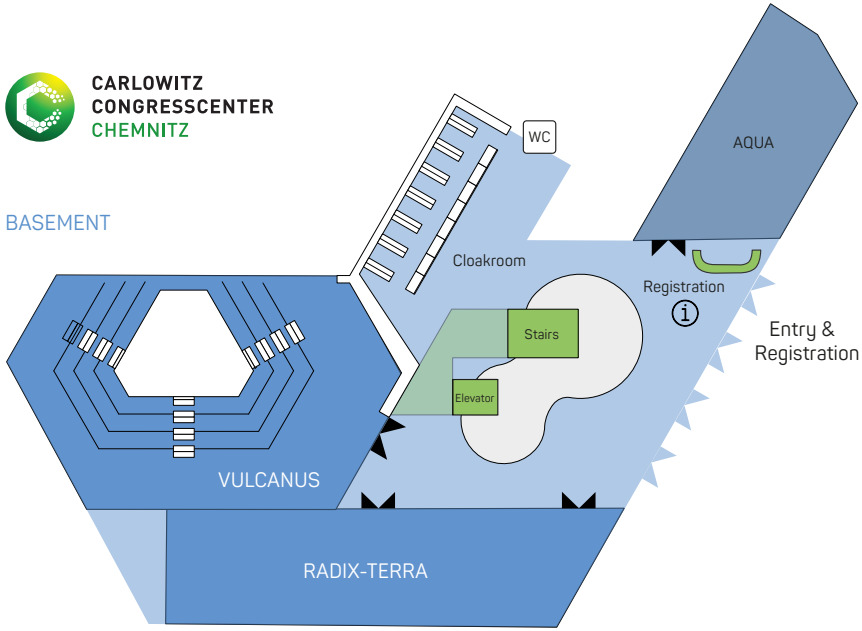
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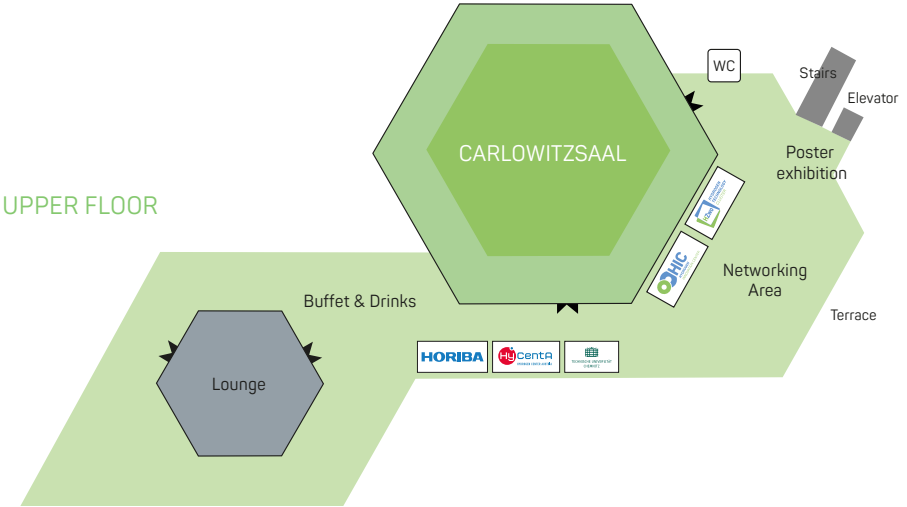
ROOM OVERVIEW

CARLOWITZ CONGRESSCENTER CHEMNITZ

BASEMENT



UPPER FLOOR



INDUSTRIEMUSEUM CHEMNITZ



PROGRAMME
Tuesday, 10 November 2026

Keynote Session

Parallel Sessions
13:00 - 16:00

Conference Dinner
18:30 - 23:00

CARLOWITZ CONGRESSCENTER CHEMNITZ



1st Conference Day
Tuesday, 10 November 2026

Admission from 9:00				9:00
Carlowitzsaal: Opening and Keynotes				10:00 - 12:00
Lunch Break				
SESSION 1				
Carlowitzsaal: 1.1 Electrolysis I	Room Radix-Terra: 1.2 Fuel Cell Applications in Mobility I	Room Vulcanus: 1.3 CCM I		13:00 - 14:30
Coffee Break				
SESSION 2				
Carlowitzsaal: 2.1 Testing and Sensory I	Room Radix-Terra: 2.2 BOP Air Compressors, Ejector	Room Vulcanus: 2.3 Production and Assembly I		15:15 - 16:30
Conference Dinner at the Chemnitz Museum of Industry				18:30

Status: November 2026

Conference Dinner

18:30 at the Chemnitz Museum of Industry, doors open at 18:00

By car: Chemnitz Museum of Industry, Zwickauer Straße 119, 09112 Chemnitz (parking is available behind the museum building)

Google Maps link to the parking lot

By public transport from Chemnitz city centre: Please make your way to the “Zentralhaltestelle” tram and bus stop and take tram line 1 towards Schönau to the “Industriemuseum” stop. Alternatively, take bus line 23 towards Neefepark from “Zentralhaltestelle” to the “Industriemuseum” stop.

www.industriemuseum-chemnitz.de

1st Conference Day 10.11.2026

KEYNOTE SESSION

from 9:00 **REGISTRATION**

10:00 - 12:00 **OPENING AND KEYNOTES**
Room Carlowitzsaal / **Moderation** Dr. Gert Schlegel, HZwo e.V.

GREETING

Univ.-Prof. Dr.-Ing. Thomas von Unwerth
Chairman of HZwo e. V.
Managing director of the automotive research institute, TU Chemnitz
Director of the professorship of advanced powertrains, TU Chemnitz

Univ.-Prof. Dr.-Ing. Welf-Guntram Drossel
Vice Chairman of HZwo e. V.
Executive Director of Fraunhofer-Institute for Machine Tools and Forming Technology IWU

KEYNOTES

The Role of Hydrogen Toward Decarbonization
Haruhito Mori
Junior Corporate Officer, HORIBA Ltd.

Multi-Pathway & Hydrogen Solutions
Ralph Müller
Spokesperson for Technology and Light Commercial Vehicles, Toyota Deutschland GmbH

Electrolysis: Europe's Strategic Path to Resilience and Competitiveness
Christian von Olshausen
Chief Technology Officer, Sunfire SE

"*Made in Europe*" starts with Research – Connecting Hydrogen Innovation to Global Markets
Karl Lötsch
CEO HZwo e. V.

12:00 - 13:00 **LUNCH BREAK**

1st Conference Day 10.11.2026

SESSION 1 (PARALLEL SESSIONS 13:00-14:30)

1.1 Electrolysis I

Room Carlowitzsaal / **Moderation** Prof. Alexander Trattner, HyCentA Research GmbH

13:00 **3D Modelling of Alkaline Water and Proton Exchange Membrane Electrolyzers: A Comparative Safety-Oriented Sensitivity Analysis for Hydrogen Production**
Marilia Gabriela Justino Vaz, AVL Deutschland GmbH

13:25 **Testing the Applicability of Highly Filled Polymer Compound-Based Bipolar Plates in Proton as Well as Anion Exchange Membrane Water Electrolysis**
Elisabeth Verweyen, ZBT - Zentrum für BrennstoffzellenTechnik GmbH

13:50 **Overcoming the Drawbacks of Classical Alkaline Electrolysis: Towards High Pressure High Temperature Operation**
Dr. Gregor Zwaschka, Fraunhofer Institute for Machine Tools and Forming Technology IWU

1.2 Fuel Cell Applications in Mobility I

Room Radix-Terra / **Moderation** Dr. Mario Lindner, Fraunhofer IWU

13:00 **Hydrogen storage and electric drive functional solution for heavy fuel cell-powered mobile machinery**
Norbert Schramm, LSE GmbH

13:20 **Deep Reinforcement Learning for Hydrogen Hybrid Train Energy Management using Track Preview and Curriculum Learning**
Ziqi Chen, Chemnitz University of Technology

13:40 **HY.COMM – Clean Hydrogen Construction and Mining Machine**
Dr. Martin Ufert, Fraunhofer Institute for Transportation and Infrastructure Systems IVI

14:00 **Impact of Current Ripples on PEM Fuel Cell Aging**
Osvaldo Daniel Mutuque, INP Toulouse, Laplace Laboratory, FR

1.3 CCM I

Room Vulcanus / **Moderation** Prof. Dr. Karel Bouzek, University of Chemistry and Technology Prague

13:00 **Industrial Scale Production of Membrane Electrode Assemblies for Fuel Cells and Electrolysis**
Ulf Groos, Fraunhofer Institute for Solar Energy Systems ISE

13:20 **Reduction of Critical Raw Materials in Catalyst Coated Membranes**
Dr. Rameshwori Loukrakpam Jalan, Dinex Deutschland GmbH

13:40 **Numerically Efficient Approach to Chemical Degradation of PFSA membranes in PEM Fuel Cells**
Samuele Cappelli, HyCentA Research GmbH

14:00 **Recent Developments in Inkjet Printed Iridium Catalyst Layers for PEM Water Electrolysis**
Frank Siegel, Fraunhofer Institute for Electronic Nano Systems ENAS

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14:30 - 15:15 Coffee Break

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SESSION 2 (PARALLEL SESSIONS 15:15–16:30)

2.1 Testing and Sensory I

Raum Carlowitzsaal / **Moderation** Prof. Dr. Markus Hölzle, Zentrum für Sonnenenergie- und Wasserstoff-Forschung

15:15 **Fast Impedance Spectroscopy: A Probabilistic Diagnostics Approach**
Pavle Boškoski, Jožef Stefan Institute, SI

15:40 **Methodological Challenges in the Experimental Assessment of Trace Gas Contamination Effects on LT-PEM Fuel Cell Lifetime**
Christian Heßke, Zentrum für BrennstoffzellenTechnik GmbH

16:05 **Reversible Phenomena Within Low-Temperature PEM Fuel Cells: State of the Art, Feedback, Reflections and Suggestions**
Dr.-Ing. Christophe Turpin, CNRS / Laplace, FR

2.2 BOP Air Compressors, Ejector

Raum Radix-Terra / **Moderation** Prof. Dr. Harry Hoster, University of Duisburg-Essen; ZBT - Zentrum für BrennstoffzellenTechnik GmbH

15:15 **Investigation on Heavy Duty Fuel Cell module with novel Electric Air Compressor with Recuperation (AC+eR)**
Erik Pohl, Chemnitz University of Technology

15:40 **Model-Based Estimation of Air Mass Flow and Pressure in a Multi-Stack Fuel Cell System**
Markus Schorr, German Aerospace Center (DLR)

16:05 **Experimental and Modeling Framework for Efficient Development of Fuel Cell Systems**
Dr. Katharina Braun, Friedrich-Alexander-Universität Erlangen-Nürnberg

2.3 Production and Assembly I

Raum Vulcanus / **Moderation** Prof. Dr.-Ing. Thomas von Unwerth, TU Chemnitz

15:15 **Bridging Multi-Vendor Heterogeneity in Fuel Cell Mass Production: A Simulations-Based Decision Support framework to Facility Design and Optimization**
Omid Safari, Fraunhofer Institute for Machine Tools and Forming Technology IWU

15:40 **Coating Strategies for Compound Bipolar Plates Based on Titanium and Titanium Powders**
Prasad Venkatesan, Whitecell Eisenhuth GmbH & Co. KG

16:05 **Ultrathin Composite Bipolar Plates for PEM Fuel Cells: Application Potential, Development Challenges and Optimization Strategies for Mechanical Reinforcement**
Dr.-Ing. Laura Huwald, Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT

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FC3 2026

18:30 Conference Dinner at the Chemnitz Museum of Industry
Registration: 18:00–18:30

CONFERENCE DINNER AT CHEMNITZ MUSEUM OF INDUSTRY







Chemnitz Museum of Industry | 18:30–23:00
Zwickauer Straße 119, 09112 Chemnitz

Surrounded by the city's rich mechanical engineering heritage, our conference dinner offers a special setting to connect with the international fuel cell and hydrogen community beyond the conference sessions.

The Chemnitz Museum of Industry provides a unique atmosphere where industrial history meets innovation and future technologies. Set directly within the museum's exhibition, surrounded by impressive historic machinery and industrial exhibits, the dinner offers a truly unique experience. Enjoy an evening of inspiring conversations, new connections, and culinary delights in this extraordinary setting.

Take the opportunity to exchange ideas, strengthen partnerships, and reflect on the conference highlights in a relaxed and welcoming atmosphere.

The conference dinner is included in your conference ticket.

FREE public transport tickets (Chemnitz bus/tram) available at registration! Tickets are limited.

DIGITAL CONFERENCE FOLDER

On 20 November, we will send all conference participants a link to download the following materials:

- Conference proceedings containing all academic papers
- All approved presentations
- Highlights from FC3 2026





PROGRAMME
Wednesday, 11 November 2026

Parallel Sessions
9:00 - 15:30

Closing Remarks
15:30 - 16:00

2nd Conference Day
Wednesday, 11 November 2026

Admission from 8:00				8:00
SESSION 3				
Carlowitzsaal **3.1 Storage**	Room Radix-Terra **3.2 Catalyst-Coated Membrane II**	Room Vulcanus **3.3 Simulation II**		9:00 - 10:30
Coffee Break				
SESSION 4				
Carlowitzsaal **4.1 Fuel Cell Applications in Mobility**	Room Radix-Terra **4.2 Production and Assembly II**	Room Vulcanus **4.3 Bipolar Plates**		11:15 - 12:45
Lunch Break and Poster Session				
SESSION 5				
Carlowitzsaal **5.1 Electrolysis II**	Room Radix-Terra **5.2 FC Testing and Sensory I**	Room Vulcanus **5.3 Stationary Applications**		14:00 - 15:30
Carlowitzsaal	**Closing Remarks**			15:30 - 16:00

Status: November 2026

2nd Conference Day 11.11.2026

SESSION 3 (PARALLEL SESSIONS 9:00-10:30)

3.1 Storage

Room Carlowitzsaal / **Moderation** Dr.-Ing. Christophe Turpin, CNRS/Laplace

9:00 **Seasonal Hydrogen Storage Based on the Acetone-Isopropanol Couple**
George Pätzold, HI ERN - Helmholtz-Institut Erlangen-Nürnberg für Erneuerbare Energien

9:18 **Technology Comparison for PEM-based and SOC-based Seasonal Hydrogen Storage Systems**
Prof. Dr.-Ing. Laura Nousch, Hochschule für Technik und Wirtschaft

9:36 **Sol-Gel Barrier Coatings for Hydrogen Permeation Reduction in High-Pressure Storage Systems**
Dr. Justyna Krzak, Wrocław University of Science and Technology, PL

9:54 **Development of Frame-Integrated, Cost-Efficient Hydrogen Pressure Vessels for Micromobility Solutions**
Max Kreter, Hochschule Mittweida

10:12 **CladPipe4H2 – Combined Roll Forming and Induction Welding of Explosively Clad Sheets for Hydrogen Transport**
Murli Manohar Pandey, Chemnitz University of Technology

3.2 Catalyst-Coated Membrane II

Room Radix-Terra / **Moderation** Ulf Groos, Fraunhofer ISE

9:00 **Maximizing Pt utilization: Functionally Graded Cathodes in PEMFCs**
Prof. Dr.-Ing. Karel Bouzek, University of Chemistry and Technology Prague, CZ

9:20 **Beyond PFSA: Unlocking SPPS-Based Catalyst-Coated Membranes for PEM Fuel Cells**
Lionel Talley Fogang, Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW)

9:40 **Comparative Analysis of Layer Uniformity in PEMFC Electrodes Fabricated by Different Deposition Methods**
Martina Iaia, University of Modena and Reggio Emilio, IT

10:00 **Impact of Swelling and Drying Behavior on Crack Formation of Catalyst Coated Membranes for Fuel Cells**
Alexandra Decker, Karlsruhe Institute of Technology (KIT)

3.3 Simulation II

Room Vulcanus / **Moderation** Prof. Dr. Harry Hoster, University of Duisburg-Essen; ZBT - Zentrum für BrennstoffzellenTechnik GmbH

9:00 **Efficient Simulation Tools and Methods to Model the Structural Behaviour of Complete Fuel Cell Stacks under Various Load Cases**
Jörg Evertz, Tribecraft AG

9:20 **A Model-Based Design and Experimental Validation of an Ejector for Anode Recirculation in a PEMFC System: Dynamic Performance Analysis of Passive, Active, and Hybrid Strategies**
Philipp Rathke, Chemnitz University of Technology

9:40 **Integrated Fuzzy Logic and Degradation-Aware Energy Management for PEM Fuel Cell Hybrid Electric Vehicles**
Rico Löser, Fraunhofer Institute for Machine Tools and Forming Technology IWU

10:00 **Thermodynamic Modelling and Simulation of Liquid Hydrogen Refuelling: A Modular Simulation Tool**
Thomas Stadlbauer, HyCentA Research GmbH

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10:30 - 11:15 Coffee Break

2nd Conference Day 11.11.2026

SESSION 4 (PARALLEL SESSIONS 11:15-12:45)

4.1 Fuel Cell Applications in Mobility

Room Carlowitzsaal / **Moderation** Prof. Dr. Markus Hölzle, Zentrum für Sonnenenergie- und Wasserstoff-Forschung

11:15 **Hierarchical Energy Management for Hydrogen Drones**
Michael Hauck, Chemnitz University of Technology

11:35 **Highly Integrated Hydrogen-Based UAS Concepts for Increasing Range and Operational Duration**
Henning Schröder, move technology GmbH
Marc Neubert, LSE GmbH

11:55 **Hydrogen-Powered UAVs for Resilient Critical Infrastructure: Technologies, Challenges and Future Applications**
Dr. Arkadiusz Zurek, Wroclaw University of Science and Technology, LOGdrone GmbH

12:15 **Hybrid Eelectric Propulsion with Solid Oxide Fuel Cells: Thermodynamic Potentials and Challenges**
Pascal Köhler, Leibniz University Hannover

4.2 Production and Assembly II

Raum Radix-Terra / **Moderation** Dr. Mario Lindner, Fraunhofer IWU

11:15 **Bipolar plates – Easing circular economy using automated assembly and disassembly**
Prof. Dr.-Ing. Dennis Backofen, Fraunhofer Institute of Machine Tools and Forming Technology IWU

11:35 **Hydrogen Circular Economy: Methodology Toolkit for Fuel Cell and Electrolyzer Recycling**
René Schmiedel, Chemnitz University of Technology

11:55 **Post-processing of Continuously Produced Ultrathin Composite Bipolar Plates: Roller Embossing**
Felix Lohaus, Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT

12:15 **Low Energy Electron Beam Treatment of Polymer Compounds for Improved Material Characteristics in Fuel Cell and Electrolyzer Applications**
Dr.-Ing. Stefan Saager, Fraunhofer Institute for Electron Beam and Plasma Technology FEP

4.3 Bipolar Plates

Room Vulcanus / **Moderation** Prof. Dr. Karel Bouzek, University of Chemistry and Technology Prague

11:15 **Formability and Corrosion Performance of Nickel-Free Ferritic Stainless Steel for PEM Water Electrolyzer Bipolar Plates**
Sebastian Porstmann, Fraunhofer Institute for Machine Tools and Forming Technology IWU
Linto George Thomas, Chemnitz University of Technology

11:40 **Fast-Prototyping: Prototype production of metallic bipolar plates using series technologies**
Dr. Robert Laue, SITEC Industrietechnologie GmbH

12:05 **Development of a Cylindrical Rolled PEM Fuel Cell Concept (ROLL-FC) for Modular Fuel-Cell Systems**
Dr.-Ing. Nico Keller, Chemnitz University of Technology

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12:45 - 14:00 Lunch Break and Poster Session

2nd Conference Day 11.11.2026

SESSION 5 (PARALLEL SESSIONS 14:00–15:30)

5.1 Electrolysis II

Room Carlowitzsaal / **Moderation** Dr.-Ing. Christophe Turpin, CNRS / Laplace

14:00 **Experimental Validation of a 1D System Model of a Single-Cell PEM Electrolyzer**
Dr. Jan Novotny, Jan Evangelista Purkyně University in Ústí nad Labem, CZ

14:20 **Predevelopement and Evalution of a Tool for Automated Performance and Degradation Analyses in Real PEM Electrolysis Systems During Operation**
Simon Stöckl, Ostbayerische Technische Hochschule Regensburg

14:40 **A Structured Methodology for Determining Specific Energy Consumption of Electrolyzers**
DI Dr. Daniel Ritzberger, AVL List GmbH

15:00 **Water Contamination in PEM Electrolysis: Ion Uptake and Conduction Inside the Membrane Critically Influence Efficiency**
Roman Leskau, Fraunhofer Institut für Werkzeugmaschinen und Umformtechnik IWU

5.2 FC Testing and Sensory I

Room Radix-Terra / **Moderation** Prof. Alexander Trattner, HyCentA Research GmbH

14:00 **Physics-Consistent and Robust Causal Discovery Framework for PEMFCs Using PCMCI+**
Thanuj Singaravelan, Fraunhofer Institute for Transportation and Infrastructure Systems IVI

14:20 **Monitoring the Health State of a Fuel Cell Using Magneto-Tomography**
Dr. Antony Plait, Université de Toulouse, Toulouse INP, CNRS, LAPLACE, FR

14:40 **Integrated Condensate Measurement and Raman Spectroscopy for Water Mass Balancing of PEM Fuel Cells**
Johanna Lützenkirchen, Friedrich-Alexander-Universität Erlangen-Nürnberg

15:00 **Development and Validation of a Sensor Concept Conceived to Measure Hydrogen Concentration under Fuel Cell Operating Conditions**
Lucas Viriato, Chemnitz University of Technology

5.3 Stationary Applications

Room Vulcanus / **Moderation** Prof. Dr.-Ing. Thomas von Unwerth, TU Chemnitz

14:00 **Fuel Cell Backup Power in Critical Infrastructure – Already a Decade in the Field**
Benedikt Eska, Axiosus Energy GmbH

14:20 **Sizing Trade-offs of PV–Battery–Hydrogen Microgrids for SMEs under Fixed Import and Wholesale Export Prices**
Zheng Cao, Chemnitz University of Technology

14:40 **Hybrid AEMFC–PEMFC Single-Cell Architecture for Improved Water Management and Self-Humidification**
Christian Zinner, HyCentA Research GmbH

15:00 **ThermOSS – Innovative Metal Hydride Reactor for Cold Starting PEM Fuel Cells**
Patrick Schaarschmidt, Chemnitz University of Technology

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FC3 2026

15:30 Closing Remarks

GENERAL INFORMATION

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CARLOWITZ CONGRESSCENTER

Directions by car or public transportation, as well as information on bike rentals, charging stations, and bike garages, can be found here:
www.c3-chemnitz.de/de/Carlowitz-Congresscenter-Chemnitz/Anreise-Parken_1393.html

CHEMNITZ MUSEUM OF INDUSTRY

Getting there by Car/Public Transportation
www.industriemuseum-chemnitz.de/en/contact-and-location

Free parking is available behind the museum building.

UBER/TAXI/PUBLIC TRANSPORTATION

Uber is available in Chemnitz, and you can request a ride using the app.

Taxi Genossenschaft Chemnitz eG
+49 371 36 9000
www.taxi-chemnitz.de

Chemnitzer Verkehrs-AG (CVAG)
+49 371 2370 333
www.cvag.de

FREE public transport tickets (Chemnitz bus/tram) available at registration!
Tickets are limited.



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HZwo HYDROGEN TECHNOLOGY CLUSTER

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www.hzwo.eu
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WE ARE #READY4HYDROGEN

Freistaat SACHSEN

This measure is co-financed by tax funds on the basis of the budget passed by the members of the Saxon State Parliament.