

SCIENTIFIC PROGRAMME

Version as of July 30 to be updated with additional poster contributions

DAY 1 – Tuesday, October 13, 2026

Opening of the Symposium

10:00-10:15 Welcome address

Session "Membranes"

Keynote Lecture

Durability of Low Equivalent Weight Aquivion® Membranes for Enhanced Proton Exchange Membrane Water Electrolysis

10:15-10:45 Antonino S. Aricò¹, Fausta Giacobello¹, Veronica Ciccio¹, Maria A. Mancuso¹, Lucia Mazzapioda², Stefania Siracusano¹

¹ CNR-ITAE, Institute of Advanced Energy Technologies, National Research Council, Messina, Italy

² SYENSQO, Bollate (MI), Italy

Beyond Perfluorinated Ionomers in PEM Water Electrolysis

10:45-11:05 Erlind Mysliu¹, Patrick Fortin¹

¹ SINTEF, Trondheim, Norway

Unlocking High-Temperature PEM Electrolysis: Long-Term Stability of Crosslinked Sulfonated Polyphenylene Membranes

11:05-11:25 Edgar Cruz Ortiz^{1,2}, Clara Schare^{1,2}, Hannes Grammel^{1,2}, Caroline Klose^{1,2}, Andreas Münchinger^{1,2}, Melanie Bühler²

¹ Hahn-Schickard, Electrochemical Energy Systems (EES), Freiburg, Germany

² University of Freiburg, Electrochemical Energy Systems (EES), Freiburg, Germany

Keynote Lecture

Improving Stability of Ion-Solvating Membranes for Alkaline Water Electrolysis

11:25-11:55 David Aili¹, Yifan Xia¹, Wiebe Fontein¹, Douglas Björkengren¹, Sinu C. Rajappan¹, Mikkel Rykær Kraglund¹, Jens Oluf Jensen¹

¹ Technical University of Denmark, Department of Energy Conversion and Storage, Lyngby, Denmark

Poster session

11:55-12:30 **Poster Pitching:** One minute per poster, on a voluntary basis

12:30-15:00 Lunch + **Poster Session**

Session "Structural elements: BPP, PTL, PTE"

Keynote Lecture

PEMWE in Type I Water – High Ionic Decoupling and Low Ionic Contamination

15:00-15:30 Sebastian Proch¹, Albert Pettersson¹, Samuel Aspörs¹, Anand Rajagopal¹, Jan Andersson¹, Björn Bosbach¹, Niklas Norrby¹

¹ Alleima EMEA AB, Strategic Research, Sandviken, Sweden

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Session "Structural elements: BPP, PTL, PTE"

15:30-15:50	Thin TiOx Coatings for Corrosion Protection of Stainless Steel and Titanium in PEM Water Electrolysis <u>M. Prestat</u> ¹ , K. Egorov ² , E. Blachier ¹ , S. Bhowmick ¹ , G. Ringot ¹ , F. Vucko ¹ , A. Gupta ³ , F. Xu ³ , C. Battaglia ^{2,4,5} , G. Maranzana ³ , M.V.F. Heinz ² ¹ French Corrosion Institute, Brest, France ² Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland ³ Université de Lorraine, CNRS, LEMTA, Nancy, France ⁴ ETH Zurich, Department of Information Technology and Electrical Engineering, Zurich, Switzerland ⁵ EPFL, School of Engineering, Institute of Materials, Lausanne, Switzerland
15:50-16:10	Validating 316A as a Bipolar Plate Material: An Alternative to 316L Austenitic Stainless Steel in PEM Electrolysis <u>Ashwin Nambi</u> ¹ , Clea Maurice ¹ , Amine Mernissi ¹ ¹ APERAM Stainless France, Innovation R&D Center, Isbergues, France
16:10-16:30	Porous Transport Layer for Next-Generation PEMWE <u>Thomas Favet</u> ¹ , Andries Kruger ¹ ¹ NV Bekaert SA, Zwevegem, Belgium

Networking Break

16:30-17:00	Coffee break / Fika
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Session "Structural elements: BPP, PTL, PTE"

17:00-17:20	Durability without Compromise on Overpotential: Structural Electrode Development as an Alternative to Advanced Coatings <u>Renaud Delmelle</u> ¹ , Ahmed Aissa Berraies ¹ , Kevin Van Droogenbroek ¹ , Grzegorz Pyka ¹ , Anna Katharina Müller ² , Christian Immanuel Bernäcker ² , Joris Proost ¹ ¹ Université catholique de Louvain (UCLouvain), Division of Materials and Process Engineering, Louvain-la-Neuve, Belgium ² Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM), Dresden, Germany
17:20-17:40	Nanostructure-Driven Iridium Efficiency in PEM Electrolysis: Performance and Durability Insights from PTE Architectures <u>Sankar Sasidharan</u> ¹ , Linnéa Strandberg ¹ , Xin Wen ¹ , Bastien Penninckx ¹ , Fabian Wenger ¹ , Matej Bulic ² , Andreas Herzog ² , Andrea Bracesco ³ , Alexander Bouman ³ ¹ Smoltek Hydrogen AB, Gothenburg, Sweden ² Heraeus Precious Metals GmbH & Co. KG, Hanau, Germany ³ SparkNano, Eindhoven, The Netherlands
17:40-18:00	Nanoporous Ni-Fe-S Transport Layer as Ionomer-Free OER Electrodes for Alkaline Seawater Electrolysis <u>Yejung Choi</u> ¹ , <u>Erlind Mysliu</u> ¹ , Lars Fredrik Høgetveit Hanse ² , Karl Christian Eliassen ² ¹ Department of Sustainable Energy Technology, SINTEF Industry, Trondheim, Norway ² Department of Materials Science and Engineering, NTNU, Trondheim, Norway
18:00-18:10	Concluding remarks

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DAY 2 – Wednesday, October 14, 2026

Opening remarks - Day 2

09:00-09:10 Welcome address, summary of Day 1, overview of the Day 2 programme, and announcements regarding the Poster Session

Session "Catalysts"

Keynote Lecture

Rethinking Anode Architectures: Porous Layers Fabricated via Electrodeposition of NiFe Catalyst for Enhanced AEM Water Electrolysis Performance and Durability

09:10-09:40

Maximilian Cieluch^{1,2}, Leonard Böhm^{1,2}, Norbert Kazamer^{1,3}, Florian Wirkert¹, Ulf-Peter Apfel^{2,4}, Michael Brodmann¹¹ Westfälische Hochschule University of Applied Sciences, Gelsenkirchen, Germany² Ruhr-University Bochum, Technical Electrochemistry, Bochum, Germany³ ProPuls GmbH, Gelsenkirchen, Germany⁴ Fraunhofer UMSICHT, Department of Electrosynthesis, Oberhausen, Germany

Investigations of the Stability of Multilayered Ni-Ni-NiFe Anodes for Anion Exchange Membrane Electrolysis

Christian Elieser Höß¹, Richard Kübler¹, Manfred Kunrath², Mitja Wiedemann³, Marcel Peichert⁴, Dino Woelk⁴, Sahin Ergüven³, Poroshat Haddadi⁴, Norbert Kazamer^{4,5}, Christopher Schaak², Andreas Bund¹, Clemens Pollerberg⁴, Michael Brodmann⁴

09:40-10:00

¹ Technische Universität Ilmenau, Electrochemistry and Electroplating Group, Ilmenau, Germany² BleiStahl Services GmbH & Co. KG, Wetter (Ruhr), Germany³ RKV Oberflächentechnik, Schwäbisch Gmünd, Germany⁴ Westfälische Hochschule University of Applied Sciences, Westphalian Energy Institute, Gelsenkirchen, Germany⁵ ProPuls GmbH, Gelsenkirchen, Germany

Cobalt-Based Anode Catalysts for Stable PGM-Free AEM Water Electrolysis

Hanka Besic¹, Wenming Tong¹, Josep Alberó², Pau Farràs¹

10:00-10:20

¹ School of Biological and Chemical Sciences, Ryan Institute, University of Galway, Galway, Ireland² Instituto Universitario de Tecnología Química (CSIC-UPV), Universitat Politècnica de València, Valencia, Spain

Towards Durable Ruthenium-Based Catalysts for Anion Exchange Membrane Electrolysis

Md Mofakharulhashan¹, Shiqi Wang¹, Hugo L.S. Santos¹, Mykhailo Chundak¹, Mikko Ritala¹, Pedro H.C. Camargo¹

10:20-10:40

¹ Department of Chemistry, University of Helsinki, Helsinki, Finland

Networking Break

10:40-11:10

Coffee break/ Fika

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DAY 2 – Wednesday, October 14, 2026

Session "Catalysts"

11:10-11:30	Surface Evolution of Transition Metal Borides under Seawater Oxygen Evolution Reaction Conditions <u>Jyoti Gupta</u> ¹ , Joyal Johny ^{1,2} , Suraj Gupta ^{1,2} ¹ Advanced Materials Department, Jožef Stefan Institute, Ljubljana, Slovenia ² Jožef Stefan International Postgraduate School, Ljubljana, Slovenia
11:30-11:50	DIW-Printed 3D Carbon Electrodes as Supports for NiCo-CeO₂ and NiFe Electrocatalysts for Alkaline-Saline Water Electrolysis <u>María González-Ingelmo</u> ¹ , Lucía Muñiz Muñoz ¹ , Pablo Rodríguez-Lagar ¹ , Daniel Barreda ¹ , Ricardo Santamaría ¹ , Clara Blanco ¹ , Victoria G. Rocha ¹ ¹ Instituto de Ciencia y Tecnología del Carbono (INCAR-CSIC), Oviedo, Spain
11:50-12:10	Comparison of Electrochemical Activity and Degradation Behavior for NiMo- and Pt-Based Carbon Electrodes in AEMWE <u>Leonard Böhm</u> ^{1,2} , Maximilian Cieluch ^{1,2} , Norbert Kazamer ^{1,3} , Florian Wirkert ¹ , Ulf-Peter Apfel ^{2,4} , Michael Brodmann ¹ ¹ Westfälische Hochschule University of Applied Sciences, Gelsenkirchen, Germany ² Ruhr-University Bochum, Technical Electrochemistry, Bochum, Germany ³ ProPuls GmbH, Gelsenkirchen, Germany ⁴ Fraunhofer UMSICHT, Department of Electrosynthesis, Oberhausen, Germany
12:10-12:30	Comparison Between Non-Functionalized and Functionalized Ionomers in the Cathode Catalyst Layer for Anion Exchange Membrane Water Electrolysis <u>Alexander Kohushölter</u> ¹ , Rusudan Sulaberidze ² , Luis Hagner ^{1,2} , Sara Atlas Baf ¹ , Lukas Metzler ^{1,2} , Carolin Klose ^{1,2} ¹ Electrochemical Energy Systems, IMTEK – Department of Microsystems Engineering, University of Freiburg, Freiburg, Germany ² Hahn-Schickard, Freiburg, Germany

Poster session

12:30-14:30 Lunch + **Poster Session**

Session "Methodologies - Modelling"

14:30-15:00	Keynote Lecture Durability in Low-Temperature Electrolysis: From Degradation Detection to Material Innovation <u>Merit Bodner</u> ¹ , Özge Kiziltan ¹ , Lukas Roessler Escudero ¹ , Mathias Heindinger ¹ ¹ Institute of Chemical Engineering and Environmental Technology, Graz University of Technology, Graz, Austria
15:00-15:20	Nonlinear Frequency Response Method for In-Situ Diagnosis of PEMWE Contamination with Metal Ions <u>Tamara Miličić</u> ¹ , Thanh Hoàng Vu ² , Ece Çakmak ^{1,2} , Luka A. Živković ¹ , Tanja Vidaković-Koch ¹ ¹ Max Planck Institute for Dynamics of Complex Technical Systems, Electrochemical Energy Conversion, Magdeburg, Germany ² Otto von Guericke University, Magdeburg, Germany

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DAY 2 – Wednesday, October 14, 2026

Session "Methodologies - Modelling"

15:20-15:40	Development of an Operando XRD PEMWE Cell for Correlating Catalyst Structure and Performance <u>Fabian Liedtke</u> ^{1,2} , Christian Rodenbücher ¹ , Verena Theußl ¹ , Carsten Korte ^{1,2} ¹ Forschungszentrum Jülich GmbH, Institute of Energy Technologies (IET-4: Electrochemical Process Engineering), Jülich, Germany ² Institute of Physical Chemistry, RWTH Aachen University, Aachen, Germany
15:40-16:00	Machine Learning-Accelerated Workflow for the Design and Discovery of Oxide-Supported Electrocatalysts with High Stability <u>Kazem Zhour</u> ¹ , Abhishek Khetan ¹ ¹ Junior Professorship of Multiscale Modeling of Heterogeneous Catalysis in Energy Systems, RWTH Aachen University, Aachen, Germany
16:00-16:20	From Protocol Generation to Simulation-Based Validation: Advanced Accelerated Stress Testing for Electrolyzer Lifetime Prediction <u>Florian Kusche</u> ¹ , Lukas Feierabend ¹ , Natalia Levin ¹ ¹ The Hydrogen and Fuel Cell Center ZBT GmbH, Duisburg, Germany

Networking Break

16:20-16:50	Coffee break + Fika
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Session "Methodologies - Modelling"

16:50-17:10	Advancing Reliability: A Standardized Framework for Evaluating Degradation and Durability in AEM Water Electrolysis Cells <u>Ottavio Longo</u> ¹ , Giulia Campolucci ² , Vincenzo Piemonte ² , Matteo Genovese ¹ , Petronilla Fragiaco ¹ , Valentina Naticchioni ³ ¹ Department of Mechanical, Energy and Management Engineering (DIMEG), University of Calabria, Rende (CS), Italy ² Department of Engineering, University Campus Bio-Medico of Rome, Rome (RM), Italy ³ ENEA, Department of Energy Technologies and Renewable Sources, Rome, Italy
17:10-17:30	How You Test Matters: Protocol-Dependent Durability of Plasma-Sprayed NiFeAl Anodes for Alkaline Water Electrolysis <u>Tugce Ustunel</u> ^{1,2} , Jan Vos ² , Nina Grunditz ² , John Gustavsson ² , Erik Zimmerman ² , Thomas Wågberg ¹ , Susanne Holmin ² , Eduardo Gracia ¹ ¹ Department of Physics, Umeå University, Umeå, Sweden ² Research and Development, Elicron AB, Ljungaverk, Sweden
17:30-17:50	Sustainability Assessments of UNICORN PEMWE Systems <u>Niklas Lindahl</u> ¹ , Mudit Chordia ² , Kristin Fransson ² ¹ Robust and Resilient Energy Systems, RISE Research Institutes of Sweden, Göteborg, Sweden ² Environment and Sustainable Chemistry, RISE Research Institutes of Sweden, Mölndal, Sweden
17:50-18:10	The Economic Impact of PEM Electrolyser Durability on the Cost of Green Hydrogen under RED II <u>Anders Ødegård</u> ¹ , Michal Kaut ¹ , Truls Flatberg ¹ ¹ SINTEF Industry, Trondheim, Norway
18:10-18:20	Concluding remarks

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DAY 3 – Thursday, October 15, 2026

Opening remarks - Day 3

09:00-09:10 Welcome address, summary of Day 2 and overview of the Day 3 programme

Session "Cell and stack testing"

09:10-09:30 **Concepts for Enhancing the Efficiency and Durability of AEMWE Membrane Electrode Assemblies**
Matteo Rossini¹, Burak Koyutürk¹, Amirreza Khataee¹, Göran Lindbergh¹
¹ Department of Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden

09:30-09:50 **Materials and Design Strategies for Cost Reduction in Water Electrolysis**
Julien Fage¹, Marvin Subarew¹, Daniel Unachukwu¹, Ambu Sambal¹, Schwan Hosseiny¹
¹ Cutting Edge Nanomaterials UG, Berge, Germany

09:50-10:10 **Cell Reversal Degradation in AEM Water Electrolyzers**
Chen Yie Thum¹, Peter Strasser¹
¹ Strasser Group, Institute of Chemistry, Technische Universität Berlin, Berlin, Germany

10:10-10:30 **Advancing AEMWE Stability through Degradation Analysis and Supported Catalysts**
Michael Braun¹, Lukas Mues¹, Tom Eek¹, Corinna Harms¹
¹ Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Oldenburg, Germany

Networking break

10:30-11:00 Coffee break/ Fika

Session "Cell and stack testing"

11:00-11:20 **Long-Term Durability and Reproducibility of Single-Cell PEMWE under Offshore Wind Profiles Using Four Parallel Cells**
Ulvi Baghiyev¹, Laure Guetaz², Jérôme Dillet¹, Feina Xu¹, Sophie Didierjean¹, Gaël Maranzana¹
¹ Laboratory of Energies, Theoretical and Applied Mechanics, University of Lorraine, Nancy, France
² CEA, LITEN, Grenoble Alpes University, Grenoble, France

11:20-11:40 **Tracing and Tackling Contaminants in PEMWE Membrane Electrode Assemblies**
Zarina Turtayeva¹, Lorenz Gubler¹
¹ PSI Center for Energy and Environmental Sciences, Paul Scherrer Institute, Villigen PSI, Switzerland

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DAY 3 – Thursday, October 15, 2026

Session "Cell and stack testing"

11:40-12:00	Not All Metal Cations Behave Alike: Chromium as a Distinct Impurity in PEM Water Electrolysis <u>Florian Kessler</u> ¹ , Steffen Kupfer ¹ , Fabian Preuer ¹ , Celine Kopp ¹ ¹ Siemens Energy Global GmbH & Co. KG, Erlangen, Germany
12:00-12:20	Analysis of Degradation of a PEMWE Stack during Renewable Energy-Inspired Accelerated Stress Test <u>Thomas Holm</u> ¹ , Miguel Angel Leon Luna ¹ , Piotr Bujlo ¹ , Øystein Ulleberg ¹ ¹ Department of Hydrogen Technology, Institute for Energy Technology (IFE), Kjeller, Norway

Closing Ceremony

12:20-13:20	Concluding synthesis of the Symposium by the Organizers and farewell address
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POSTER CONTRIBUTIONS

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HySEas: Hydrogen from Seawater Electrolysis

Nikolaos Margaritis¹, Panagiotis Dimitrakellis¹, Nikolaos Ziozas¹, Dimitrios Rakopoulos¹, Yagya Regmi², Magnus Rønning³, Kostadin Petrov⁴, [Christopher Arntsen](#)⁵, Andreas Rompolas⁶, Matej Huš⁷, Nazih Toubal⁸

¹ Centre for Research and Technology Hellas (CERTH), Thessaloniki, Greece

² Manchester Metropolitan University, Manchester, United Kingdom

³ Norwegian University of Science and Technology (NTNU), Trondheim, Norway

⁴ HyLab, Sines, Portugal

⁵ SINTEF, Trondheim, Norway

⁶ National Technical University of Athens (NTUA), Athens, Greece

⁷ National Institute of Chemistry (NIC), Ljubljana, Slovenia

⁸ REVOLVE, Barcelona, Spain

Impact of Bubble Dynamics on Water Electrolysis

[Nicolas Cazanove](#)^{1,2}, Thomas Mabit¹, Hiba Saada¹, Florian Scholkopf¹, Hamid Ben Ahmed², Laurent Courbin¹, Marie-Caroline Jullien¹

¹ Université de Rennes, CNRS, Institut de Physique de Rennes (IPR), Rennes, France

² ENS Rennes, CNRS, Institut d'Électronique et des Technologies du numéRique (IETR), Bruz, France

Towards a Holistic Sustainability Assessment of the SWEETHY Concept

[Kristine Bly](#)¹, Michal Kaut¹, Adrian Werner¹, Uniben Tettey², Kristin Fransson², Sima Ajdari³

¹ SINTEF Industry, Trondheim, Norway

² RISE, Mölndal, Sweden

³ RISE, Gothenburg, Sweden

Decoding Activity and Degradation in Alkaline OER: From Ni(OH)₂ Dynamics to Multicomponent Catalyst Design

[Johanna Schröder](#)¹

¹ Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

Understanding Degradation Pathways in Fe-Doped Ni(OH)₂ OER Catalysts: The Role of Fe Oxidation State and Phase Evolution

[Maryam Toufani](#)¹, Wenming Tong¹, Pau Farràs¹

¹ University of Galway, Galway, Ireland

Comparative Study of Commercial Membranes Using NiFe-LDH Electrodes: Performance and Stability

[Raúl Serna-Guijarro](#)¹, Jorge Romero^{1,2}, Gonzalo Abellán^{1,2}

¹ Institute of Molecular Science, University of Valencia, Valencia, Spain

² Matteco Team S.L., Valencia, Spain

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Comparative Performance and Degradation Study of Stainless-Steel Woven Mesh and Felt as Anode for AEM Water Electrolysis

[Lisa Sagewka](#)¹, Norbert Kazamer^{1,2}, Maximilian Cieluch¹, Jeffrey Roth^{1,2}, Florian Wirkert¹, Gabriela Marginean¹, Sourav Bhowmick³, Michel Prestat³, Ulrich Rost^{2,4}

¹ Westfälische Hochschule, Gelsenkirchen, Germany

² ProPuls GmbH, Gelsenkirchen, Germany

³ French Corrosion Institute, Brest, France

⁴ Hochschule RheinMain – University of Applied Sciences and Arts, Rüsselsheim, Germany

Robust High-Entropy Alloy Thin Films: A Direction for CRM-Efficient Water Electrolysis

[Sitaramanjaneya Thalluri](#)¹, Yashwant Kharwar¹, Katam Srinivas¹, Waqas Zaman¹, Zhipeng Yu¹, Yury Kolen'Ko¹

¹ International Iberian Nanotechnology Laboratory (INL), Braga, Portugal

Design and Validation of a Pressurized AEM Electrolysis Test Stand

[Stephan Michler](#)¹, S.E. Temmel¹, M. Joost¹, R. Wörner¹

¹ Esslingen University, Institute for Energy and Environmental Management (INEM), Esslingen, Germany

Real-Time Molecular Insight into AEM Degradation via Proton-Transfer-Reaction Mass Spectrometry

[Frederik Firschke](#)¹, Chen Yie Thum¹, Pierre Schroer¹, Malte Klingenhof¹, Peter Strasser¹

¹ Technische Universität Berlin, Institute of Chemistry, Berlin, Germany

Strategies to Increase Stability in Seawater-Fed Electrolysis Employing Economical Anion Exchange Membranes

[Matteo Panarello](#)¹, Sabrina C. Zignani¹, Marta Fazio¹, Mariarosaria Pascale¹, Antonino S. Aricò¹

¹ Institute of Advanced Energy Technologies (ITAE), Italian National Research Council (CNR), Messina, Italy

Electrolyte-Dependent Degradation of Nickel-Based Electrodes for Seawater Electrolysis

[Katarzyna Ostrowska](#)¹, Piotr Jasiński¹, Sebastian Molin¹

¹ Department of Functional Materials Engineering, Gdańsk University of Technology, Gdańsk, Poland

Direct Seawater Electrolysis with AEMWE: Measuring Performance and Chloride Crossover

[Sepanta Dokhani](#)^{1,2}, Anders Lundblad¹, Live Mølmen¹, Olesia Danyliv¹, Amirreza Khataee², Göran Lindbergh², Carina Lagergren²

¹ RISE Research Institutes of Sweden, Borås, Sweden

² KTH Royal Institute of Technology, Stockholm, Sweden

Degradation of Carbon Bipolar Plates in AEM Water Electrolysis

[Saiqa Hafeez](#)^{1,2}, Julian Kleinhaus¹, Julia Jökel¹, Ulf-Peter Apfel^{1,2}

¹ Fraunhofer UMSICHT, Oberhausen, Germany

² Ruhr University Bochum, Bochum, Germany

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Corrosion Behaviour of Metallic Components in Direct Seawater Electrolysis

Sourav Bhowmick¹, Victor Perrot¹, Evan Blachier¹, Flavien Vucko¹, Andrea Valencia Ramirez², Francisco Alcaide², Norbert Kazamer^{3,4}, Gabriela Marginean⁴, Ulrich W. Rost^{3,5}, Michel Prestat¹

¹ French Corrosion Institute, Brest, France

² CIDETEC, Donostia-San Sebastián, Spain

³ ProPuls GmbH, Gelsenkirchen, Germany

⁴ Westphalian University of Applied Sciences, Gelsenkirchen, Germany

⁵ Hochschule RheinMain – University of Applied Sciences, Rüsselsheim, Germany

In-Operando Electrochemical Impedance Spectroscopy (EIS) Study of Different PVD Coatings and Materials for Bipolar Plates During PEM Water Electrolysis Single Cell Testing

Lucia Mendizabal¹, Irati Echarri¹, Antia Villamayor¹, Oihane Hernandez¹

¹ TEKNIKER, Plasma Coating Technology Unit, Eibar, Spain

Tantalum-Based Inorganic Coating for Corrosion Protection of Titanium and Stainless Steel in PEM Electrolyzers for H₂ Production

K. Chergui¹, S. Rioual¹, B. Lescop¹, M. Prestat², S. Bhowmick², F. Vucko², V. Demange³, S. Ollivier³, J. Galipaud³, L. Joanny³, L. Rault³, F. Gouttefangeas³, M. Walls⁴

¹ Université de Bretagne Occidentale (UBO), CNRS, Lab-STICC, Brest, France

² French Corrosion Institute, Brest, France

³ Université de Rennes, CNRS, Institut des Sciences Chimiques de Rennes (ISCR), Rennes, France

⁴ Université Paris-Saclay, Laboratory of Solid-State Physics, Saclay, France

Platinum-Free PTLs in PEMWE via Ti-Based Alloys Deposited by Magnetron Sputtering

Tim Sievert¹, Norbert Kazamer^{2,3}, Robert Vaßen^{1,6}, Lisa Sagewka³, Jeffrey Roth^{3,4}, Lester Engelhardt², Sven Uhlenbruck¹, Frank Vondahlen¹, Ulrich Rost^{2,5}

¹ Forschungszentrum Jülich GmbH, Institute of Energy Materials and Devices (IMD-2), Jülich, Germany

² ProPuls GmbH, Gelsenkirchen, Germany

³ Westfälische Hochschule, Gelsenkirchen, Germany

⁴ Ruhr University Bochum, Institute of Thermo- and Fluidynamics, Bochum, Germany

⁵ Hochschule RheinMain – University of Applied Sciences and Arts, Rüsselsheim, Germany

⁶ Ruhr University Bochum, Institute for Materials, Bochum, Germany

Effect of a Water Purification System Malfunction in PEMWE

G. Maranzana¹, U. Baghiyev¹, W. Abderrahmane¹, K. H. Soro¹, J. Dillet¹, F. Xu¹, G. Sdanghi¹, S. Didierjean¹

¹ Université de Lorraine, CNRS, LEMTA, Nancy, France

Performance and Degradation of a DCMD-Coupled PEMWE System Using Natural Feedwater: An Experimental and Modelling Approach

Wenyu Zhao¹, Aamer Ali², Vincenzo Liso¹

¹ Aalborg University, AAU Energy, Hydrogen and Electro-fuels Group, Aalborg, Denmark

² Aalborg University, AAU Energy, Membranes Group, Aalborg, Denmark

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Electrochemical Recovery of PGMs from Spent PEMWE Anodes

Roxana Muntean¹, George Dima², Mircea Dan², Raluca Bojincă², Andrea Kellenberger², Corneliu Crăciunescu¹, Nicolae Vaszilcsin²

¹ Politehnica University Timișoara, Department of Materials and Manufacturing Engineering, Timișoara, Romania

² Politehnica University Timișoara, Faculty of Chemical Engineering, Biotechnologies and Environmental Protection, Timișoara, Romania

Cost-Effective and Ir-Reduced Anode Catalysts for Membrane-Based Water Electrolysis for High-Pressure Hydrogen Production

Christian Borrmann¹, Kazem Zhou², Farnaz Sotoodeh³, Robin Koerd⁴, Jeffrey Roth¹, Abhishek Khetan², Norbert Kazamer⁴, Florian Wirkert¹, Gabriela Marginean¹

¹ Westfälische Hochschule, Gelsenkirchen, Germany

² RWTH Aachen University, Aachen, Germany

³ C2CAT BV, Lissbroek, The Netherlands

⁴ ProPuls GmbH, Gelsenkirchen, Germany

Iridium Oxidation and Dissolution for Application in PEM Water Electrolyzer Engineered Anodes

Bastien Penninckx^{1,2,3}, Fabian Wenger², Björn Wickman^{1,3}

¹ Chalmers University of Technology, Gothenburg, Sweden

² Smoltek Hydrogen AB, Gothenburg, Sweden

³ Wallenberg Initiative Materials Science for Sustainability (WISE), Chalmers University of Technology, Gothenburg, Sweden

Performance of Catalyst Coated SPEEK Membrane in PEM Water Electrolysis: Effects of Membrane Modification by Inclusion of MoS₂-Coated Carbon Nanotubes

Hossein Namdar^{1,2,3}, Elena Crespi², Andrea Bisello¹, Giorgio Speranza², Gloria Gottardi², Nadhira Laidani², Gianluca Gamba¹, Matteo Testi²

¹ UFI Hydrogen S.p.A., Ala, Italy

² Fondazione Bruno Kessler (FBK), Center for Sustainable Energy, Trento, Italy

³ University of Trento, Department of Industrial Innovation, Trento, Italy

Multiscale Heterogeneity Characterization in PEM Water Electrolyzers: Development of an In-Operando Multi-Modal Diagnostic Framework

Baturalp Taha Gers¹, Zhongliang Li¹, Daniel Hissel¹, Stefan Giurgea¹

¹ Université Marie et Louis Pasteur, UTBM, CNRS, Institut FEMTO-ST, FCLAB, Belfort, France

Impact of Solar Dynamic Profiles on the Electrical Degradation of PEM Water Electrolyzers

Fahad Maoulida¹, Damien Guilbert¹, Mamadou-Bailo Camara¹

¹ GREAH Laboratory, University of Le Havre Normandy, Le Havre, France