# Programme for ICE 2017

## Monday 12/6

08:30	Registration	, Coffee	
09:00-10:40	Session 1. Special		
09:00	Welcome, opening remarks	<b>Jens Oluf Jensen</b> DTU Energy Denmark	
09:20	Application of Potentially Inexpensive Ceramics in Electrolysis Cells	Mogens B. Mogensen (INVITED) DTU Energy Denmark	
09:40	Overview of FCH JU support to Electrolysis for energy applications	Nikolaos Lymperopoulos (INVITED) FCH-JU, Energy Pillar Belgium	
10:00	Efficient seawater electrolyzer based on Nickel Iron layered double hydroxide as selective Oxygen evolution reaction catalyst	<b>Sören Dresp</b> Technische Universität Berlin Germany	
10:20	Corrosion-resistant materials for use in unconventional molten carbonate electrolysis environments: evaluation of Al- diffusion coatings for stainless steel protection in a ternary LiNaK carbonate melt at 500°C under CO <sub>2</sub> gas	<b>Stefano Frangini</b> ENEA Italy	
10:40	Coffee bi	reak	
11:00-12:40	Session 2. PEMEC		
<b>11:00-12:40</b> 11:00	Session 2. PEMEC Advancing PEM Electrolysis for Current and Future Hydrogen Markets	<b>Everett B. Anderson (INVITED)</b> Proton OnSite USA	
11:00-12:40 11:00 11:20	Session 2. PEMEC Advancing PEM Electrolysis for Current and Future Hydrogen Markets Key Performance Indicators for MW-scale PEM water electrolyzers	Everett B. Anderson (INVITED) Proton OnSite USA Pierre Millet (INVITED) Universite Paris Sud France	
11:00-12:40         11:00         11:20         11:40	Session 2. PEMECAdvancing PEM Electrolysis for Current and Future Hydrogen MarketsKey Performance Indicators for MW-scale PEM water electrolyzersBusiness Opportunities for MW electrolysis and related Requirements	Everett B. Anderson (INVITED) Proton OnSite USA Pierre Millet (INVITED) Universite Paris Sud France Manfred Waidhas (INVITED) Siemens AG Germany	
11:00-12:40         11:00         11:20         11:40         12:00	Session 2. PEMEC Advancing PEM Electrolysis for Current and Future Hydrogen Markets Key Performance Indicators for MW-scale PEM water electrolyzers Business Opportunities for MW electrolysis and related Requirements MEGASTACK	Everett B. Anderson (INVITED) Proton OnSite USA Pierre Millet (INVITED) Universite Paris Sud France Manfred Waidhas (INVITED) Siemens AG Germany Magnus Thomassen SINTEF Norway	
11:00-12:40         11:00         11:20         11:40         12:00         12:20	Session 2. PEMEC         Advancing PEM Electrolysis for Current and Future Hydrogen Markets         Key Performance Indicators for MW-scale PEM water electrolyzers         Business Opportunities for MW electrolysis and related Requirements         MEGASTACK         Techno-Economic Modeling of Renewable Energy Hydrogen Supply Systems based on Water Electrolysis	Everett B. Anderson (INVITED) Proton OnSite USA Pierre Millet (INVITED) Universite Paris Sud France Manfred Waidhas (INVITED) Siemens AG Germany Magnus Thomassen SINTEF Norway Øystein Ulleberg Institute for Energy Technology Norway	

### Monday 12/6 (Continued)

13:40-15:20	Session 3. AEC		
13:40	The Oxygen Evolution Reaction: The Enigma in Water Electrolysis	Thomas J. Schmidt (INVITED) Paul Scherrer Insitute Switzerland	
14:00	Oxygen Evolution Reaction on Perovskites: A Combined Experimental and Theoretical Study of Their Structural, Electronic, and Electrochemical Properties	<b>Xi Cheng</b> Paul Scherrer Institut Switzerland	
14:20	Electrocatalysis of Oxygen-Evolution on Well-Defined Mass-Selected NiFe nanoparticles	<b>Claudie Roy</b> Technical University of Denmark Denmark	
14:40	Raney-Ni electrodes for the alkaline electrolysis of water	<b>Christian Müller</b> Fraunhofer IFAM Germany	
15:00	Raney Nickel alloy electrodes for alkaline water electrolysis	<b>Syed-Asif Ansar</b> German Aerospace Center Germany	
15:20	Coffee b	reak	
15:40-17:20	Session 4. SOEC		
15:40	Roles for High Temperature Electrolysis in the Rapidly Changing US Energy Market	<b>Carl Stoots (INVITED)</b> Idaho National Laboratory USA	
16:00	Solid Oxide Electrolysis for Grid Balancing: Recent Achievements and Future Challenges	<b>Ming Chen</b> DTU Energy Denmark	
16:20	Operation and performance of tubular proton ceramic electrolysers	<b>Einar Vøllestad</b> University of Oslo Norwawy	
16:40	Fabrication and Characterization of Metal- supported Solid Oxide Electrolysis Cells	<b>Feng Han</b> German Aerospacce Center (DLR) Germany	
17:00	Solid Oxide Electrolyzer Cells oxygen electrode based on infiltrated nanocomposite mesoporous materials	<b>Elba Hernández</b> Catalonia Institute for Energy Research- IREC Spain	
17:20-19:40	Poster session I	With welcome reception	

### Tuesday 13/6

08:30	Registration,	, Coffee	
09:00-10:40	Session 5. PEMEC		
09:00	The development and implementation of Ir based nanowires as oxygen evolution electrocatalysts	<b>Bryan Pivovar (INVITED)</b> NREL USA	
09:20	The oxygen evolution at IrxRu1-xO2 produced by hydrolysis synthesis	<b>Svein Sunde</b> NTNU Norway	
09:40	Study of the Physical Morphology and Electrochemical Characteristics of Oxygen Evolution Reaction (OER) Iridium Based Electrocatalyst Synthesized with a Polyol Method for PEM Water Electrolysis	<b>Brant A Peppley</b> Queen's University Canada	
10:00	Anode catalysts for PEM electrolyzers: Synthesis, Activity and Degradation Aspects with Ex Situ and In Situ Characterization	<b>Li Wang</b> German Aerospace Center (DLR) Germany	
10:20	On the design and optimization of a bimetallic (Co,Mn)-based catalyst for hydrogen evolution in acidic medium	<b>Ali Shahraei</b> TU Darmstadt Germany	
10:40	Coffee br	eak	
11:00-12:40	Session 6. AEC		
11:00	Hydrogen reaching fossil parity around the world	<b>Bjørn Simonsen (INVITED)</b> Nel Hydrogen Norway	
11:20	PERIC's development on AEL and SPE technology	<b>Tianshan Chen (INVITED)</b> Purification Equipment Research Institute of CSIC China	
11:40	Alkaline Water Electrolyzers With Base Metal Catalysts Showing 1 A/cm <sup>2</sup> At 1.75 V	<b>Rich Masel</b> Dioxide Materials USA	
12:00	A unique approach for high intensity alkaline water electrolysis using a membraneless Divergent-Electrode-Flow-Through (DEFT TM) electrolyser	Malcolm Gillespie Hydrox Holdings Ltd. South Africa	
12:20	High temperature alkaline electrolysis	Christodoulos Chatzichristodoulou DTU Energy Denmark	
12:40	Lu	nch	

### Tuesday 13/6 (Continued)

13140-13120	Session 7. SOEC		
13:40	Tailoring electrode interfaces for conversion	<b>John T.S. Irvine (INVITED)</b> University of St Andrews UK	
14:00	Degradation Behavior of (La,Sr)(Fe,Co)O3 Solid Oxide Cell Oxygen Electrodes During Reversible Electrolysis and Fuel Cell Operation	<b>Scott Barnett</b> Northwestern University USA	
14:20	Eliminating degradation and repairing damage in solid oxide cell and stack fuel electrodes	<b>Theis Skafte</b> DTU Energy Denmark	
14:40	Post-test analysis of a solid oxide electrolysis cell operated for 23000 h	<b>Qingxi Fu</b> EIFER Germany	
15:00	Regenerating the performance of solid oxide electrolyzers by periodic treatments to extend lifetime	<b>Christopher Graves</b> DTU Energy Denmark	
15:20	Coffee br	eak	
15:40-17:20	Session 8. PEMEC		
15:40	Megawatt scale dual stack PEM electrolysis development for enhancing renewable energy integration by providing grid services	Jan Vaes (INVITED) Hydrogenics	
	during hydrogen generation	Belgium	
16:00	during hydrogen generation Increasing PEM water electrolysis energetic efficiency by a surface modification of Ti gas diffusion layer	Karel Bouzek         University of Chemistry and Technology         Prague         Czech Republic	
16:00	Increasing PEM water electrolysis energetic efficiency by a surface modification of Ti gas diffusion layer Materials and coatings for PEM water electrolysers	Karel Bouzek         University of Chemistry and Technology         Prague         Czech Republic         Alejandro Oyarce         SINTEF         Norway	
16:00 16:20 16:40	Increasing PEM water electrolysis energetic efficiency by a surface modification of Ti gas diffusion layer Materials and coatings for PEM water electrolysers Flow field design for high-pressure PEM electrolysis cells	Karel Bouzek         University of Chemistry and Technology         Prague         Czech Republic         Alejandro Oyarce         SINTEF         Norway         Anders Olesen         Aalborg University         Denmark	
16:00 16:20 16:40 17:00	during hydrogen generationIncreasing PEM water electrolysis energeticefficiency by a surface modification of Ti gas diffusion layerMaterials and coatings for PEM water electrolysersFlow field design for high-pressure PEM electrolysis cellsProtective coatings for low-cost bipolar plates and current collectors of proton exchange membrane electrolyzers	Karel Bouzek         University of Chemistry and Technology         Prague         Czech Republic         Alejandro Oyarce         SINTEF         Norway         Anders Olesen         Aalborg University         Denmark         Philipp Lettenmeier         German Aerospace Center         Germany	

### Tuesday 13/6 (Continued)

17:40-19:20	Session 9. Special		
17:40	EU Harmornised Test Protocols for Electrolysis Applications	<b>Georgios Tsotridis</b> Joint Research Centre Netherlands	
18:00	Catalytic and Photochemically-Assisted Electroreduction of Carbon Dioxide	<b>Pawel Kulesza</b> University of Warsaw Poland	
18:20	Impact of the design on performance loss in photo-driven water electrolysers	<b>Fredy Nandjou</b> EPFL/LRESE Switzerland	
18:40	SO2 depolarized electrolyser- Enhanced H2 production with SiC foam flow layer	Annukka Santasalo-Aarnio Aalto University Finland	
19:00	Sputtered Pt-containing electrocatalysts for SO2(aq) electrolysis	Anzel Falch North-West University South Africa	
19:20	Scientific Commit	tee meeting	

#### Wednesday 14/6

08:30	Registration, Coffee		
09:00-10:40	Session 10. SOEC		
09:00	Steam Electrolysis as the Core Technology for Sector Coupling in the Energy Transition	<b>Oliver Borm (INVITED)</b> Sunfire GmbH Germany	
09:20	Development of Solid Oxide Electrolysis technology able to operate at high steam conversion rate and integration into a SOE system	Julie Mougin CEA LITEN France	
09:40	System design and operation of a solid oxide electrolyzer	<b>Ligang Wang</b> EPFL Switzerland	
10:00	Solid oxide electrolyzes system development	<b>Richard Schauperl</b> AVL Austria	
10:20	Electrochemical Characterization of a 10 layer Solid Oxide Electrolysis Stack operated under pressurized conditions	Marc Riedel German Aerospace Center Germany	
10:40	Coffee	break	
11:00-12:40	Session 11. PEMEC		
11:00	The Development of Accelerated Stress Tests for PEM Electrolysers	<b>Nick van Dijk (INVITED)</b> ITM Power UK	
11:20	Benchmarking Catalyst Activity and Durability for Water Electrolysis	<b>Hui Xu (INVITED)</b> Giner Inc. USA	
11:40	Operation of low-temp electrolyzers at very high current densities: a pipe dream or an opportunity?	Krzysztof Lewinski 3M USA	
12:00	Membranes for recombination and electro-oxidation of permeated hydrogen in PEM electrolysis	<b>Dmitri Bessarabov</b> HySA at North-West University South Africa	
12:20	Physical factors affecting gas-leakage from PEMWE	<b>Kohei Ito</b> Kyushu University Japan	
12:40-15:00	Poster Session II	With lunch and presentation by EWII	

# Wednesday 14/6 (Continued)

15:00	Departure for Copenhagen Harbour tour	
15:30-16:30	Copenhagen Harbour tour	

18:00	Drink	
19:00-23:00	Conference Dinner	

### Thursday 15/6

08:30	Registrati	on, Coffee	
09:00-10:40	Session 12. AEC		
09:00	Polyaromatic, Solid Polymer Electrolytes for Acidic and Alkaline Electrolyzers	<b>Steven Holdcroft (INVITED)</b> Simon Fraser University Canada	
09:20	Recent developments in alkaline pressure electrolysis with anion-conductive membrane (AEM)	Ulrich Fischer Brandenburg University of Technology Germany	
09:40	Anion selective membranes based laboratory-scale alkaline water electrolysis stack	<b>Jaromír Hnát</b> University of Chemistry and Technology Prague Czech Republic	
10:00	High Temperature Membraneless Alkaline Electrolysis	<b>Jeremy Hartvigsen</b> Missouri S&T USA	
10:20	Alkaline membrane electrolysis with PEM- level electrochemical performance	<b>Mikkel Rykær Kraglund</b> DTU Energy Denmark	
10:40	Coffee	break	
11:00-12:40	Session 13. SOEC		
11:00	CO from CO2 – on-site carbon monoxide generation	<b>Peter Blennow (INVITED)</b> Haldor Topsoe A/S Denmark	
11:20	Thermodynamic constraints in operating a solid oxide electrolysis stack on dry carbon dioxide gathered from the Mars atmosphere	Joseph Hartvigsen Ceramatec, Inc. USA	
11:40	Development and flight qualification of a solid oxide CO2 electrolysis stack for the Mars2020 MOXIE project	<b>Jessica Elwell</b> Ceramatec, Inc USA	
12:00	Synthetic methane production from CO2 methanation: process integration with SOEC electrolyser and reaction kinetics on hydrotalcite-derived catalyst and	Andrea Lanzini Politecnico di Torino Italy	
12:20	Performance and durability of four 6-cell solid oxide electrolyser stacks for hydrogen and syngas production	<b>Mikko Kotisaari</b> VTT Finland	
12:40	Lui	nch	

### Thursday 15/6 (Continued)

13:40-15:20	Session 14. PEMEC		
13:40	Effect of catalyst loading on performance and durability of a PEM water electrolysis cell based on an Aquivion <sup>®</sup> perfluorosulfonic acid (PFSA) membrane	Antonino S. Arico' (INVITED) CNR-ITAE Italy	
14:00	Improved Resistance to Degradation of Ir Nanoparticles Supported onto Antimony- Doped Tin Dioxide Monitored by Identical-Location Transmission Electron Microscopy	Frédéric Maillard CNRS LEPMI France	
14:20	Durability of PEMEC MEAs	<b>Laila Grahl-Madsen</b> EWII Fuel Cells Denmark	
14:40	Towards selective test protocols for accelerated in situ degradation of PEM electrolysis cell cmponents	<b>Thomas Lickert</b> Fraunhofer ISE Germany	
15:00	Mechanical characterisation and durability of sintered bodies for PEM electrolysis	Elena Borgardt Research Center Juelich Germany	
15:20	Coffee	break	
15:40-17:00	Session 15. AEC		
15:40	Complex of cobalt and molybdenum carbide nanoparticles for efficient oxygen evolution reaction in alkaline electrolytes	<b>Eunae Cho</b> KAIST Republic of Korea	
16:00	Gold-Metal Oxide Core-Shell Nanoparticles As Electrocatalysts for Water Oxidation	Maria Escudero-Escribano University of Copenhagen Denmark	
16:20	Modified carbon nanomaterials as highly active electrocatalysts for water-splitting	<b>Mohammad Tavakkoli</b> Aalto University Finland	
16:40-17:00	Closing	Jens Oluf Jensen DTU Energy Denmark	

### Monday 12/6 - POSTER SESSION

No.	Poster session I	With welcome reception	
	Don Quichote: Demonstration of How to Produce Hydrogen Using Wind Energy	Ahmed Aly FAST Italy	
	Influence of geometry and kinetic of hydrogen and oxygen evolution on the current density distribution and electrode potentials in bipolar electrolyzers	<b>Alejandro Colli</b> (EPFL) Switzerland	
	Materials and coatings for PEM water electrolysers	<b>Alejandro Oyarce</b> SINTEF Norway	
	Specific electrical conductivity in solid and molten CsH <sub>2</sub> PO <sub>4</sub> and Cs <sub>2</sub> H <sub>2</sub> P <sub>2</sub> O <sub>7</sub> – a potentially new electrolyte for water electrolysis at ~225-400 °C	<b>Aleksey Nikiforov</b> DTU Energy Denmark	
	Progress of the European Project Efficient Co-Electrolyser for Efficient Renewable Energy Storage - ECo	<b>Anke Hagen</b> DTU Energy Denmark	
	Investigation on porous transport layers for PEM electrolysis	Arne Fallisch Fraunhofer ISE Germany	
	Comparative degradation study of a Ni-YSZ supported Solid Oxide Fuel Cell under electrolysis and co-electrolysis operations	<b>Aziz Nechache</b> German Aerospace Center Germany	
	Oxygen Evolution Reaction Performance of $PrBaCo_2O_{5+\delta}$ and $Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{2+\delta}$ in Carbonated Electrolyte for Water Electrolysis	<b>Baejung Kim</b> Paul Scherrer Institut Switzerland	
	Accelerated stress tests for efficient degradation studies on iridium-based mixed metal oxide catalysts for PEM- electrolysis	<b>Camillo Spoeri</b> Technische Universität Berlin Germany	
	Performance and degradation of a SOEC stack with different air electrodes	<b>Carolin Frey</b> Forschungszentrum Jülich Germany	
	Direct membrane deposition – a simple and cost effective fabrication method for polymer electrolyte membrane electrolysis cells	<b>Carolin Klose</b> University of Freiburg Germany	
	Synergies between Solid Oxide Electrolyser Cells and Catalytic Methanisation	<b>Christian Dannesboe</b> Aarhus University Denmark	
	Experimental analysis of local effects in a 50 cm PEM water electrolysis cell	<b>Christoph Immerz</b> Leibniz Universität Germany	
	Ion-solvating polymer electrolytes for alkaline water electrolysis	<b>David Aili</b> DTU Energy Denmark	

# Monday 12/6 - POSTER SESSION (Continued)

М	odelling and Simulation Activities on PEM Water Electrolysis	<b>Deepjyoti Borah</b> Forschungszentrum Juelich Germany	
Inves hig the c pai	tigation of advanced components in a n pressure single-cell electrolyser for evelopment of a HP-PEM-ELY stack as t of a Regenerative Fuel Cell System	Dimitrios Niakolas FORTH/ICEHT Greece	
Mc ele	odified NiO/GDC cermets as possible cathode electrocatalysts for H <sub>2</sub> O ectrolysis & H <sub>2</sub> O/CO <sub>2</sub> co-electrolysis processes in SOECs	<b>Dimitrios Niakolas</b> FORTH/ICEHT Greece	
F	Permeation and Recombination of Hydrogen under PEM electrolysis conditions	<b>Dmitri Bessarabov</b> HySA at North-West University South Africa	
Teo Solid hy	hno-economic study of a Reversible Oxide Cell (SOC) system for industrial drogen production and grid support applications	<b>Domenico Ferrero</b> Politecnico di Torino Italy	
	Solid oxide electrolysis at Forschungszentrum Jülich	<b>Dominik Schäfer</b> Forschungszentrum Jülich Germany	
N Cata	ickel/Tungsten-Carbide Composite lysts for Oxygen Evolution in Alkaline Water Electrolysis	<b>Donghoon Song</b> KAIST Republic of Korea	
Desi E	gn of Reference Electrode for Polymer Electrolyte Membrane Electrolyzer	<b>Elyse Johnston-Haynes</b> Queen's University Canada	
Elec	trospun-TiO₂ Supporting materials for xygen Evolution Reaction in Acidic conditions	<b>Eom-Ji Kim</b> KAIST Republic of Korea	
Bub ce	ble characterization in an electrolysis ell using a flow visualization system	<b>Ernesto Amores</b> Centro Nacional del Hidrógeno Spain	
	PEM-Electrode drying	<b>Fabian Scheepers</b> Forschungszentrum Juelich Germany	
Poly	mer functionalized carbon nanotubes as highly active bifunctional ectrocatalysis for full water splitting	<b>Fatemeh Davodi</b> Aalto university Finland	
Sp sut	inel-structured materials as catalyst port/current collector materials for PEM electrolysis cells	<b>Filippo Fenini</b> DTU Energy Denmark	
Ну	drogen production from short-chain alcohols using polymeric proton conductors	Foteini Sapountzi Syngaschem BV Netherlands	
Si S Ev	ngle crystal studies to evaluate the tructure sensitivity of the Oxygen olution Reaction (OER) under acidic conditions	Francesco Bizzotto University of Bern Switzerland	

# Monday 12/6 - POSTER SESSION (Continued)

Impact of Dynamic Load from Renewable	Frans van Berkel	
Energy Sources on PEM Electrolyzer	ECN	
Lifetime	The Netherlands	
Aging of PEMWE catalyst coated	Georgios Papakonstantinou	
membranes during dynamic operation:	Max Planck Institute for Dynamics of	
Electrochemical and microsconic study	Complex Technical Systems	
	Germany	
A Facile Synthesis of Nano-sized IrO <sub>2</sub> and	Günther G. A. Scherer	
RuO <sub>2</sub> Catalysts for the Oxygen Evolution	TUM CREATE Singapore	
Reaction in Alkaline Medium	Switzerland	
DFT studies of doped Cobalt and Nickel	Heine Hansen	
Oxyhydroxide Catalysts for Oxygen	DTU Energy	
Evolution	Denmark	
	Henrik Lund Frandsen	
Development of SOEC stacks at DTU	DTU Fnergy	
Energy	Denmark	
	Hyowon Kim	
A 3-D micro porous Co-Fe-P catalyst	KAIST	
	Republic of Korea	
	If an Stanhans	
The catalysis of the electrolytic production	Ifan Stephens	
of H <sub>2</sub> O <sub>2</sub>	DIOPHysics	
	Denmark	
Measurement of effective diffusion for		
NI/YSZ material used for SOFC/SOEC with a		
WICKE-Kallenbach setup and assessment of	DIU Chemical Engineering	
concentration profiles during CO <sub>2</sub> - and co-	Danmark	
electrolysis		
Orbital Physics of Active Perovskites for	Jose Gracia	
Oxygen Catalysis	Syncat DIFFER	
	Netherlands	
High temperature electrolyser with proton	Nuria Bausá	
conducting ceramic tubular cells	ITQ (UPV-CSIC)	
	Spain	
Determining the fracture energy for	Li Han	
oxygen electrode and contact layer	DTU Energy	
interfaces in SOECs stacks	Denmark	
Droppes intersification of ellecting water	Quentin De Radiguès	
Process intensification of alkaline Water	Université catholique de Louvain	
electrolysis by using 3-D electrodes	Belgique	
	Xiaofeng Xie	
Research and Demonstration of Solid	Tsinghua University	
Polymer Electrolysis Technology in China	China	
3D printed electrolytes for Solid Oxide	Elba Hernández	
Flectrolyser devices with complex	Catalonia Inst. for Energy Research (IREC)	
hierarchical geometries	Snain	
From Polyelectrolytes to Robust Highly	Andreas Münchinger	
Proton Conducting Hydrocarbon	Max-Planck-Institute for Solid State	
Membranes for PFM Fuel Cell and DFM	Research	
Flectrolysis Applications	Germany	
	Germany	

### Wednesday 14/6 - POSTER SESSION

No.		With lunch and	
	Poster session n	presentation by EWII	
	Hydrogen production as a part of P-to-X system	<b>Antti Kosonen</b> Lappeenranta University of Technology Finland	
	Control and energy efficiency of alkaline and PEM water electrolyzers in renewable energy systems	<b>Joonas Koponen</b> Lappeenranta University of Technology Finland	
	Bioreactor with in situ water electrolysis for protein production	Lauri Nygren Lappeenranta University of Technology LUT School of Energy Systems Finland	
	The effect of line frequency and forced commutation on the losses of the electrolyzer stack and the power supply unit	<b>Vesa Ruuskanen</b> Lappeenranta University of Technology Finland	
	INSIDE – In-situ Diagnostics in Water Electrolysers	Indro Biswas German Aerospace Centre Germany	
	Development of oxygen evolution electrocatalysts and electrodes for High Temperature and Pressure Alkaline Electrolysis Cells (HTP-AEC)	<b>Jens Q. Adolphsen</b> DTU Energy Denmark	
	Hydrogen production from photovoltaic via "zero gap" alkaline electrolysis	<b>Jirina Polakova</b> UJV Rez, a. s. Czech Republic	
	Electrolysers based on CsH <sub>2</sub> PO <sub>4</sub> to work at high pressures and moderate temperatures	<b>Nuria Bausá</b> ITQ (UPV-CSIC) Spain	
	Detection and modelling of hydrogen crossover in PEM electrolysers using EIS	<b>Julio César García-Navarro</b> German Aerospace Center Germany	
	Demonstration of Impedance Spectroscopy as a Method to Evaluate Losses of Polymer Electrolyte Membrane Electrolysis Cells during Water Electrolysis	<b>Katrine Elsøe</b> DTU Energy Denmark	
	Engineering of high temperature PEMWE	<b>Kohei Ito</b> Kyushu University Japan	
	The HyBalance Project will demonstrate how hydrogen can be used as mean to store energy which in turn will be used for Industry and fuel-cell vehicles	Louis Sentis Air Liquide Advanced Business France	
	Advances in PEM Electrolyzer Components	<b>Madeleine Odgaard</b> EWII Fuel Cells Denmark	
	Determination of the bipolar plate aging under PEM electrolysis operation	<b>Manuel Langemann</b> Forschungszentrum Jülich Germany	

#### Wednesday 14/6 - POSTER SESSION (Continued)

H2FL	ITURE, Hydrogen from electrolysis for low carbon steelmaking	<b>Marcel Weeda</b> ECN Netherlands	
In inv	operando Raman spectroscopy for estigation of solid oxide electrolysis cells	<b>Marie Lund Traulsen</b> DTU Energy Denmark	
lr cat	on sulfides as low-cost bioinspired hode catalysts for proton exchange membrane electrolyzers	<b>Marion Giraud</b> Universite Paris Diderot France	
Охуд	en evolution reaction kinetics on LSM electrode doped by Pt	<b>Martin Paidar</b> University of Chemistry and Technology Prague Czech Republic	
Exp	erimental loop of high temperature electrolysis in coupling of high temperature process	<b>Martin Tkáč</b> Technological Experimental Loops Czech Republic	
Inr	ovative photoelectrochemical cells based on polymeric membrane electrolytes and suitable porous photoanodes	<b>Michail Tsampas</b> DIFFER Netherlands	
Ma valid	thematical model and experimental ation of a 15-kW alkaline electrolyzer	<b>Mónica Sánchez</b> Centro Nacional del Hidrógeno Spain	
Tun the H by th	gsten Carbide Support Materials for ydrogen Evolution Reaction Produced e Self-Propagating High-Temperature Synthesis Method	<b>Morten Gildsig Poulsen</b> University of Southern Denmark Denmark	
Cu perm	urrent density impact on hydrogen neation during PEM water electrolysis	<b>Patrick Trinke</b> Leibniz Universität Germany	
Hig And	hly Active Iridium Nanoparticles for odes of Proton Exchange Membrane (PEM) Electrolyzers	<b>Philipp Lettenmeier</b> German Aerospace center Germany	
el	Degradation mechanisms of PEM ectrolyzer MEAs operating at high current densities	<b>Philipp Lettenmeier</b> German Aerospace center Germany	
Distr t	ibution of relaxation times – tool for he analysis of impedance spectra	<b>Piotr Jasinski</b> Gdansk University of Technology Poland	
Ai Pt (men	ctivity of plasma vapour deposited <sub>x</sub> Ni <sub>y</sub> Al <sub>z</sub> as anode electrocatalyst for nbraneless) alkaline water electrolysis	<b>Roelof Jacobus Kriek</b> North-West University South Africa	
In-	situ upgrading of bio-oil using solid oxide electrolysis process	S. Elango Elangovan Ceramatec, Inc. United States	
Expe PE	rimental analysis of gas-liquid flow in M water electrolyser mini-channels using a permeable wall	Saeed Sadeghi Lafmejani Aalborg University Denmark	

# Wednesday 14/6 - POSTER SESSION (Continued)

Experimental study on the influence of clamping pressure on proton exchange membrane water electrolyzer (PEMWE) cell's characteristics	<b>Saher Al Shakhshir</b> Aalborg University Denmark
Infiltrated Solid Oxide Cell Oxygen Electrodes: Degradation During Reversible Current-Switching Operation Degradation Behavior of (La,Sr)(Fe,Co)O <sub>3</sub> Solid Oxide Cell Oxygen Electrodes During Reversible Electrolysis and Fuel Cell Operation	<b>Scott Barnett</b> Northwestern University USA
Protective coatings for interconnects for solid oxide cell stacks	<b>Sebastian Molin</b> DTU energy Denmark
Fabrication of porous Co-P foam by electrodeposition for an efficient hydrogen and oxygen evolution reactions	<b>Sekwon Oh</b> KAIST Republic of Korea
Electrochemical Tailoring of Syngas	<b>Severin Foit</b> Forschungszentrum Jülich Germany
Power to Gas/Liquid - biomass gasification and SOEC combined system	<b>Shahid Ali</b> Aalborg University Denmark
A PEM water electrolyser based on metallic iridium electrocatalyst, Pt/C and an Aquivion membrane	Stefania Siracusano CNR-ITAE Italy
Conceptual Degradation Model for a PEM Water Electrolyzer	Steffen Frensch Aalborg University Denmark
Analysis of Porous Transport Layers for Proton Exchange Water Electrolysis	<b>Tobias Schuler</b> Paul Scherrer Institut Switzerland
Small-scale systems for alkaline water electrolysis	<b>Ulrich Vogt</b> Empa Switzerland
LSCF and LSC infiltrated LSCF electrode for high temperature steam electrolysis	<b>Vaibhav Vibhu</b> Forschungszentrum Jülich Germany
Plasma-chemical technologies for PEM electrolyzers catalysts and protective coatings	Vladimir Fateev NRC "Kurchatov institute" Russia
Understanding and Tailoring Activity and Stability of Perovskite and Manganese Oxides for the Oxygen Evolution Reaction	<b>Vladimir Tripkovic</b> DTU Energy Denmark
New separator concepts for a radical improvement of the gas quality in alkaline water electrolysis (AWE)	<b>Wim Doyen</b> VITO Belgium