

Draft Programme for ICE 2019

Monday 10/06

08:20	Welcome, opening remarks	Magnus S. Thomassen SINTEF Norway	
08:40-10:40	Session 1. PEMEL	Chair:	No.
08:40	TBA	Hongmei Yu (INVITED) Dalian University China	1
09:00	Understanding electric current reversal phenomena in PEM water electrolysis cells	Christoph Immerz Leibniz Universität Hannover Germany	2
09:20	Current density distribution as a function of PEM electrolyser flow-field design by in-situ neutron imaging	Dmitri Bessarabov HySA Infrastructure South Africa	3
09:40	Local measurement of anode current collector potential in a PEM water electrolyser	Hans Becker National Physical Laboratory United Kingdom	4
10:00	Effects on performance of a temperature gradient in a segmented PEM electrolyzer	Julian Parra LEMTA, University of Lorraine France	5
10:20	Minimizing the Differential Cell Resistance of PEM Electrolysis Cells – A Hypothesis based on EIS Calculations	Katrine Elsåe IRD Fuel Cells A/S Denmark	6
10:40	Coffee Break		
11:00-12:40	Session 2. AEL	Chair:	No.
11:00	Surface and Materials Science, and Electrochemical Analysis of Nickel Materials	Gregory Jerkiewicz (INVITED) Université catholique de Louvain Belgium	7
11:20	Highly efficient anion exchange membrane water electrolysis and the role of KOH concentration	Alejandro Barnett SINTEF Norway	8
11:40	Microstructural optimization of gas diffusion electrodes for high temperature and pressure alkaline electrolysis	Simon Pitscheider Technical University of Denmark Denmark	9
12:00	Porous Electrodes as Efficient Catalysts for the Oxygen Evolution Reaction	Thomas Rauscher Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM Germany	10
12:20	Intensification of alkaline water electrolysis using 3-D electrodes, forced electrolyte flow and pulsed voltage	Grégoire Thunis Université catholique de Louvain Belgium	11
12:40	Lunch		

13:40-15:40	Session 3. SOEC	Chair:	No.
13:40	Status of Sunfire's Large-Scale High-Temperature Electrolysis	Oliver Posdziech (INVITED) Sunfire GmbH Germany	12
14:00	Power-to-X activities at Haldor Topsoe: a stepping-stone approach towards commercialization	Bengt P. G. Blennow (INVITED) Haldor Topsoe A/S Denmark	13
14:20	Status of Solid Oxide Electrolysis Cell (SOEC) System Development at FuelCell Energy Inc.	Per Margelef FuelCell Energy Inc USA	14
14:40	A 25 kW High Temperature Electrolysis Facility for Flexible Hydrogen Production and System Integration Studies	James E. O'Brien Idaho National Laboratory USA	15
15:00	Power-to-X with high temperature Solid Oxide Cells	Remi Costa German Aerospace Center Germany	16
15:20	Enhanced Value of Renewable Energy via High Temperature Electrolysis	Olga A. Marina Pacific Northwest National Laboratory USA	17
15:40	Coffee Break		
16:00-18:00	Session 4. Other	Chair:	No.
16:00	11 years of FCH JU support to electrolyser development and demonstration	Nikolaos Lympieropoulos (INVITED) Fuel Cells and Hydrogen Joint Undertaking	18
16:20	PERIC's development on Power to Gas	Chen Tianshan Purification Equipment Research Institute of CSIC China	19
16:40	Effect of power quality on the specific energy consumption of water electrolyzers	Joonas Koponen LUT University Finland	20
17:00	OxEon Energy Developments Targeting Synthetic Liquid Fuels Production Using Non-Fossil CO ₂ as a Store of Renewable Energy	Joseph Hartvigsen OxEon Energy, LLC USA	21
17:20	Hydrogen from Molten Carbonate electrolysis for green steel production	Andries Krüger KTH Royal Institute of Technology Sweden	22
17:40	Towards an atomistic understanding of electrocatalytic partial hydrocarbon oxidation: theory and experiments synergies	Luca Silvioli University of Copenhagen Denmark	23
18:00-19:30	Welcome reception & Poster 1		
19:30	Dinner		

Tuesday 11/06

08:20-10:40	Session 4. AEL	Chair:	No.
08:20	Catalyst Development for PEM and AEM Water Electrolyzer Anodes	Peter Strasser (INVITED) Technical University Berlin Germany	24
09:00	Operando X-ray absorption investigations into the role of Fe in the electrochemical stability and oxygen evolution activity of Ni _{1-x} Fe _x O _y nanoparticles	Daniel Abbott Paul Scherrer Institut Switzerland	25
09:20	Oxygen evolution at porous Ni electrodes	Daniel Guay INRS – EMT Canada	26
09:40	Tuning the efficiency of oxygen evolution catalyst with alkaline ions	Hyunah Kim Seoul National University South Korea	27
10:00	High performing and economic platinum group metal free anode catalysts for AEM and PEM electrolyzers – Opportunities and Challenges	Li Wang German Aerospace Center (DLR) Germany	28
10:20	Theory and Modelling of Oxygen Evolution on Nickel-based Electrocatalysts	Michael Eikerling Simon Fraser University Canada	29
10:40	Coffee Break		
11:00-12:40	Session 5. SOEC	Chair:	No.
11:00	TBA	Annabelle Brisse (INVITED) European Institute for Energy Research Germany	30
11:20	Advancement of reversible proton-conducting solid oxide cells at Idaho National Laboratory (INL)	Dong Ding Idaho National Laboratory USA	31
11:40	On the development of electrodes for tubular proton ceramic electrolyzers for pressurized hydrogen production	Marie-Laure Fontaine SINTEF Norway	32
12:00	Scale up and integration of proton-conducting ceramics into multi-cell stacks	Neal Sullivan Colorado Fuel Cell Center USA	33
12:20	An Evaluation of High Temperature Water Splitting Systems using Protonic Ceramic Electrolyzers	Robert Braun Colorado School of Mines USA	34
12:40	Lunch		

13:40-15:40	Session 6. PEMEL	Chair:	No.
13:40	Low Temperature Water Electrolysis at Large Scale: A Comparison of Technology Benefits and Challenges	Katherine Ayers (INVITED) Nel Hydrogen US USA	35
14:00	REFHYNE – 10 MW PEM electrolyser for refinery	Anders Ødegård SINTEF Norway	36
14:20	PEM electrolysis development for enhancing renewable energy integration and advancing Power-to-X technologies	Wouter Schutyser Hydrogenics Europe NV Belgium	37
14:40	Low temperature electrolysis, yet at higher temperature	Jens O. Jensen Technical University of Denmark Denmark	38
15:00	Degradation analysis at increased stressor level in PEM water electrolysis single cells	Thomas Lickert Fraunhofer Institute for Solar Energy Systems Germany	39
15:20	System relevant Observation of Gas Crossover – Necessity of Mitigation Strategies	Patrick Trinke Leibniz Universität Hannover Germany	40
15:40	Coffee Break		
16:00-18:00	Session 6. PEMEL	Chair:	No.
16:00	Cobalt Platinum Bronze for an Active and Durable OER Electrocatalyst of PEM Electrolysis without Ir or Ru	Yu Morimoto (INVITED) Toyota Central R&D Labs Japan	41
16:20	Improving the performance of low loaded PEMWE electrodes	Friedemann Hegge Forschungszentrum Jülich GmbH Germany	42
16:40	High performing PEMEC MEAs with (ultra)-low PGM-loading	Laila Grahl-Madsen IRD Fuel Cells A/S Denmark	43
17:00	Low Temperature Electrolysis Advances at NREL	Bryan Pivovar National Renewable Energy Lab (NREL) USA	44
17:20	Investigation on the Effect of Ionomer Loading and Catalyst Loading on Tantalum Carbide Support on Polymer Electrolyte Membrane Electrolyser Performance	Rutendo Mutambanengwe Queen's University Canada	45
17:40	Direct membrane deposition – a novel membrane electrode assembly for proton exchange membrane water electrolysis	Peter Holzapfel Forschungszentrum Jülich GmbH Germany	46
18:00-19:30	Poster 2		
19:30	Dinner		

Wednesday 12/06

08:20-10:40	Session 7. SOEC	Chair:	No.
08:20	TBA	Truls Norby (INVITED) University of Oslo Norway	47
08:40	Cobalt substituted Lanthanide Nickelates ($\text{Ln}_2\text{Ni}_{1-x}\text{Co}_x\text{O}_{4+\delta}$, Ln = La, Pr; x=0, 0.1, 0.2): Impact on Electrochemical Performance and Stability as SOECs Oxygen Electrode	Vaibhav Vibhu Forschungszentrum Jülich GmbH Germany	48
09:00	Degradation Phenomena in Solid Oxide Electrolysis Cell Fuel Electrodes	Scott A. Barnett Northwestern University USA	49
09:20	Experimental analysis of SOE stacks under pressurized operation	Marc Riedel German Aerospace Center (DLR) Germany	50
09:40	Recent Solid Oxide Electrolysis Research Highlights at DTU Energy	Henrik L. Frandsen Technical University of Denmark Denmark	51
10:00	Boosting the performance of reversible solid oxide cells by nano-sized electro-catalysts	Ming Chen Technical University of Denmark Denmark	52
10:20	Demonstration of reversible Solid Oxide Cell technology: results at cell, stack and system level	Olivier Thomann VTT Technical Research Centre of Finland Finland	53
10:40	Coffee Break		
11:00-12:40	Session 8. AEL	Chair:	No.
11:00	Green Hydrogen Production by Alkaline Water Electrolysis	Chang-Hee Kim (INVITED) Korea Institute of Energy Research South Korea	54
11:20	TBA	NEL Hydrogen	55
11:40	Aspen Plus model to simulate an alkaline electrolysis plant	Monica Sánchez Centro Nacional del Hidrógeno Spain	56
12:00	Intensification of alkaline electrolysis	Thijs de Groot Nouryon Industrial Chemicals, The Netherlands	57
12:20	Alkaline water electrolyzers providing grid services: stack performance and lifetime assessment of novel components	Vanesa Gil Hernández Aragon Hydrogen Foundation Spain	58
12:40	Lunch		
13:40-19:00	Social program		
19:00	Conference Dinner		

Thursday 13/06

08:40-10:40	Session 9. PEMEL	Chair:	No.
08:40	TBA	Marcelo Carmo (INVITED) FZ Jülich Germany	59
09:00	TBA	Elena R Savinova (INVITED) University of Strasbourg France	60
09:20	Contamination Effects in Polymer Electrolyte Water Electrolyzers	Lorenz Gubler Paul Scherrer Institut Switzerland	61
09:40	Porous transport electrodes for PEM water electrolysis: improved performance via studying materials interfaces	Melanie Bühler Hahn-Schickard Germany	62
10:00	The Role of Interface Properties and Polymer Electrolyte Water Electrolysis Performance	Tobias Schuler Paul Scherrer Institut Switzerland	63
10:20	High resolution and sub-second Neutron imaging of porous transport layers of proton exchange membrane water electrolyser	Zlobinski Mateusz Paul Scherrer Institut Switzerland	64
10:40	Coffee Break		
11:00-12:40	Session 10. AEL	Chair:	No.
11:00	Physical vapour deposited electrocatalysts for electrolysis – an overview	R.J. Kriek (INVITED) North-West University South Africa	65
11:20	A New Class of Bubble-Free Water Electrolyzer that is Intrinsically Highly Efficient	Gerhard Swiegers University of Wollongong Australia	66
11:40	Dynamic operation strategies and design criteria for alkaline water electrolyzers powered by renewable energies	Jörn Brauns Clausthal University of Technology Germany	67
12:00	Polysulfone-polyvinylpyrrolidone blend membranes in alkaline electrolysis	Mikkel Kraglund Technical University of Denmark Denmark	68
12:20	Zirfon Perl: Advancing the H2 industry with superior electrolysis membranes	Nick Valckx Agfa Belgium	69
12:40	Closing of conference		