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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 Elsøe** 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	**Christodoulos Chatzichristodoulou** 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 Lymperopoulos (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 CO2 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

08:40-10:20	Session 5. SOEC	Chair:	No.
08:40	Performance and long-term stability of electrolyte supported Solid Oxide Electrolyser Cells	**Annabelle Brisse (INVITED)** European Institute for Energy Research Germany	24
09:00	Advancement of reversible proton-conducting solid oxide cells at Idaho National Laboratory (INL)	**Dong Ding** Idaho National Laboratory USA	25
09:20	On the development of electrodes for tubular proton ceramic electrolysers for pressurized hydrogen production	**Marie-Laure Fontaine** SINTEF Norway	26
09:40	Scale up and integration of proton-conducting ceramics into multi-cell stacks	**Neal Sullivan** Colorado Fuel Cell Center USA	27
10:00	An Evaluation of High Temperature Water Splitting Systems using Protonic Ceramic Electrolyzers	**Robert Braun** Colorado School of Mines USA	28
10:20	Coffee Break		
10:40-12:40	Session 6. AWE	Chair:	No.
10:40	Catalyst Development for PEM and AEM Water Electrolyzer Anodes	**Peter Strasser (INVITED)** Technical University Berlin Germany	29
11:20	Operando X-ray absorption investigations into the role of Fe in the electrochemical stability and oxygen evolution activity of Ni1-xFexOy nanoparticles	**Daniel Abbott** Paul Scherrer Institut Switzerland	30
11:40	Oxygen evolution at porous Ni electrodes	**Daniel Guay** INRS – EMT Canada	31
12:00	High performing and economic platinum group metal free anode catalysts for AEM and PEM electrolysers – Opportunities and Challenges	**Li Wang** German Aerospace Center (DLR) Germany	32
12:20	Theory and Modeling of Oxygen Evolution on Nickel-based Electrocatalysts	**Michael Eikerling** Simon Fraser University Canada	33
12:40	Lunch		

13:40-15:40	Session 7. 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	34
14:00	REFHYNE – 10 MW PEM electrolyser for refinery	**Anders Ødegård** SINTEF Norway	35
14:20	PEM electrolysis development for enhancing renewable energy integration and advancing Power-to-X technologies	**Wouter Schutyser** Hydrogenics Europe NV Belgium	36
14:40	Low temperature electrolysis, yet at higher temperature	**Jens O. Jensen** Technical University of Denmark Denmark	37
15:00	Degradation analysis at increased stressor level in PEM water electrolysis single cells	**Thomas Lickert** Fraunhofer Institute for Solar Energy Systems Germany	38
15:20	System relevant Observation of Gas Crossover – Necessity of Mitigation Strategies	**Patrick Trinke** Leibniz Universität Hannover Germany	39
15:40	Coffee Break		
16:00-18:00	Session8. 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	40
16:20	Improving the performance of low loaded PEMWE electrodes	**Friedemann Hegge** Forschungszentrum Jülich GmbH Germany	41
16:40	High performing PEMEC MEAs with (ultra)-low PGM-loading	**Laila Grahl-Madsen** IRD Fuel Cells A/S Denmark	42
17:00	Low Temperature Electrolysis Advances at NREL	**Bryan Pivovar** National Renewable Energy Lab (NREL) USA	43
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	44
17:40	Direct membrane deposition – a novel membrane electrode assembly for proton exchange membrane water electrolysis	**Peter Holzapfel** Forschungszentrum Jülich GmbH Germany	45
18:00-19:30	Poster 2		
19:30	Dinner		

Wednesday 12/06

08:20-10:40	Session9. SOEC	Chair:	No.
08:20	TBA	**Truls Norby (INVITED)** University of Oslo Norway	46
08:40	Cobalt substituted Lanthanide Nickelates ($Ln_2Ni_{1-x}Co_xO_{4+\delta}$, 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	47
09:00	Degradation Phenomena in Solid Oxide Electrolysis Cell Fuel Electrodes	**Scott A. Barnett** Northwestern University USA	48
09:20	Experimental analysis of SOE stacks under pressurized operation	**Marc Riedel** German Aerospace Center (DLR Germany	49
09:40	Recent Solid Oxide Electrolysis Research Highlights at DTU Energy	**Henrik L. Frandsen** Technical University of Denmark Denmark	50
10:00	Boosting the performance of reversible solid oxide cells by nano-sized electro-catalysts	**Ming Chen** Technical University of Denmark Denmark	51
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	52
10:40	Coffee Break		
11:00-12:40	Session 10. AEL	Chair:	No.
11:00	Green Hydrogen Production by Alkaline Water Electrolysis	**Chang-Hee Kim (INVITED)** Korea Institute of Energy Research South Korea	53
11:20	TBA	**NEL Hydrogen**	54
11:40	Aspen Plus model to simulate an alkaline electrolysis plant	**Monica Sánchez** Centro Nacional del Hidrógeno Spain	55
12:00	Intensification of alkaline electrolysis	**Thijs de Groot** Nouryon Industrial Chemicals, The Netherlands	56
12:20	Alkaline water electrolysers providing grid services: stack performance and lifetime assessment of novel components	**Vanesa Gil Hernández** Aragon Hydrogen Foundation Spain	57
12:40	Lunch		
13:40-19:00	Social program		
19:00	Conference Dinner		

Thursday 13/06

08:40-10:40	Session 11. PEMEL	Chair:	No.
08:40	Water electrolysis for hydrogen production – Repairing Breaches to achieve High Efficiency, High Durability and Low Cost	**Marcelo Carmo (INVITED)** FZ Jülich Germany	58
09:00	The oxygen evolution on perovskites in alkaline media: with or without carbon?	**Elena R Savinova (INVITED)** University of Strasbourg France	59
09:20	Contamination Effects in Polymer Electrolyte Water Electrolyzers	**Ugljesa Babic** Paul Scherrer Institut Switzerland	60
09:40	Porous transport electrodes for PEM water electrolysis: improved performance via studying materials interfaces	**Melanie Bühler** Hahn-Schickard Germany	61
10:00	The Role of Interface Properties and Polymer Electrolyte Water Electrolysis Performance	**Tobias Schuler** Paul Scherrer Institut Switzerland	62
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	63
10:40	Coffee Break		
11:00-12:40	Session 12. AEL	Chair:	No.
11:00	Physical vapour deposited electrocatalysts for electrolysis – an overview	**R.J. Kriek (INVITED)** North-West University South Africa	64
11:20	A New Class of Bubble-Free Water Electrolyzer that is Intrinsically Highly Efficient	**Gerhard Swiegers** University of Wollongong Australia	65
11:40	Dynamic operation strategies and design criteria for alkaline water electrolyzers powered by renewable energies	**Jörn Brauns** Clausthal University of Technology Germany	66
12:00	Polysulfone-polyvinylpyrrolidone blend membranes in alkaline electrolysis	**Mikkel Kraglund** Technical University of Denmark Denmark	67
12:20	Zirfon Perl: Advancing the H2 industry with superior electrolysis membranes	**Nick Valckx** Agfa Belgium	68
12:40	Closing of conference		