Poster Program

Alkaline Anion Exchange Membrane (AEM)	
Mr L. Heinius	Synthesis and characterization of NiMo/C as a HER catalyst for PGM-free AEM water electrolysis
Dr A. Pushkarev	*Electrochemical impedance spectroscopy study of an anion exchange membrane water electrolyzer*
Dr D. Strasser	*Thermally processible anion exchange membranes for AEMWE at scale*

Alkaline Water Electrolysis (AWE)	
Dr F. Gellrich	Development Strategies for Diaphragms in Alkaline Water Electrolysis
Mr F. Grewe	Improved cold-start behavior for alkaline electrolysis through electrolyte concentration heat storage
Ms M. Heath	Enhanced OER activity of sputtered Ni thin films due to iron in the electrolyte
Dr H. Lakhotiya	Development of alkaline electrolyzers for green hydrogen at Stiesdal A/S
Dr N. Li	The effects of water quality of different sources on the performance of electrolysis
Mr R. Lira Garcia Barros	Elucidating the resistance of free bubbles in zero-gap alkaline water electrolysis
Dr DJ.D. Matienzo	Dynamic hydrogen bubble templated synthesis of NixPy-based electrocatalysts for alkaline oxygen evolution reaction
Dr C. Ouma	Computational Approaches to Alkaline Anion Exchange Membranes and Electrolysis
Prof E. Pereira	Improving Alkaline Water Electrolysis Efficiency Using an Asymmetrical Electrode Cell Design
Ms T.P.A. Phan	Mechanical alloying of Ni-based catalysts for alkaline water electrolysis
Dr M. Potgieter	Magnetron sputtering of NiFe electrocatalysts for enhanced OER activity in alkaline media
Mr M. Rykær Kraglund	Machine learning guided optimization of nano-structured Ni electrodes for alkaline water electrolysis
Dr. E. Tal-Gutelmacher	Prospects for Alkaline Exchange Membrane (AEM) Electrolysis
Mr. N. Wauthy	Effects of water quality on alkaline water electrolysis performance.

Other Topics	
Mr J. Blake	Less is More: Variable Catalyst Loading for Improved CO2 Electroreduction
Dr S.P. du Preez	Electrolytic Hydrogen as a Partial Replacement of Carbonaceous Reductants during Ferrous Ore Smelting
Dr M. Faustini	High Entropy Alloys Based Macro- and Mesoporous Catalysts
Dr P. Hadikhani	Efficient Design of Flow-Based Water Electrolyzers for Hydrogen Production through Numerical Modeling and Experimental Testing
Mr D.J.M. Haerter	A Flexible Simulation Tool for Water Electrolysis on system level
Dr A. Kozhukhova	Addressing Safety for Electrolytic Hydrogen Production Using Catalytic Hydrogen Recombination Technology

Mr A. Rex	An Open-Source Modeling Tool for Alkaline (AEL), Proton Exchange Membrane (PEMEL), and Solid Oxide (SOEL) Water Electrolysis Systems
Ms W. Schrader	Multi-objective adjoint optimization tool for electro-chemical systems applied to membrane-less electrolyzer
Mr S. Simon Araya	Sustainable water sources for Electrolysis in PtX
Dr A. Venugopal	Proton-conducting ceramic electrolyzers for high efficiency green hydrogen production
Ms X. Yan	Fleet-based performance model and degradation estimation
Miss W. Zhao	Using treated wastewater as a source of water electrolysis
Prof R. Kiebach	Mechanical Properties of tubular Proton-Conducting Ceramic Cells and Effect of Ageing and Operating Conditions

Proton Exchange Membrane (PEM)

Mr M. Bonanno	Test station development for the characterization of PEM water electrolysis at elevated temperature operation
Ms. L.V. Buehre	Lifting the Lids on Reference Electrodes in PEMWE: Previous Approaches and Current Application
Ms. L.V. Buehre	Towards Understanding the Influence of the Ionomer in PEMWE Anodes Consisting of Various Ir-Based OER Catalysts
Mr E. Cruz Ortiz	Hydrogen crossover measurements of proton exchange membranes for water electrolysis with in-operando conditions
Ms. M.M. Heath	Ruthenium-based pyrochlores as anode materials in PEM water electrolyzers
Mr T. Herrmannsdörfer	Techno-economic analysis for waste heat utilization of a power-to-gas plant based on PEM electrolysis
Mr M. Hoeglinger	Electrolysis Stacks: Methods and Tools for Experimental Characterization
Ms T. Khoza	High-pressure PEM Water Electrolysis Stack and System Characterization
Ms T. Khoza	Development of Highly Active and Durable Low Loading PEMWE Catalyst Layers
Ms M. Kozlova	Supported iridium-based electrocatalysts for PEM water electrolyzers
Dr G. Kruger	Interleaved buck converter for PEM water electrolyzer using integrated MOSFET with current sensing compensation
Dr A. Malakhov	CFD modelling of an accidental hydrogen release in desktop PEM electrolyser enclosure
Mr C.A. Martinson	Development and localisation of portable lab-scale Proton Exchange Membrane (PEM) based hydrogen generators within South Africa
Dr B. Mogwase	Benchmarking catalysts for water electrolysis technology for hydrogen production
Mr D. Mueller	Coupled multiscale simulation of two-phase flow in porous transport layer with oxygen evolution reaction for PEM electrolyzers
Dr W. Münchgesang	Development, testing and comparison of mid-term test routines for partial load and direct dynamic operation of PEM stacks
Ms P. Narayana Prasad	Enhanced system design to reduce the SO2 crossover to the cathode at SO2 Depolarized Electrolyser (SDE)
Dr K.O. Obodo	Multi-Scale Computational Modelling Techniques of Electrocatalysts for Oxygen Evolution Reaction

Dr I. Pushkareva	Performance and durability of anode gas diffusion electrodes in PEM water electrolyzer
Dr Y. Raka	Transient model of Wind powered PEMWE system
Mr H. Sayed-Ahmed	Dynamic operation of PEM electrolyzers for cheaper green hydrogen - a critical review
Mr D.W. Shin	Introducing Iridium Nanosheet Catalysts on Titanium Oxide for Oxygen Evolution Reaction in PEMWE
Dr K. Witte-Bodnar	Reliability and qualification of gasket materials for PEM electrolysis
Ms N. Zimmerer	About the structural optimization of catalyst layers for PEM electrolysis
Srijita Nundy	PEMWE COMPONENTS COATINGS & CATALYSTS : Developing Durable and High-performance coatings & catalysts

Solid Oxide Electrolysis (SOE)

Dr S. Barnett	Effects of Solid Oxide Electrolysis Operation on Ni-YSZ Electrochemical and Microstructural Evolution
Dr Y. Jiang	Doped ceria with exsolved Fe0 nanoparticles as Sr-free cathode for CO2 electrolysis in SOECs at reduced temperatures
Mr D. Kniep	Fuel-side degradation of interconnect candidate ferritic-martensitic steels and Ni-based alloys for SOEC/SOFC
Ms G.C. Moss	A Modified Hydrothermal Method for the Preparation of Nano-sized, Rutile-type IrO2 Crystallites with Exceptional Activity and Stability Towards the Oxygen Evolution Reaction
Dr C. Ribeiro	Optimizing the Partial Electrooxidation of Methane Using Supported C/γ-MnO2 in Different Electrochemical Setups
Mr. C. Schnegelberger	e-XPlore: A High-Pressure Solid Oxide Cell Electrolyser in a Sea Container for offshore Power-to-X Applications
Dr S. Sengodan	In-situ Growth of Palladium Nanoparticles on A-site Layered Double Perovskite PrBaMn2O5+δ
Mr J. Van der Merwe	SOEC as enabler of highly efficient hydrogen production
Mr. M. Wilson	Solid Oxide Electrolysis for In Situ Resource Utilization six years after delivering MOXIE flight hardware.
Mr M. Bornman	Current switching device development to characterise and monitor a proton exchange membrane water electrolyser
Mr S. Mamathuntsha	Dynamic measurements of clamping pressure distribution in a PEM water electrolysis cell and its validation by EIS
Miriam C. Guni	High efficiency green hydrogen production through electron spin polarization.