

Programme

Monday 3rd of September 2012

08:30	Registration, Coffee		
Session 1. Overviews		Chair: Jens Oluf JENSEN DTU Energy Conversion (DK)	Page
09:00	Welcome, opening remarks	Jens Oluf JENSEN and Søren LINDEROTH DTU Energy Conversion Denmark	
09:20	Overview of PEMFC MEA Component Research and Development Activities at the DOE Fuel Cell Technologies Program	Dimitrios PAPAGEORGOPOULOS (INVITED) Department of Energy United States	16
09:40	HTPEMFC Components to Systems - An overview of Activities at HySA Systems	Sivakumar PASUPATHI HySA Systems, University of the Western Cape South Africa	17
10:00	Report on the U.S. DOE HTMWG Progress	James FENTON University of Central Florida United States	18
10:20	Coffee break		
Session 2. Catalysts I		Chair: Robert F. SAVINELL Case Western Reserve University (US)	Page
10:40	Oxygen Reduction at Non-Precious Metal Electrocatalysts: Beyond the Standard PEFC Cathode	Piotr ZELENAY (INVITED) Los Alamos National Laboratory Unites States	19
11:00	Pt/Pyridine Modified CNTs as electrocatalysts for High Temperature PEM Fuel Cells	Maria DALETOU FORTH Greece	20
11:20	A Supportless Approach for Designing a Stable and Self-Improving Catalyst Architecture for High Temperature PEM Fuel Cell.	Gustavo DOUBEK University of São Paulo Brazil	21
11:40	Advanced Catalyst Electrodes with Uniform Pt-nanowire Arrays for High-Performance Low Temperature Fuel Cells	Shangfeng DU University of Birmingham United Kingdom	22
12:00	Lunch		

Session 3. Membranes I		Chair: Sivakumar PASUPATHI HySA Systems, Uni. Western Cape (ZA)	Page
12:50	PBI Membranes vis the PPA Process	Brian BENICEWICZ (INVITED) University of South Carolina United States	23
13:10	Physicochemical investigation of phosphoric acid doped poly(2,5-benzimidazole) as electrolyte membrane for fuel cells	Anne MAJERUS Forschungszentrum Jülich Germany	24
13:30	Electrospun Hybrid Membranes an alternative to Nafion?	Leslie DOS SANTOS Université Pierre et Marie Curie France	25
13:50	City Hall reception		
Session 4. MEAs I		Chair: Werner LEHNERT Forschungszentrum Jülich (DE)	Page
16:10	Development of Durable High Temperature PEMFC MEA	Jung Ock PARK (INVITED) Samsung Electronics South Korea	26
16:30	Performance and degradation of high Performance MEAs For High Temperature PBI Fuel Cells	Thomas STEENBERG Danish Power Systems Denmark	27
16:50	Development of mid temperature PEM membranes, catalysts and MEAs in the frame of the MT-PEMFC-Cluster project	Volker PEINECKE ZBT Germany	28
17:10	HT-PEM Fuel Cell: Compression Analysis by Electrochemical Characterization and Micro-Computed Tomography	Anja DIEDRICHS NEXT ENERGY – EWE Germany	29
17:30	Coffee break		
Session 5. Alkaline cells		Chair: Young-Woo CHOI Korea Institute of Energy Research (KR)	Page
17:50	Latest advances in Alkaline Membrane Fuel Cell (AMFC) technology	Dario DEKEL CellEra Israel	30
18:10	Polyethylene based anionic exchange membranes for solid alkaline fuel cells (SAFC)	Syed Tauqir Ali SHERAZI COMSATS Institute of Information Technology Pakistan	31
18:30	Aromatic block copolymers as anion exchange membranes	Kenji MIYATAKE University of Yamanashi Japan	32
18:50	Poster session (odd numbers) + Buffet	20:00-21:00 Committee Meeting Room: Axel 4	
20:50	End		

Tuesday 4th of September 2012

08:30	Registration, Coffee		
09:00	Announcements		
Session 6. Membranes II		Chair: Jacques ROZIÈRE Université Montpellier 2 (FR)	Page
09:10	Approaches to the mechanical stabilisation of highly functionalised membranes for medium and high temperature PEMFC	Deborah JONES (INVITED) Université Montpellier 2 France	33
09:30	Proton Conducting Phase-Separated Multiblock Copolymers with Sulfonated Poly(Phenylene Sulfone) Blocks for Electrochemical Applications: Preparation, Morphology, Hydration, Mechanical Properties and Transport	Klaus-Dieter KREUER Max-Planck-Institut für Festkörperforschung Germany	34
09:50	Proton Conducting Hydrophilic-Hydrophobic Multiblock Copolymers with Highly Sulfonated and Hydrolytically Stable Blocks	Shogo TAKAMUKU Lund University Sweden	35
10:10	Recent Development of Acid Doped Polybenzimidazole Membranes in Denmark - Polymer Chemistry and Durability Issues	Qingfeng LI Technical University of Denmark Denmark	36
10:30	Coffee break		
Session 7. Catalysts II		Chair: Piotr ZELENAY Los Alamos National Laboratory (US)	Page
10:50	Phosphorus-doped ordered mesoporous carbon: effect of size on electrocatalytic activity towards oxygen reduction	Jong-sung YU Korea University South Korea	37
11:10	A new concept for noble metal-free cathode catalysts based on metalorganic Fe and Co compounds in ordered mesoporous carbon	Johanna K. DOMBROVSKIS Chalmers University of Technology Sweden	38
11:30	New approaches for the characterization of porous electrodes devoted to oxygen reduction	Henri PEREZ CEA France	39
11:50	Electrocatalytic activity and stability of antimony doped tin oxide supported platinum catalyst for PEM fuel cells	Magnus THOMASSEN SINTEF Norway	40
12:10	Lunch		

Session 8. Electrodes		Chair: Thomas J. SCHMIDT Paul Scherrer Institut (CH)	Page
13:10	Carbon Nanotube/PBI Composites as a Material for the Future PEMFC Electrocatalyst	Naotoshi NAKASHIMA (INVITED) Kyushu University Japan	41
13:30	Novel Electrocatalyst Support Materials for High Temperature PEMFC	Amrit CHANDAN University of Birmingham United Kingdom	42
13:50	Evaluation of crack structures in catalyst layers of dynamically operated HT-PEFCs from in situ synchrotron X-ray radiographs	Wiebke MAIER Forschungszentrum Jülich Germany	43
14:10	Self-supporting Microporous Layers (MPLs) for PEM fuel cells	Alexander BAUDER DLR Germany	44
14:30	Coffee break		
Session 9. MEAs II		Chair: Jung Ock PARK Samsung Electronics (KR)	Page
14:50	Mobility and distribution of phosphoric acid in high-temperature polymer electrolyte fuel cells	Werner LEHNERT (INVITED) Forschungszentrum Jülich Germany	45
15:10	Comparative experimental study of the performance of two different types of high temperature polymer electrolyte membrane electrode assemblies	Søren Juhl ANDREASEN Aalborg University Denmark	46
15:30	Platinum Pulse Plating on aligned MWCNTs for PEMFC	Mathias WEISER TU Dresden Germany	47
15:50	Poster session (even numbers)		
17:50	Walk to harbour		
18:20	Harbour boat tour		
19:20	Conference Dinner at Copenhagen Opera House		
22:50	Return		

Wednesday 5th of September 2012

09:00	Registration, Coffee		
09:30	Announcements		
Session 10. Four Sesons		Chair: Niels J. Bjerrum DTU Energy Conversion (DK)	Page
09:40	Modeling of Ultrathin Catalyst Layers in Polymer Electrolyte Fuel Cells	Karen CHAN Simon Fraser University Canada	48
10:00	Innovative plasma polymerized membranes based on phosphonic acid groups for fuel cell	Joelle BASSIL Université Montpellier 2 France	49
10:20	Glass flake templated composite PFSA membranes with nanoparticulate inorganic additives and a hierarchical structure	Bhawana AGRAWAL University of Bayreuth Germany	50
10:40	Water Electrolysis using Polymeric Electrolyte Membranes at Elevated Temperatures	Erik CHRISTENSEN DTU Energy Conversion Denmark	51
11:00	Coffee break		
Session 11. Systems and Stacks		Chair: Deborah JONES Université Montpellier 2 (FR)	Page
11:20	HTPEM System benefits and challenges	Frank ERNE (INVITED) Elcomax Germany	52
11:40	High temperature PEM fuel cell activities at Aalborg University	Søren Knudsen KÆR (INVITED) Aalborg University Denmark	53
12:00	EnerFuel High Temperature PEM (HTPEM) Fuel Cell Stacks and System	Tom PAVLIK EnerFuel United States	54
12:20	Fuel Cell Stacks for HT- and LT-PEM Systems	Steen YDE-ANDERSEN IRD Fuel Cells Denmark	55
12:40	Lunch		

Session 12. Degradation		Chair: Qingfeng LI DTU Energy Conversion (DK)	Page
13:40	Advanced Degradation Studies of High Temperature PEFCs	Thomas J. SCHMIDT (INVITED) Paul Scherrer Institut Switzerland	56
14:00	Detection of MEA's flaws in PEMFC: "in-situ" Relaxometry combined with "ex-situ" Infrared Imagery	Gilles DE MOOR LEPMI-LMOPS CNRS France	57
14:20	Numerical Simulation of the Electrolyte (H ₃ PO ₄) Loss in HT-PEM Fuel Cells	Sebastian LANG University of Technology Darmstadt Germany	58
14:40	Theory of Ionomer Aggregation in Polymer Electrolyte Membranes	Pierre-Éric MELCHY Simon Fraser University Canada	59
15:00	Evaluation of Platinum Band Formation in PEM Fuel Cells	Marianne RODGERS University of Central Florida United States	60
15:20	Coffee break		
Session 13. Membranes III		Chair: Klaus-Dieter KREUER Max-Planck-Inst. für Festkörperforschung (DE)	Page
15:40	Recent research of the PBI/PA system as a proton conductor in electrochemical systems	Robert F. SAVINELL (INVITED) Case Western Reserve University United States	61
16:00	Nano-structured Aromatic Ionomers for PEMFC	Cristina IOJOIU Universite de Savoie France	62
16:20	A simply synthesized procedure of sulfonated poly(arylene ether) type polymers for polymer electrolyte membrane fuel cells	Young-woo CHOI Korea Institute of Energy Research South Korea	63
16:40	Aromatic Polyethers for High Temperature Polymer Electrolyte Membrane Fuel Cells (HT-PEMFCs) operating above 180°C	Aikaterini ANDREOPOULOU FORTH/ICE-HT Greece	64
17:00	Kinetic Study on the Doping Level of ABPBI Membrane	Fang LIU Forschungszentrum Jülich Germany	65
17:20	Closing	Jens Oluf Jensen DTU Energy Conversion Denmark	