

FINAL PROGRAMME

Wednesday, April 6, 2016

PLENARY LECTURES		
	Opening	13:00 – 13:20
PL01	<u>Jean-Luc. Delplancke</u> The Fuel Cells and Hydrogen Joint Undertaking: Past, Present and Future	13:20 – 13:50
PL02	<u>D. Jones</u> Fuel Cells and Hydrogen Joint Program within EERA structure	13:50 – 14:20
PL03	<u>H. Klingenberg</u> The Hamburg Experience in the Context of Pan-European Procurement of Fuel Cell Buses	14:20 – 14:50
PL04	<u>S. Goldner</u> Hydrogen PEM Fuel Cells for mobile applications HyRange(R) 25 fpr duty vehicles and city buses	14:50 – 15:20
PL05	<u>D. Thomas, F. Smeets, J. Vae</u> Alkaline vs PEM electrolyzers: lessons learnt from Falkenhagen and WindGas Hamburg	15:20 – 15:50
	Coffee break	15:50 – 16:30

LECTURES: IMPLEMENTATION OF H ₂ TECHNOLOGIES IN EUROPEAN REGIONS AND THEIR SUPPORT		
L01	<u>J. Kupecki</u> Status of the development and implementation of high temperature fuel cells in Poland	16:30 – 16:45
L02	<u>J. L. Margitfalvi</u> Activity in Hungary in the area of hydrogen technologies	16:45 – 17:00
L03	<u>I. Iordache, I. Stefanescu, M. Buga, D. Schitea, A. Marinou</u> Hydrogen, insights and perspectives in Romania	17:00 – 17:15
L04	<u>K. Stehlík, K. Bouzek</u> Current Activities in Hydrogen Technologies in Czech Republic and Slovakia	17:15 – 17:30
L05	<u>F. Barbir, A. Đukić</u> Hydrogen and Fuel Cell Activities and Perspectives in Croatia	17:30 – 17:45
L06	<u>J. Proost</u> Challenges and pitfalls while establishing a H₂ mobility plan for Belgium	17:45 – 18:00
L07	<u>D. Thomas, W. van der Laak, M. Meeus, D. Mertens</u> Power-to-Gas roadmap for Flanders	18:00 – 18:15
	Coffee break	15:50 – 16:30

PANEL DISCUSSION ON THE TOPIC: Implementation of H₂ technologies in European regions and their support	18:45 – 20:00
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POSTER SESSION WITH WALKING DINNER		20:00 – 21:30
P01	<u>J. Proost, Q. de Radiguès, A. Delvaux, F. Van Wonterghem</u> Electrochemical process intensification of hydrogen production using 3-D electrodes	
P02	<u>A. Giurg, R. Kodým, M. Paidar, K. Bouzek</u> Study of gas distribution in flow fields for PEM fuel cell	
P03	<u>P. Novotný, M. Tomáš, T. Němec, F. Maršík</u> Low temperature PEM fuel cell performance diagnosed by electro-chemical impedance spectroscopy	
P04	<u>J. Mališ, M. Paidar, K. Bouzek</u> Design of mobile 200 W PEM fuel cell system	
P05	<u>M. Tkáč, K. Stehlík</u> Hydrogen technologies in mining applications	
P06	<u>Y. Al-sagheer, R. Steinberger-Wilckens</u> Economic Optimal Control of Using Hydrogen as an Energy Carrier in Power Peak Shaving under Certainty Condition	
P07	<u>S. A. Archer, R. Murphy, R. Steinberger-Wilckens</u> Assessment of Sustainable Hydrogen Pathways from Biomass	
P08	<u>L. Polák, A. Doucek, J. Poláková</u> Hydrogen based renewable energy storage system with an integrated unit for hydrogen methanation	
P09	<u>M. Stano, A. Letkovský</u> Formation of NO_x by unpremixed hydrogen flames in air	
P10	<u>J. Marek, J. Čáslavský, O. Doležal, J. Navrátil</u> Open Online Course about Hydrogen Technologies	
P11	<u>F. Barth, W. Vanhoudt, M. Londo, J. C. Jansen, K. Veum, J. Castro, K. Nürnberger, M. Altmann</u> EU-wide implementation of Guarantee of Origin system of Green Hydrogen - FCH JU FP7 project	

Thursday, April 7, 2016

LECTURES: SESSION I		
L08	<u>H. Bergmann</u> History of Electrochemical Water Electrolysis -a Spotlight on the Beginnings	9:00 – 9:20
KL1	<u>R. Steinberger-Wilckens</u> Preparing Fuel Cells for Market Entry	9:20 – 10:00
L09	<u>F. Heubner</u> , L. Röntzsch, B. Kieback Anisotropic Stress Generation of Metal Hydride Composites	10:00 – 10:20
L10	<u>I. Saldan</u> , C. Milanese, V. Kessler Hydrogen storage materials based on magnesium borohydride	10:20 – 10:40
L11	<u>Y. Amao</u> , I. Kai Hydrogen production from formic acid with platinum nano-particle at a room temprature	10:40 – 11:00
Coffee break		11:00 – 11:30

LECTURES: SESSION I		
KL2	<u>Georg Menzen</u> Hydrogen Technology Developments - Key Area of the German Energy Research Programme	11:30 – 12:10
L12	<u>C. I. Müller</u> , T. Rauscher, A. Gabler, M. Köhring, B. Kieback, W. Schade, L. Röntzsch Femtosecond-laser structuring of Ni electrodes for highly active hydrogen evolution electrodes	12:10 – 12:30
L13	<u>J. Hnát</u> , T. Jadrná, J. Schauer, M. Paidar, K. Bouzek Laboratory scale alkaline water electrolyzers stack – design and operational characteristics	12:30 – 12:50
L14	<u>Y. Pihosh</u> , K. Mawatari, Y. Kazoe, T. Kitamori Development of a nanostructured heterojunction WO ₃ /BiVO ₄ photoanode for efficient photocatalytic H ₂ production	12:50 – 13:10

TECHNICAL EXCURSIONS		14:30 – 18:00
Conference Dinner		20:00 – 22:30

Thursday, April 7, 2016

LECTURES: CISTEM PROJECT		
C-KL1	<u>P. Wagner</u> CISTEM – Construction of Improved HT-PEM MEAs and Stacks for Long Term Stable Modular CHP Units	9:00 – 9:40
C-KL2	<u>P. Beckhaus</u> , S. Brokamp, M. Grundler, M. Kouachi, U. Misz, A. Heinzl HT-PEM fuel cell stacks – component production and qualification	9:40 – 10:20
CL1	<u>T. Steenberg</u> , H. R. Garcia, H. A. Hjuler, C. Terkelsen, S. M. Alfaro HTPEM Membrane Electrode Assembly for CHP applications	10:20 – 10:40
CL2	<u>J. Lobato</u> , H. Zamora, J. Plaza, P. Cañizares, M.A. Rodrigo Are SiC based materials good candidates for electrodes in HT-PEMFCs?	10:40 – 11:00
Coffee break		11:00 – 11:30

LECTURES: CISTEM PROJECT		
C-KL3	M. T. D. Jakobsen, J. O. Jensen, L. N. Cleemann, <u>Q. F. Li</u> Durability Issues and Status of HT-PEM Based on Acid Doped Polybenzimidazoles	11:30 – 12:30
C-L3	<u>F. J. Pinar</u> , M. Rastedt, N. Pilinski, P. Wagner Determination of Life Times of HT-PEM MEAs and Fuel Cell Systems	12:10 – 12:30
C-L4	M. Prokop, <u>M. Paidar</u> , K. Bouzek, H. Zamora, J. Lobato Influence of catalyst support on catalyst activity in phosphoric acid environment	12:30 – 12:50
C-L5	<u>E. Pohl</u> , J. vom Schloß, A. Stark Experimental characterization of HT-PEM based modular CHP systems for district heating applications	12:50 – 13:10

Friday, April 8, 2016

LECTURES: SESSION I		
L15	<u>J. Kupecki</u> , J. Milewski Selection of key parameters in the dynamic modeling of solid oxide fuel cell stacks in stationary applications	9:00 – 9:20
L16	<u>P. Vágner</u> , R. Kodým, F. Karas, K. Bouzek Thermodynamic analysis of solid oxide co-electrolysis cathode reactions	9:20 – 9:40
L17	<u>J. Brabandt</u> , F. Mittmann, R. Blumentritt, O. Posdziech, M. Gruber Pressurised high temperature co-electrolysis as effective source for Power-to-X applications	9:40 – 10:00
L18	<u>F. Karas</u> , M. Paidar, K. Bouzek Testing of the SOECs prepared by tape casting from water based slurries	10:00 – 10:20
L19	<u>J.-E. Hong</u> , M. Bianco, J. Van herle, R. Steinberger-Wilckens Evaluation of Manganese-Cobalt-Iron Spinel Protective Coatings Fabricated by a Wet Powder Spraying Method for Solid Oxide Fuel Cell Metallic Interconnects	10:20 – 10:40
L20	<u>J. Haller</u> , T. Link A novel high efficient zero-emission process for stationary internal combustion engines utilizing Hydrogen and Oxygen – A thermodynamic concept	10:40 – 11:00
Coffee break		11:00 – 11:30

LECTURES: SESSION I		
L21	<u>M. Rastedt</u> , F. J. Pinar, P. Wagner, A. Dyck, H. R. García, T. Steenberg, H. A. Hjuler, M. Paidar, K. Bouzek Long-term testing investigations in single HT-PEM fuel cells for CHP applications: The CISTEM approach	11:30 – 11:50
L22	<u>N. Pilinski</u> , V. Tullius, W. Germer, P. Wagner, A. Dyck Phosphoric Acid Distribution after Load Cycling at high Current Densities with different Types of HT-PEM MEAs	11:50 – 12:10
L23	<u>I. Kundler</u> , T. Hickmann, R. Henkel Critical Parameters in Bipolar Plates and Gaskets for Fuel Cells	12:10 – 12:30
L24	J. Lobato, H. Zamora, J. Plaza, P. Cañizares, <u>M.A. Rodrigo</u> Assessment of advanced carbonaceous materials in the preparation of improved electrodes for HT-PEMFCs	12:30 – 12:50
L25	<u>A. El-kharouf</u> , R. Steinberger-Wilckens The effect of cation contamination from metallic bipolar plates on the performance and lifetime of the MEA	12:50 – 13:10

STUDENT AWARDS PRESENTATION AND CLOSING CEREMONY	13:10 – 14:00
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Friday, April 8, 2016

LECTURES: CISTEM PROJECT		
C-KL4	<u>F. Erne</u> HT-PEM in CHP-Application: Technical and cost challenges	9:00 – 9:20
C-L6	<u>E. Pohl</u> , J. vom Schloß Numerical performance optimization of a modular HT-PEM based CHP system considering seasonal effects and degradation effects	9:20 – 10:00
C-L7	<u>M. Drakselová</u> , R. Kodým, D. Šnita, K. Bouzek Three-dimensional mathematical model of industrial scale HT PEM fuel cell stack	10:20 – 10:40
LECTURES: SESSION II		
L26	<u>T. Bystron</u> , M. Prokop, K. Bouzek Electrochemistry of Selected Phosphorus Oxoacids on a bulk Pt electrode	10:40 – 11:00
L27	<u>M. Prokop</u> , M. Carda, A. Giurg, T. Bystron, M. Paidar, K. Bouzek Kinetics of O ₂ reduction on Pt/C catalyst for high-temperature PEM fuel cell application	10:40 – 11:00
Coffee break		11:00 – 11:30

LECTURES: SESSION II		
L28	<u>D. Ebrasu</u> , S. Enache, A. Soare, M. Varlam, I. Stefanescu Ru-Nb Oxide DC/Sputtered Catalysts for PEM Electrolysis Application	11:30 – 11:50
L29	<u>A. Ostroverkh</u> , P. Kúš, M. Dubau, M. Vaclavu, V. Matolin Nanoparticle-layer substrate for low Pt content PEMFC catalysts	11:50 – 12:10
L30	<u>M. Morte</u> AI Strategies for Fuel Cell Hybrid Vehicles in Smart Grids	12:10 – 12:30
L31	<u>J. Hrdlička</u> , V. Buday, T. von Unwerth, S. Gößling Development of passive recirculation for uninterruptible power supply	12:30 – 12:50
L32	<u>J. L. Margitfalvi</u> , A. Tompos The role of materials research in the success of „hydrogen economy”	12:50 – 13:10