

FINAL ANNOUNCEMENT

17<sup>th</sup> conference in series of the European Fuel Cell Forum in Lucerne

# 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013

## 2 July – 5 July 2013

Kultur- und Kongresszentrum  
Luzern (KKL) Lucerne / Switzerland  
Chaired by Prof. Dr. Deborah Jones



International FUEL CELL and HYDROGEN  
Conference with Exhibition and Demonstration  
including PEFC, HT PEFC, AFC, DAFC

2 July 2013  
FUEL CELL TUTORIAL  
by Dr. Günther G. Scherer, ex-PSI Villigen  
Dr. Jan Van herle, EPF Lausanne

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Convenient hotel rooms are blocked until 30 April 2013

## Schedule of Events

**Motto 2013:**

**The Future with Fuel Cells & Hydrogen: From Materials Advances to Deployment**

**Tuesday, 2 July 2013**

10:00–16:00 Exhibition set-up  
 09:30–10:00 Tutorial registration (Clubroom, 2<sup>nd</sup> Floor)  
 10:00–17:00 Tutorial by Dr. Günther G. Scherer & Dr. Jan Van herle  
 16:00–18:00 Poster pin-up (continued on following morning)  
 16:00 Official opening of the exhibition  
 16:00–18:00 Registration (continued on following days)  
 18:00–19:00 Welcome gathering on Luzerner Terrasse, (2<sup>nd</sup> floor)  
 from 19:00 Thank-You Dinner according to special invitation

**Wednesday – 3 July 2013**

08:00–16:00 Registration  
 08:00–09:00 Speakers' Breakfast  
 09:00–18:00 Conference sessions 1–5 including plenary keynotes on worldwide FCH programs, strategic deployment projects, poster presentation by authors, exhibition, demonstrator show and networking  
 12:30 Press Conference (by invitation only)  
 18:30–23:00 Swiss Surprise Event (optional)

**Thursday – 4 July 2013**

08:00–09:00 Speakers' Breakfast and Registration continuation  
 09:00–18:00 Conference sessions 6–10 including keynotes on Fuel Cell materials, components, stack and systems as well as sustainable H<sub>2</sub> production, poster presentation by authors, exhibition, demonstrator show and networking  
 19:30–23:00 Great Dinner on the Lake

**Friday – 5 July 2013**

08:00–09:00 Speakers' Breakfast and Registration continuation  
 09:00–16:00 Conference sessions 11–15 on Fuel Cell characterisation, diagnostics, degradation and mitigation strategies, sustainable H<sub>2</sub> production as well as perspectives on HFC acceptability, assessment and training, exhibition and networking  
 16:00–16:45 Conference Summary and Christian Friedrich Schoenbein Award Ceremony for best poster and scientific contribution.  
 16:45–17:00 Closing Ceremony

## The European Fuel Cell Forum

The sole purpose of the European Fuel Cell Forum is the promotion of fuel cell and hydrogen technologies through conference, literature and media. It is an enabling, high level exchange platform providing scientific sessions, exhibition, tutorial as well as international project meeting support and recreational networking events at a very charming and inspirational location.

Every summer, the European Fuel Cell Forum transforms Lucerne, the Heart of Switzerland, into the capital of fuel cells and hydrogen. More than 5,000 stakeholders are invited to participate in this international event, with attendants from about 30 countries from 5 continents. More than 190 oral contributions and posters will be presented in 24 partially parallel sessions during 3 intensive and stimulating days. Besides the high level scientific content, emphasised through selected keynotes, also the international program targets, status and future calls of Europe and USA will be outlined. The comprehensive State-of-the-Art overview is completed by presentations of worldwide strategic deployment projects. Two dedicated poster sessions are held, while the posters are accessible to the audience for 2 ½ days. 220 participants from 32 countries attended in 2011 and more than 400 from 34 countries in 2012.

Following the International Advisory Board, this year's event focuses on low temperature fuel cells, electrolysis and hydrogen only. Though the high temperature fuel cells are not included this year, based on the strongly increased contributions on the called topics, 250 to 300 participants are expected, opening many opportunities of top level technical exchange and networking.

The European Fuel Cell Forum was initiated in 1994 and has now a tradition of 19 years. Already the 1<sup>st</sup> EUROPEAN SOFC FORUM 1994 attracted highly qualified and international speakers and audience. Over the years a high quality conference series has been established, alternating the conference focus between high temperature fuel cells in even years and low

temperature fuel cells and hydrogen in odd years. This track record of conferences with high technical level builds the base for this year's edition, the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013. It is open to all low temperature fuel cells including HT PEFC and electrolyzers and the related hydrogen technologies. Many fruitful contacts and promising solutions have been initiated around this event thanks to a careful organisation and watchful eye on scientific quality by dedicated advisors. Different from many commercial conferences, this event is organised by fuel cell technologists. For many years' active members of the European fuel cell and hydrogen community, they take fully care of the community's interest. The stakeholders' needs will remain the focus for the organisation of future events.

Our dedicated goal is to continue to grow the European Fuel Cell Forum as one of the most prominent meeting places for the comprehensive exchange of scientific and technical information as well as for networking towards future breakthroughs.

Together with the conference chair, Prof. Dr. Deborah Jones from the Université de Montpellier 2, we would like to offer you a sound scientific program and invite you to enjoy the unforgettable side activities in very pleasant surroundings. Finally we thank all the authors, exhibitors and suppliers. Together with the numerous participants, they are the base to perform together a striking 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013.

Kind regards and looking forward to seeing you in Lucerne  
Olivier Bucheli & Michael Spirig

### European Fuel Cell Forum

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## 4<sup>th</sup> EUROPEAN FUEL CELL FORUM 2013

**Chaired by: Prof. Dr. Deborah Jones**

CNRS Montpellier, France

The motto of the 2013 conference:

### **The Future with Fuel Cells & Hydrogen: From Materials Advances to Deployment**

ALL low temperature FUEL CELL technologies – PEFC, DMFC, AFC, PAFC, including HYDROGEN production and handling – will be presented at the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013. The topics will range from materials to cells, stacks and systems, and FC&H demonstrations. The conference is chaired by Deborah Jones of the French National Scientific Research Centre, CNRS, in Montpellier.

The 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013 will address scientific and technical challenges and hardware-related issues, identify product ideas and market niches, and establish links between research and industry. It aims at a fruitful dialogue between science, engineering, industry and market. Business opportunities will be identified for manufacturers, suppliers and investors during scientific sessions and at the exhibition. This is a Europe-led event with strong stakeholder participation from all continents.

The technical programme of the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013 has been developed by an International Scientific Committee, which exercises full independence in all technical matters. All papers presented orally or as posters will be collated in the Electronic Proceedings to be distributed to all participants at the time of registration, and later sold to libraries, research institutions and universities. Selected papers will be invited to contribute to a Special Issue of the journal Fuel Cells. **Conference language is English**

### **Chaired by: Prof. Dr. Deborah Jones**

Prof. Dr. Deborah J. Jones is Director of Research at the French National Scientific Research Centre CNRS and heads the laboratory for "Aggregates, Interfaces and Materials for Energy" at the Institute for Molecular Chemistry and Materials at Montpellier University, France.

Her interests have included ion and electron transfer and transport in insertion and intercalation materials, and proton conduction properties in solids ranging from soft matter to high temperature proton conducting ceramics. Working on membrane materials for proton exchange membrane fuel cells since the mid 1990's she has actively participated in and coordinated European collaborative research at all levels. She initiated the European Coordination Action CARISMA on Membrane Electrode Assemblies, and the international conference series of this name on Progress in materials for medium and high temperature polymer electrolyte fuel cells held biennially since 2008.

Deborah Jones has co-authored more than 180 peer-reviewed journal articles and ten review articles, inventor on ten patents. She has been an invited speaker at Gordon Conferences in 2004, 2009 and 2010, at the International Fuel Cell Workshop (Kofu, 2003, 2009), and at the ACS Polymer Division conference on Advances in Fuel Cell Materials in 2007, 2009, 2011 and 2013 and plenary lecturer at the Grove Scientific Advances in Fuel Cells conference (2010). Deborah Jones is Chair of the Electrochemical Energy Conversion and Storage Division of the International Society of Electrochemistry.



### The Tutorial is an excellent Kick-Start to the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013 Tuesday, 2 July 2013, from 09:30 to 17:00

**The Tutorial will provide** the basic concepts required to address the general but also more specialized fuel cell literature. Fuel cell technology is interdisciplinary par excellence, and requires knowledge in electrochemistry, materials science, mechanical and electrical engineering, catalysis, corrosion, thermal management, systems engineering etc. The course will cover these different aspects as broadly as possible, illustrated by many examples. All fuel cell families will be addressed. Applications and examples will carry a stronger flavor of the two most popular types, PEFC (G. G. Scherer) and SOFC (J. Van herle), given the expertise of both lecturers in their respective specialties.

**The Tutorial will be addressed to** newcomers as well as those who have been working in the area of fuel cells for some time. Participants will gain, or revisit, current understanding of the operation and key challenges of fuel cell technology, where considerable progress in recent years has been achieved and new insights gathered. The requirements for market introduction will be discussed.



**Dr. Günther G. Scherer**



**Dr. Jan Van herle**

**The Tutorial lecture topics are** fuel cell operating principles, thermodynamics, kinetics, efficiencies, central notions such as electrolyte ionic conductivity, electrode overpotential, triple phase boundary, Nernst equation, fuel reforming, cell and stack architectures and design, fuels (both fossil and renewable) for different fuel cells including their treatment, all fuel cell families (SOFC, MCFC, PAFC, PEFC/DMFC, AFC).

#### **Tutorial Schedule:**

- 09:30 Registration, welcome refreshments
- 10:00 Session 1: Operating principles, fundamental aspects, fuel cell types
- 12:00 Business lunch
- 13:00 Session 2: Fuels for fuel cells, fuel processing and system aspects
- 14:30 Coffee break
- 15:00 Session 3: Applications, State-of-the-Art, challenges and specificities per fc type
- 17:00 End of Tutorial

#### **The Tutorial language is English.**

Each participant will receive complete documentation of the Tutorial lectures. Tutorial registration fee for all participants is CHF 500.—.

**Please register online at [www.efcf.com](http://www.efcf.com)**

## Date and Place

The 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013 will be held from 2 July to 5 July, 2013 in the famous Kultur- und Kongresszentrum Luzern KKL in Lucerne/Switzerland. The parallel lectures will be presented in the "Auditorium" and in the "Club Rooms". The KKL is located next to the Railway Station on the shore of Lake Lucerne. Boat traffic, water front activities, as well as spectacular views of the old town and snow-capped mountains add to the charm of the venue.

## Technical Program

This conference will deal exclusively with low temperature fuel cells and hydrogen production, distribution and storage technologies. Worldwide fuel cell and hydrogen programs and strategic deployment projects from Europe, USA and Japan will be outlined by high level representatives. The contributions range from material, components, stack and systems to applications over the whole value chain. The thematic sessions grouped in material research, diagnostics, characterisation, modelling, testing and demonstration as well as technology assessment, acceptance and education are mostly started with keynote speeches of widely recognized experts. An attractive four-day program offers product presentations and demonstrations, technical lectures, posters and exhibits. All together, more than 190 scientific contributions will be presented i.e. more than 100 papers in 22 oral sessions, and more than 90 posters in two additional poster sessions.

All events are offered in the same building. Registration covers unrestricted admission to the conference and the exhibition. Developers from Europe and overseas present innovative fuel



cell and hydrogen solutions. The technical program is designed to inform representatives of industry, trade, finance, utilities and users as well as architects, engineers, technology brokers and members of the research community. Technical information is available from the exhibitors. Applications of all low temperature fuel cells and hydrogen technologies are addressed. The 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013 will be a major European fuel cell and hydrogen event in the year 2013.

## Exhibition

Fuel cell products are exhibited in the lobby area of the lecture halls, where coffee is served during the breaks. Developers of fuel cells and system hardware, suppliers of components analytical equipment and research laboratories from all parts of the world are invited to participate. Please contact the European Fuel Cell Forum or visit [www.efcf.com](http://www.efcf.com) for further information. The names of confirmed exhibitors are listed below.

## International Project Meetings

As many international experts participate in the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013, Monday and Tuesday of the conference week have become more and more established as an ideal opportunity for meetings. Thus take the chance to schedule your meetings on those days for your ongoing projects, setting-up of new projects or for other topic related events such as an IEA workshop.

To simplify project initiators' and organizers' life, the organisation of such events for registered participants and exhibitors are now actively supported by our organization. Get more information at [www.efcf.com](http://www.efcf.com) (EFCF 2013, Forum, Networking plus).

## Proceedings, Publications & Presentations

The complete conference proceedings will be available in electronic form and distributed in Lucerne at the time of registration to all participants. Proceedings of previous EUROPEAN FUEL CELL FORUM events will be available at reduced prices during the conference. If you are unable to attend the event, you may order the proceedings by email. The Proceedings

Purchase Form can be downloaded from our website [www.efcf.com](http://www.efcf.com) (EFCF 2013, Info, Downloads).

At the European Fuel Cell Forum conferences, participants are not allowed to take pictures of the presentation. This allows many presenters to share latest results that still will be published in a scientific paper later on. Also European Fuel Cell Forum invites a limited number of contributions to be included in a special issue of the peer reviewed scientific journal Fuel Cells – From Fundamentals to System by Wiley ([www.fuelcells.wiley-vch.de](http://www.fuelcells.wiley-vch.de) Impact Factor 3.149).

Many presenters are open to give conference registrants access to their presented slides. Few weeks after the Forum, those presentations will be available on our website [www.efcf.com](http://www.efcf.com) (EFCF 2013, Info, Downloads) for people with a valid registration. Only presentations whose authors have given explicit approval will be accessible.

## Who should attend?

The conference with exhibition offers an attractive program for potential users of fuel cells, decision makers, researchers and engineers of industry, laboratories, academic institutions or governments, investment groups and consultants as well as electric power and automotive engineers. The event provides many opportunities for informal exchanges between industry, market and academia, a platform for technology transfer and recruitment of qualified students and trainees. The 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM combines the personal atmosphere of a workshop with the format of a scientific conference. This is the time and the place where decision makers meet politicians, inventors meet investors, engineers meet scientists, utilities meet manufacturers and users meet providers. Participants from all continents are invited and welcome.

Morning

Wednesday, July 3, 2013

Morning

<b>1<sub>A</sub></b>	<b>Auditorium</b>
<b>09:00</b>	<b>P1: Opening Session International Overview (A01)</b>
09:00	<b>Welcome by the Organizers (A0101)</b> Michael Spirig, Olivier Bucheli European Fuel Cell Forum; Luzern/Switzerland
09:05	<b>Welcome by the Chairlady (A0102)</b> Deborah Jones ICGM-CNRS, Uni Montpellier 2; Montpellier/France
09:15	<b>Welcome to Switzerland the Smart Research Place (A0103)</b> Stefan Oberholzer, Rolf Schmitz, Walter Steinmann Swiss Federal Office of Energy; Bern/Switzerland
09:30	<b>The Fuel Cells and Hydrogen Joint Undertaking, achievements and outlook to the future (A0104)</b> Bert de Colvenaer FCH JU; Brussels/EU
10:00	<b>DOE Hydrogen and Fuel Cells Program (A0105)</b> Nancy Garland Fuel Cell Technologies Office, EERE, US Department of Energy; USA
<b>10:30</b>	<b>Coffee Break – Ground Floor in the Exhibition</b>

<b>Session Programm</b>		
<b>Auditorium</b>	<b>Page</b>	<b>Club Room 5–6</b>
<b>1</b>	P1: Opening Session International Overview	A
<b>2</b>	P2: Major Regional and Company Developments	A
<b>3</b>	Poster Session I (covering all Oral Session Topics)	
<b>4</b>	Fuel Cell Membrane Synthesis, Structure and Morphology*	A Stack and Systems Integration, Early Market Implementation
<b>5</b>	Advanced Fuel Cell Catalysts*	A Fuel Processing, Stack and Systems Integration
<b>6</b>	High Temperature PEM Fuel Cell Membranes*	A Fuel Cell Modelling
<b>7</b>	PEM and Alkaline Electrolysis*	A Novel Supports and non-Platinum Fuel Cell Catalysts
<b>8</b>	Poster Session II (covering all Oral Session Topics)	
<b>9</b>	Renewable Hydrogen	A Fuel Cell Components
<b>10</b>	Characterisation of Fuel Cell Materials	A Alkaline and Direct Alcohol Fuel Cells
<b>11</b>	Characterisation of High Temperature PEM Fuel Cells	A Durability, Degradation and Mitigation Strategies
<b>12</b>	Demonstration and Deployment*	A Fuel Cell Diagnostics
<b>13</b>	Assessment, Acceptability and Education*	A Hydrogen Production, Storage, Purification
<b>14</b>	P3: Perspectives on HFC future deployment	A
<b>15</b>	P4: Summary, Next Conferences; Closing Ceremony	A

**Legend: Px = Plenary;  
\* = with Keynote Introduction**



<b>2<sub>A</sub></b>	<b>Auditorium</b>
<b>11:00</b>	<b>P2: Major Regional and Company Developments (A02)</b>
11:00	<b>Fukuoka Hydrogen Strategy – Hy-Life Project (A0201)</b> Shogo Watanabe, Takeshi Kodama New Industries and Technologies Promotion Division; Fukuoka/Japan
11:30	<b>FCV Overview, Status and Future (A0202)</b> Jörg Wind Daimler AG; Kirchheim/Teck-Nabern/Germany
12:00	<b>On the Way to Hydrogen Infrastructure all over Baden-Württemberg (A0203)</b> Franz Loogen, Manuel C. Schaloske e-mobil BW GmbH; Stuttgart/Germany
<b>12:30</b>	<b>Lunch – 2<sup>nd</sup> Floor on the Terrace</b> <b>Coffee – Ground Floor in the Exhibition &amp; 2nd Floor in the Poster Session</b>

<b>3<sub>A</sub></b>	<b>Club Room 3–8</b>
<b>13:15</b>	<b>Poster Session I (covering all Oral Session Topics)</b>

Afternoon

Wednesday, July 3, 2013

Afternoon

4 <sub>A</sub>	Auditorium	4 <sub>B</sub>	Club Room 3–8
<p>14:30</p> <p>14:30</p> <p>15:00</p> <p>15:15</p> <p>15:30</p>	<p><b>Fuel Cell Membrane Synthesis, Structure and Morphology* (A04)</b></p> <p><b>Keynote: Interrelating Physical, Thermodynamic, Structural and Functional Properties of Proton Conducting Membranes (A0401)</b> Thomas A. Zawodzinski Jr., Che-Nan Sun, Michael Bright, Jihua Chen, Hossein Ghassemi, Vito DiNoto, Tomoko Fujiwara, Uni of Tennessee, Dep. of Chemical and Biomolecular Engineering; Knoxville/USA</p> <p><b>Radiation Grafted Membranes Providing Low Cost, High Performance and Durability (A0403)</b> Lukas Bonorand, Pia Reichel, Jürg Thut, Lorenz Gubler, Paul Scherrer Inst., Electrochemistry Lab.; Villigen ex PSI/Switzerland</p> <p><b>Nafion Membranes with a Porous Surface (A0405)</b> Dirk Henkensmeier, Quoc Khanh Dang, Jong Hyun Jang, Hyoung-Juhn Kim, Korea Inst. of Science and Technology, Fuel Cell Research Center/UST; Seoul/Korea</p> <p><b>Keynote: Elucidating Structure/Function Relations in PEMs with Multiscale Simulations (A0405)</b> Stephen J. Paddison, Uni of Tennessee, Dep. of Chemical and Biomolecular Engineering; Knoxville/U.S.A.</p>	<p>14:30</p> <p>14:45</p> <p>15:00</p> <p>15:15</p> <p>15:30</p> <p>15:45</p>	<p><b>Stack and Systems Integration, Early Market Implementation (B04)</b></p> <p><b>Antares DLR H<sub>2</sub> – Fuel Cell Testing under Aeronautical Conditions (B0401)</b> Josef Kallo, Philipp Rathke, Thomas Stephan, Johannes Schirmer German Aerospace Center (DLR e.V.); Stuttgart/Germany</p> <p><b>Development of a lightweight 200W Direct Methanol Fuel Cell System for UAV Applications and Flight Demonstration (B0402)</b> Hyunchul Ju, Kyungmun Kang, Sunghyun ParkInha Uni, School of Mechanical Engineering; Incheon/Republic of Korea</p> <p><b>“Real-World” Environmental Evaluation of Small (~50W) Man-Portable Fuel Cells (B0403)</b> D.P. Kramer (1), D.A. McClelland (2), R. Ellefson (2), (1) Uni of Dayton, Dayton; Ohio/USA; (2) Mound Technical Solutions, Miamisburg; Ohio/USA</p> <p><b>FITUP – Fuel Cell Field Test Demonstration of Economic and Environmental Viability for Portable Generators, Backup and UPS Power System Applications (B0404)</b> Ulrike Trachte, Peter Sollberger, Beat Wellig, Lucerne School of Engineering and Architecture, CC Thermal Energy Systems &amp; Process Engineering; Horw/Switzerland</p> <p><b>Early Market Implementation of LPG based Auxiliary Power Units for Application in Recreational Vehicles (B0405)</b> Martin O’Connell (1), Martin Wichert (1), Helmut Pennemann (1), Gunther Kolb (1), Sven Butschek (2), Reinhard Frank (2), Andreas Schiegl (2), (1) Inst. für Mikrotechnik Mainz GmbH; Mainz/Germany; (2) Truma Gerätetechnik GmbH; Putzbrunn/Germany</p> <p><b>Monarch Fuel Cell Cycle – Part Way of Hydrogen Mobility (B0406)</b> Joerg D. Weigl, Zizi Wang, Imran Othman, National Uni of Singapore and e mobility Ltd; Singapore/Singapore (1) Inst. für Mikrotechnik Mainz GmbH; Mainz/Germany; (2) Truma Gerätetechnik GmbH; Putzbrunn/Germany</p>
16:00	<b>Coffee Break – Ground Floor in the Exhibition</b>		

5 <sub>A</sub>	Auditorium	5 <sub>B</sub>	Club Room 3–8
<p>16:30</p> <p>16:30</p> <p>17:00</p> <p>17:15</p> <p>17:30</p> <p>17:45</p>	<p><b>Advanced Fuel Cell Catalysts* (A05)</b></p> <p><b>Keynote: Catalysts and MEAs from South Africa – The world's platinum nation moves up the value chain (A0501)</b> Olaf Conrad, Pieter Leveque, Shiro Tanaka, Sharon Blair, HySA/Catalysis Competence Centre, Centre for Catalysis Research, Dep. of Chemical Engineering, Uni of Cape Town; Rondebosch/South Africa</p> <p><b>Advanced Hybrid Nanostructures of Single-crystal Pt Nanowires on Ni-coated MWCNTs as High Performance Electrocatalysts for the Oxygen Reduction Reaction (A0503)</b> Shangfeng Du (1), Yaxiang Lu (1), Sairam K Malladi (2), Robert Steinberger-Wilckens (1), (1) School of Chemical Engineering, Uni of Birmingham; Birmingham/UK; (2) Kavli Inst. of Nanoscience, Delft Uni of Technology; Delft/The Netherlands</p> <p><b>Synthesis and Electrochemical Testing of Pt-Cr Alloys as Cathode Catalyst for Proton Exchange Membrane Fuel Cells (A0504)</b> Gaurav Gupta (1,2), Surbhi Sharma (2), Paula M. Mendes (1), (1) Nanoengineering and Surface Chemistry, School of Chemical Engineering, Uni of Birmingham; Birmingham/UK; (2) Center for Hydrogen and Fuel Cell Research, School of Chemical Engineering, Uni of Birmingham; Birmingham/UK</p> <p><b>Oxygen Reduction Reaction Activity of Pt/MetalB<sub>2</sub> (0001) (A0505)</b> Eishiro Toyoda, Ryosuke Jinnouchi, Tetsu Ohsuna, Tatsuya Hatanaka, Shigeaki Otani, Takashi Aizawa, Yoshiaki Kido, Yu Morimoto, Toyota Central R&amp;D Labs., Inc.; Aichi/Japan</p> <p><b>Ionic Pt Doped CeO<sub>2</sub> Thin Film Catalysts for PEMFC (A0506)</b> Vladimir Matolin, Roman Fiala, Iva Matolinova, Charles Uni in Prague; Praha/Czech Republic</p>	<p>16:30</p> <p>16:45</p> <p>17:00</p> <p>17:15</p> <p>17:30</p> <p>17:45</p>	<p><b>Fuel Processing, Stack and Systems Integration (B05)</b></p> <p><b>Status and Challenges in Developing an IRMFC Internal Reforming Methanol Fuel Cell (B0501)</b> Michael Steffen, Eunjin Ahn, George Bandlamudi, Frank Filusch, Christian Heßke, Tobias Meijer, Peter Beckhaus, Angelika Heinzel, Zentrum für BrennstoffzellenTechnik GmbH; Duisburg/Germany</p> <p><b>Coupled Operation of a Diesel Steam Reformer and a PEFC (B0502)</b> Philip Engelhardt (1), Marius Maximini (1), Frank Beckmann (2), Martin Brenner (3) (1) OWI Oel-Waerme-Inst. GmbH; Herzogenrath/Germany; (2) Inhouse Engineering GmbH; Berlin/Germany; (3) Behr GmbH &amp; Co. KG; Stuttgart/Germany</p> <p><b>Pre-reforming of Hydrocarbons as Fuel Processing Technology for Fuel Cells (B0503)</b> Nils Kleinohl (1), John Bøgild Hansen (2), Pedro Nehter (3), Hassan Modarresi (2), Ansgar Bauschulte(1), Jörg vom Schloß(1), Klaus Lucka(1), (1) OEL-WAERME-Inst. GmbH; Herzogenrath/Germany; (2) HALDOR TOPSØE A/S; Lyngby/Denmark; (3) ThyssenKrupp Marine Systems AG/Howaldtswerke-Deutsche Werft GmbH.; Kiel/Germany</p> <p><b>HT PEMFC System Containing Large Area Cells (B0504)</b> George Bandlamudi, Sina Souzani, Christian Heßke, Peter Beckhaus, Angelika Heinzel, ZBT GmbH; Duisburg/Germany</p> <p><b>Playing on Full HT-PEM Benefits -A Novel, Highly Integrated Micro-CHP-System (B0505)</b> Hans-Peter Schmid, WS Reformer GmbH; Rennigen/Germany</p> <p><b>An Object-Oriented Equation-Based Spatially Resolved PEFC Stack Model for System Simulation (B0506)</b> Tian Tang (1), Hannes Scholz (2), Jan-Philipp Brinkmeier (2), Wilhelm Tegethoff (1) (1) Inst. für Thermodynamik, Technische Uni Braunschweig; Braunschweig/Germany; (2) Volkswagen AG; Wolfsburg/Germany</p>
18:00	<b>End of Sessions</b>		
18:30	<b>Swiss Surprise Registered participants meet between KKL and railway station</b>		

Morning

Thursday, July 4, 2013

Morning

6 <sub>A</sub>	Auditorium	6 <sub>B</sub>	Club Room 3–8
09:00	<p><b>High Temperature PEM Fuel Cell Membranes* (A06)</b></p> <p>09:00 <b>Keynote: Next Generation PBI Membranes (A0601)</b> Brian C. Benicewicz, Max Molle, Guoqing Qian, Xiaoming Chen, Uni of South Carolina; Columbia/USA</p> <p>09:30 <b>Proton Conductive Properties of Sulfonated Polyimide Nanofiber for Fuel Cells (A0603)</b> Hiroyoshi Kawakami, Dep. of Applied Chemistry, Tokyo Metropolitan Uni; Tokyo/Japan</p> <p>09:45 <b>Modification of Sulfonic Polyimides by Charge-transfer Complex Formation and Evaluation of its Proton Conductivity (A0604)</b> Liana Christiani (1), Masamichi Nishihara (2,3), Aleksandar Staykov (2), Kazunari Sasaki (1,2,3) (1) Faculty of Engineering, Kyushu Uni; Fukuoka/Japan; (2) International Inst. for Carbon-Neutral Energy Research (WPI-I2CNER); (3) Next-Generation Fuel Cell Research Center (NEXT-FC), Kyushu Uni</p> <p>10:00 <b>Zirconium Phosphate Reinforced Aquivion Membranes (A0605)</b> Mario Casciola(1), Paula Cojocaru(2), Anna Donnadio(1), Stefano Giancola(1), Luca Merlo(2), Yannig Nedellec(3), Monica Pica(1), Surya Subianto(3), (1) Chemistry Dep., Perugia Uni; Perugia/Italy; (2) Solvay Speciality Polymers; Bollate MI/Italy; (3) Inst. Charles Gerhardt, Equipe AIME; Montpellier/France</p> <p>10:15 <b>Synthesis and Properties of Sulfonated Poly(phenylene) Prepared by Superacid-catalyzed Reaction (A0606)</b> Soon-Ho Lee, Young-Don Lim, Ho-Hyoun Jang, Sang-Young Lee, Whan-Gi Kim Konkuk Uni, Dep. of Applied Chemistry; Chungbuk/Korea</p>	09:00	<p><b>Fuel Cell Modelling (B06)</b></p> <p>09:00 <b>Collective Proton Motion at Interfaces with Densely Packed Protogenic Surface Groups (B0601)</b> Swati Vartak, Ata Roudgar, Anatoly Golovnev, Michael Eikerling, Dep. of Chemistry, Simon Fraser Uni; Burnaby/Canada</p> <p>09:15 <b>A Molecular Dynamics Study for Diffusivity of Proton and Water in Polymer Electrolyte Membrane (B0602)</b> Takuya Mabuchi (1), Takashi Tokumasu(2), (1) Graduate School of Engineering, Tohoku Uni; Miyagi/Japan; (2) Inst. of Fluid Science, Tohoku Uni; Miyagi/Japan</p> <p>09:30 <b>Mean-field Models in PEM Nanopores (B0603)</b> Peter Berg, Bjoern Eirik Benjaminsen, Dep. of Physics, NTNU; Trondheim/Norway</p> <p>09:45 <b>DMFC: Polarization Curves, Impedance Spectra and How to Make Use of Methanol Crossover (B0604)</b> A. A. Kulikovskiy, Research Centre Juelich; Juelich/Germany</p> <p>10:00 <b>Oxygen Reduction Reaction in PEM Fuel Cells: A Theoretical Study of O<sub>2</sub> Chemisorption in N, B or O Doped Graphene (B0605)</b> Irina Flyagina, Kevin J. Hughes, Mohamed Pourkashanian, The Uni of Leeds; Leeds/United Kingdom</p> <p>10:15 <b>Modeling of PEM Fuel Cell's Internal Temperature Distribution with Steady-state on Long Time Operation (B0606)</b> Y.S. Chen, J. H. Chen, Engineering, National Chung Cheng Uni, Advanced Inst. of Manufacturing for High-tech Innovations and Dep. of Mechanical; Chiayi/Taiwan</p>
10:30	<b>Coffee Break – Ground Floor in the Exhibition</b>		

7 <sub>A</sub>	Auditorium	7 <sub>B</sub>	Club Room 3–8
11:00	<p><b>PEM and Alkaline Electrolysis* (A07)</b></p> <p>11:00 <b>Keynote: Water Electrolysis for Hydrogen Production – Paving the Way to Renewables (A0701)</b> Detlef Stolten, Thomas Grube, Sebastian Schiebahn, Research Center Juelich, IEK-3: Inst. of Electrochemical Process Engineering; Jülich/Germany</p> <p>11:30 <b>Titanium Coatings Deposited by Thermal Spraying for Bipolar Plates of PEM Electrolysers (A0703)</b> A. S. Gago, A. S. Ansar, N. Wagner, J. Arnold, K. A. Friedrich, Inst. of Technical Thermodynamics, German Aerospace Center (DLR); Stuttgart/Germany</p> <p>11:45 <b>Membrane Development for Alkaline Water Electrolysis (A0704)</b> Michal Gorbar, Ulrich F. Vogt, Alexander Bonk, Andreas Züttel, EMPA, Hydrogen &amp; Energy; Dübendorf/Switzerland</p> <p>12:00 <b>High Temperature and Pressure Alkaline Electrolysis (A0705)</b> Frank Allebrod, Christodoulos Chatzichristodoulou, Mogens Mogensen, Danmarks Tekniske Uni, Inst. for Energy Conversion and Storage; Roskilde/Denmark</p> <p>12:15 <b>Fast Response Alkaline Water Electrolysis for Green Energy Storage (A0706)</b> Jan Vaes, Ruben Daneels, Dimitri Van Dingenen, Hydrogenics Europe NV; Oevel/Belgium</p>	11:00	<p><b>Novel Supports and non-Platinum Fuel Cell Catalysts (B07)</b></p> <p>11:00 <b>Alternative Electrocatalyst Support for PEFCs: SnO<sub>2</sub>-supported Carbon-free Electrocatalysts (B0701)</b> Kazunari Sasaki (1,2,3,4), Kohei Kanda (1), Yuma Takabatake (1), Takuya Tsukatsune (1), Takahiro Higashi (1), Fumiaki Takasaki (1), Zhiyun Noda (2), Akari Hayashi (2,3,4)(1) Faculty of Engineering, Kyushu Uni; Fukuoka/Japan; (2) International Research Center for Hydrogen Energy, Kyushu Uni; Fukuoka/Japan; (3) Next-Generation Fuel Cell Research Center (Next-FC), Kyushu Uni; Fukuoka/ Japan; (4) International Inst. for Carbon-Neutral Energy Research (WPI-I2CNER), Kyushu Uni; Fukuoka/Japan</p> <p>11:15 <b>Bare and Doped Ti-oxides as Supports and Promoters for Electro-catalysts in Low Temperature Direct Methanol and Polymer Electrolyte Fuel Cells (B0702)</b> A.S. Aricò, V. Baglio, S. Siracusanò, A. Stassi, I. Gatto, E. Passalacqua, E. Modica, A. Patti, M. Girolamo CNR-ITAE Istituto di Tecnologie Avanzate per l'Energia "Nicola Giordano"; Messina/Italy</p> <p>11:30 <b>Durable Catalyst Supports for HTPEM Fuel Cell Electrodes (B0703)</b> Markus Perchthaler – Elcomax GmbH; Munich/Germany</p> <p>11:45 <b>Group 4 and 5 Metal Oxide-based Compounds as New Non-platinum Cathode for PEFC (B0704)</b> Akimitsu Ishihara (1), Koichi Matsuzawa (1), Shigenori Mitsuhashi (1), Ken-ichiro Ota (1), Masashi Matsumoto (2), Hideto Imai (2), (1) Yokohama National Uni; Yokohama/Japan; (2) NISSAN ARC, LTD.; Yokosuka/Japan</p> <p>12:00 <b>Graphene Nano-foam as a Catalyst Support (B0705)</b> Stephen Lyth, Jianfeng Liu, Kazunari Sasaki Kyushu Uni, International Inst. for Carbon-Neutral Energy Research (I2CNER); Fukuoka/Japan</p> <p>12:15 <b>Graphene Oxide as a Support Material for HT-PEFCs (B0706)</b> Amrit Chandan (1), Shangfeng Du (1), Neil V Rees (1), Andrew Ingram (1), Robert Steinberger-Wilckens (1), Valerie Self (2), John Richmond (2), (1) Centre for Hydrogen and Fuel Cells, Uni of Birmingham; Birmingham/UK; (2) TATA Motors European Technical Centre; Coventry/UK</p>
12:30	Lunch – 2nd Floor on the Terrace Coffee – Ground Floor in the Exhibition		

Afternoon

Thursday, July 4, 2013

Afternoon

<b>8<sub>A</sub></b>	Club Room 3-8
13:15	Poster Session II (covering all Oral Session Topics)



9 <sub>A</sub>	Auditorium		
14:30	<b>Renewable Hydrogen (A09)</b>	14:30	<b>Fuel Cell Components (B09)</b>
14:30	<b>Improving Photocurrent Onset Potential in Ultrathin Hematite Films Using a Combination of Nb<sub>2</sub>O<sub>5</sub>-, SiO<sub>x</sub>-underlayers and a Ga<sub>2</sub>O<sub>3</sub> Overlayer (A0901)</b> Ludmilla Steier, Takashi Hisatomi, Kevin Sivula, Michael Grätzel, Inst. of Chemical Sciences and Engineering, EPFL; Lausanne/Switzerland	14:30	<b>Pemican Project: Objectives and Main Results (B0901)</b> Joël Pauchet, Commissariat à l'Energie Atomique et aux Energies Alternatives (CEA), Lab. d'Innovation pour les Technologies des Energies Nouvelles et les nanomatériaux (LITEN); Grenoble/France
14:45	<b>Photocatalytic Activity of LaTiO<sub>2</sub>N (A0902)</b> Simone Pokrant, Alexandra Mägli, Matthias Trottmann, Anke Weidenkaff, EMPA, Festkörperchemie; Dübendorf/Switzerland	14:45	<b>Correlating Properties of Special Carbons with Their Performance in the Bipolar Plate and MEA Component of PEM Fuel Cells (B0902)</b> Marlene Rodlert, Timcal Graphite & Carbon; Bodio/Switzerland
15:00	<b>Influence of Mesoporosity in Hematite Films on Water Splitting Efficiency (A0903)</b> Caroline Toussaint, Rudi Cloots, Duy Nguyen, Catherine Henrist, Uni of Liège, Chemistry Dep., GREnMat-LCIS; Liège/Belgium	15:00	<b>Gas Diffusion Layer Materials and Their Effect on Polymer Electrolyte Fuel Cell Performance – Ex-situ and In-situ Characterisation (B0903)</b> Ahmad El-Kharouf, Waldemar Bujalski, Neil Rees Uni of Birmingham, Edgbaston, Centre of Hydrogen & Fuel Cell Research, School of Chemical Engineering; Birmingham/UK
15:15	<b>Bioreactors for Hydrogen Production (A0904)</b> Sergei A. Markov, Elvira R. Eivazova, Biology Dep., Austin Peay State Uni; Clarksville/U.S.A.	15:15	<b>Fabrication and Characterization of PEMFC Composites Bipolar Plates Manufactured by Compression Molding (B0904)</b> Philippe Toneguzzo (1), Mathieu Comyn (1), Sébastien Dagaz (1), Pierrick Buvat (1), Thierry Geneston (2), Christian Quintieri (2), (1) CEA DAM; Monts/France; (2) AREVA Stockage d'Energie; Aixen Provence/France
15:30	<b>Pressurized H<sub>2</sub>C, O<sub>2</sub> Cells at ca. 250° C: Potential and Challenges (A0905)</b> Mogens B. Mogensen, Christodoulos Chatzichristodoulou, Frank Allebrod, Jonathan Hallinder, Federica Vico, A. Mohammed Hussain, Peter Holtappel, Dep. of Energy Conversion and Storage, Technical Uni of Denmark; Roskilde/Denmark	15:30	<b>Phosphoric Acid Transport to Metallic Bipolar Plates in High Temperature PEMFCs (B0905)</b> J.G. Grolig, P. Alnegren, RTEMpe
15:45	<b>Low Temperature Aqueous-Phase Methanol Dehydrogenation to Hydrogen and Carbon Dioxide (A0906)</b> Henrik Junge, Martin Nielsen, Matthias Beller, Leibniz-Inst. for Catalysis Rostock; Rostock/Germany		
16:00	<b>Coffee Break – Ground Floor in the Exhibition</b>		

Afternoon

Thursday, July 4, 2013

Afternoon

10 <sub>A</sub>	Auditorium	10 <sub>B</sub>	Club Room 3–8
16:30	<b>Characterisation of Fuel Cell Materials (A10)</b>	16:30	<b>Alkaline and Direct Alcohol Fuel Cells (B10)</b>
16:30	<b>Raman Microspectroscopy as a Useful Tool for In-situ and Operando Studies of Water Transport in Perfluorosulfonic Membranes for PEMFCs (A1001)</b> Stefano Deabate (1), Patrice Huguet (1), Arnaud Morin (2), Gérard Gebel (3), Yannick Lanteri (1), Zhè Peng (1,2), Anna-Katharina Sutor (1), (1) IEM, UMR; Montpellier/F; (2) LITEN-DEHT-LCPEM, CEA-Grenoble; Grenoble/F; (3) SPrAM, CEA-Grenoble; Grenoble/F	16:30	<b>Mechanistic Study of the Hydrogen Oxidation Reaction on Platinum in Alkaline Electrolyte (B1001)</b> Philipp Jan Rheinländer, Juan Herranz, Hubert A. Gasteiger, Inst. of Technical Electrochemistry, Technische Uni München; Garching/Germany
16:45	<b>High-resolution Atomic Force Microscopy Analysis of Conductivity and Mechanical Properties of PEM Membranes (A1002)</b> Renate Hiesgen (1), Stefan Helmly (2,3), Ines Galm (1), Tobias Morawietz (1), K. Andreas Friedrich (2,3), (1) Uni of Applied Sciences Esslingen, Dep. of Basic Science; Esslingen; (2) German Aerospace Center, Inst. of Technical Thermodynamics; (3) Uni of Stuttgart, Inst. for Thermodynamics and Thermal Engineering; Stuttgart/Germany	16:45	<b>Polyethylene Based Radiation Grafted Membranes for Solid Alkaline Fuel Cell Application (B1002)</b> Tauqir A. Sherazi (1,2), Doo Sung Hwang (2), Joon-Yong Sohn (3), Michael D. Guiver (2,4), Young Moo Lee (2) (1) Dep. of Chemistry, COMSATS Inst. of Information Technology; Abbottabad/Pakistan; (2) WCU Dep. of Energy Engineering, College of Engineering, Hanyang Uni; Seoul/Korea; (3) Advanced Radiation Technology Inst., Korea Atomic Energy Research Inst.; Jeollabuk-do/Korea; (4) National Research Council; Ontario/Canada
17:00	<b>Diffusion Coefficient of Protons in Thin PEM Films Determined by Ac–electrogravimetry (A1003)</b> O. Sel (1), C. Gabrielli (1), C. Laberty-Robert (2), H. Perrot, (1) CNRS, UPR 15 du CNRS, Lab. Interfaces et Systèmes Electrochimiques (LISE); Paris/France; (2) LCMCP-CNRS-UMR-7574-Colège de France; Paris/France	17:00	<b>Readsorption Effects in the Anodic Oxidation of Ethanol in Alkaline Fuel Cells (B1003)</b> C. Cremers, J.O. Meier, K. Pinkwart, J. Tübke, Fraunhofer Inst. for Chemical Technology ICT; Pfingstal/Germany
17:15	<b>Determination of ORR Active Sites and Reaction Mechanism Analysis of group 4 and 5 Metal Oxide-based Cathodes for PEFCs (A1004)</b> Hideto Imai (1), Toshihiro Asada (1), Masazumi Arao (1), Kei Kubobuchi (1), Masato Mogi (1), Yohei Takahashi (1), Masashi Matsumoto (1), Akimitsu Ishihara (2), Ken-ichiro Ota (2), (1) NISSAN ARC Ltd.; Yokosuka/Japan; (2) Yokohama National Uni; Yokohama/Japan	17:15	<b>Tailoring the Properties of Pt/C Catalysts for DEFC (B1004)</b> Marta C. Figueiredo, Juan M. Feliu, Tanja Kallio, Research Group of Fuel Cells, Dep. of Chemistry, Aalto Uni; Aalto/Finland
17:30	<b>Model Porous Structures Based and Carbon Nanotubes and Organically Grafted Pt Electro-catalyst Allows New Approaches for the Characterization of Fuel Cell Electrodes (A1005)</b> H. Perez (1), X. Cheng (1), E. Pardieu (1,2), E. Sayah (1,2), M. Mayne (1), M. Pinault (1), A. Etcheberry (2) (1) Lab. Francis Perrin, CEA/DSM/IRAMIS/SPAM-LFP CNRS; Gif-sur-Yvette/France; (2) Inst. Lavoisier (ILV, UMR 8180 CNRS), Uni de Versailles-Saint Quentin; Versailles/France	17:30	<b>Bimetallic PtPd Nanowires Supported on Reduced Graphene Oxide Nanosheets for Methanol Oxidation (B1005)</b> Shangfeng Du(1), Yaxiang Lu (1), Sairam K Malladi (2), Robert Steinberger-Wilckens (1) (1) School of Chemical Engineering, Uni of Birmingham; Birmingham/UK; (2) Kavli Inst. of Nanoscience, Delft Uni of Technology; Delft/The Netherlands
17:45	<b>Study of Electro-spray Deposited Catalyst Layers in Air Breathing Single Cells for Portable Applications (A1006)</b> P. Ferreira, A. J. Martín, M. A. Folgado, A. M. Chaparro Dep. of Energy, CIEMAT; Madrid/Spain	17:45	<b>Operation and Controls of Operating Direct Methanol Fuel Cells with PVA Based Membranes Modified by Benzimidazolium Groups (B1006)</b> Pratima Gajbhiye (1,2), Anil Kumar (1), J.K. Singh (1) (1) Indian Inst. of Technology Kanpur (IIT Kanpur); Kanpur/India; (2) Indian School of Mines Dhanbad;
18:00	<b>End of Sessions</b>		
19:30	<b>Dinner on the Lake Boarding 19.20, Lake side of KKL pier 5/6 – back 23.30 (short stop in Brunnen 22.30 for early return by train)</b>		



11 <sub>A</sub>	Auditorium	11 <sub>B</sub>	Club Room 3–8
09:00	<b>Characterisation of High Temperature PEM Fuel Cells (A11)</b>	09:00	<b>Durability, Degradation and Mitigation Strategies (B11)</b>
09:00	<b>Localization of Phosphoric Acid in HT-PEFCs by X-Ray Tomographic Microscopy (A1101)</b> Sebastian H. Eberhardt, Felix N. Büchi, Thomas J. Schmidt, Paul Scherrer Inst.; Villigen ex PSI/Switzerland	09:00	<b>In-Situ Study of Start-up and Shut-down Degradation Using Time Resolved Potential Mapping and CO<sub>2</sub> Measurement (B1101)</b> Edward Brightman, Gareth Hinds, National Physical Lab.; Middlesex/United Kingdom
09:15	<b>Effect of Catalyst and Acid Amount on Water Transport for HT-PEFC (A1102)</b> Fang Liu (1), Sajedah Mohajeri (1), Yidu Di (1), Werner Lehnert (1,2), (1) Inst. of Energy and Climate Research IEK-3: Electrochemical Process Engineering, Forschungszentrum Jülich; Jülich/Germany; (2) Modeling in Electrochemical Process Engineering, RWTH Aachen Uni; Aachen/Germany	09:15	<b>Electrocatalyst Stability under Dynamic and Stationary Operation of Polymer Electrolyte Fuel Cells (B1102)</b> K. Andreas Friedrich (1), Stefan Helmlly (1), Renate Hiesgen (2), Tobias Morawietz (2), (1) Inst. of Technical Thermodynamics, German Aerospace Center (DLR); Stuttgart/Germany; (2) Uni of Applied Sciences Esslingen, Dep. of Basic Science; Esslingen/Germany
09:30	<b>Effects of Gas Composition on Degradation of PBI-based HT-PEMFCs (A1103)</b> Gisu Jeong, Mansu Kim, Minjoong Kim, JunYoung Han, Hyoung-Juhn Kim, Sung Jong Yoo, Jong Hyun Jang, Eunae Cho, Fuel Cell Research Center, Korea Inst. of Science and Technology (KIST); Seoul/Republic of Korea	09:30	<b>Electrochemical Degradation of Catalysts and the Design of Core-Shell Catalysts (B1103)</b> Anil V. Virkar, Uni of Utah, Dep. of Materials Science and Engineering; Salt Lake City/USA
09:45	<b>In Situ Raman Spectroscopy on HT-PEM Fuel Cells (A1104)</b> Anne Majerus (1), Martin Labus (2), Carsten Korte (1), Hans Bettermann (2), Werner Lehnert (1,3), (1) Inst. of Energy and Climate Research – Electrochemical Process Engineering (IEK-3), Forschungszentrum Jülich GmbH; Jülich/Germany; (2) Inst. of Physical Chemistry, Liquid-Phase Laser Spectroscopy, Heinrich-Heine-Uni of Düsseldorf; Düsseldorf/Germany; (3) Modeling in Electrochemical, Process Engineering, RWTH Aachen Uni; Aachen/Germany	09:45	<b>Surface Modification of Fas Diffusion Layers During Ageing in Fuel Cell (B1104)</b> E. Planes, C. Bas, L. Flandin, LEPMI, UMR 5279, CNRS–Grenoble INP–Uni de Savoie–Uni J.Fourie; Le Bourget du Lac/France
10:00	<b>Spectroscopic and Electrocatalytic Investigation of Pt Supported on Functionalized-MWCNTs in HT PEMFCs (A1105)</b> M.K.Daletou (1), A.Orfanidi (1,2), S.G.Neophytides (1)Break, Ground Floor in the Exhibition(1) Inst. of Chemical Engineering Sciences-Foundation of Research and Technology; Patras/Greece; (2) Dep. of Chemical Engineering, Uni of Patras; Patras/Greece	10:00	<b>Comprehensive Two Dimensional Structural Investigation on the Stability of Polymer Electrolyte Fuel Cell under Hygrothermal Cyclic Loading/Unloading (B1105)</b> KK Poornesh, Chongdu Cho, Inha Uni; Incheon/South Korea
10:15	<b>Degradation Effects of Stainless Steel Bipolar Plates Caused by Phosphoric Acid in HT-PEMFCs (A1106)</b> P. Alnegren, J.G. Grolig, L.-G. Johansson, J.-E. Svensson, Environmental Inorganic Chemistry, Chalmers Uni of Technology; Göteborg/Sweden	10:15	<b>Degradation and CO Tolerance Studies of PEMFC Aimed for Reformate Fuel Operation in <math>\mu</math>CHP Units (Premium Act Project) (B1106)</b> Sylvie Escibano, Laure Guétaz, Pierre-André Jacques, Fabrice Micoud, Madeleine Odgaard*, and Jacob Lindner Bonde*, CEA/LITEN/DEHT; Grenoble/France; *IRD Fuel Cells; Denmark
10:30	<b>Coffee Break – Ground Floor in the Exhibition</b>		

Morning

Friday, July 5, 2013

Morning

12 <sub>A</sub>	Auditorium	12 <sub>B</sub>	Club Room 3–8
<p><b>11:00</b></p> <p>11:00</p> <p>11:30</p> <p>11:45</p> <p>12:00</p> <p>12:15</p>	<p><b>Demonstration and Deployment* (A12)</b></p> <p><b>Keynote: FCEV Development at Nissan (A1201)</b> Akihiro Iiyama, Nissan Motor Co Ltd; Yokosuka/Japan</p> <p><b>High durability H<sub>2</sub> stationary PEMFC Systems Development, Industrialization and Commercialization (A1203)</b> Eric Claude, Jean-Marc Chareyre, AXANE; Sassenage/France</p> <p><b>Proton Exchange Membrane Fuel Cell Stack Combined Heat and Power Prototype System (A1204)</b> Mihai Varlam, Mihai Culcer, Mariana Iliescu, Mircea Raceanu, Adrian Enache, National R&amp;D Inst. for Cryogenics and Isotopic Technologies- ICIT Ramnicu Valcea; Ramnicu Valcea/Romania</p> <p><b>A 50kW PEMFC Pilot Plant operated with Industry Grade Hydrogen – System Design and Site Integration (A1205)</b> Timo Keränen, Henri Karimäki, Kaj Nikiforow, Samu Kukkonen, Jaana Viitakangas, Heidi Uusalo, Jari Ithonen, VTT Technical Research Centre of Finland; VTT/Finland; (2) Indian School of Mines Dhanbad;</p> <p><b>Modeling and Simulations of a 20 kW Fuel Cell System with Bio-gas Processors (A1206)</b> Hyunchul Ju, Kyungmun Kang, Haneul Yoo, Inha Uni, School of Mechanical Engineering; Incheon/Republic of Korea</p>	<p><b>11:00</b></p> <p>11:15</p> <p>11:30</p> <p>11:45</p> <p>12:00</p> <p>12:15</p>	<p><b>Fuel Cell Diagnostics (B12)</b></p> <p><b>Analysis of Electrical Short-cuts Inside PEMFC (B1201)</b> Gilles De Moor (1), Corine Bas (1), Elizabeth Rossinot (2), Nicolas Caque (2), Lionel Flandin (1), (1) LEPMI, UMR 5279, CNRS–Grenoble INP–Uni de Savoie–Uni J.Fourie; Le Bourget du Lac/France; (2) Axane; Sassenage/France</p> <p><b>Controlling Fuel Cell Stacks by Impedance Data (B1202)</b> Stefan Keller, Andreas Popenheim, Fraunhofer ISE; Freiburg/Germany</p> <p><b>Advanced Studies of Start/Stop Induced MEA Degradation in High Temperature PEFC (B1203)</b> Tom Engl, Lorenz Gubler, Thomas J. Schmidt, Electrochemistry Lab., Paul Scherrer Inst.; Villigen ex PSI/Switzerland</p> <p><b>Influence of the Cathode Architecture in the Frequency Response of Air-breathing PEM Fuel Cells (B1204)</b> Paloma Ferreira-Aparicio, Antonio M. Chaparro, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT); Madrid/Spain</p> <p><b>Loss Analysis of PtCo Cathodes for PEMFC (B1205)</b> Max Cimenti, Jürgen Stumper, Wendy Lee, Automotive Fuel Cell Cooperation Corporation; Burnaby/Canada</p> <p><b>Enhancement of PEFC Carbon Monoxide Tolerance by Combination of Different Mitigation Methods (B1206)</b> Luis Martinez, Taneli Rajala, Pauli Koski, Henri Karimäki, Timo Keränen, Kaj Nikiforow, Jaana Viitakangas, Jari Ithonen, VTT – Technical Research Centre of Finland; Espoo/Finland</p>
12:30	Lunch – 2 <sup>nd</sup> Floor on the Terrace		Coffee – 2 <sup>nd</sup> Floor on the Terrace

13 <sub>A</sub>	Auditorium	13 <sub>B</sub>	Club Room 3–8
13:30	<p><b>Assessment, Acceptability and Education* (A13)</b></p> <p>13:30 <b>Keynote: Low FCEV and Infrastructure Deployment: What Could be Learned from Early Stages of Electric Infrastructures in France for Rechargeable Vehicles (A1300)</b> Paul Lucchese, CEA; Paris/France</p> <p>14:00 <b>A Technology Monitoring and Assessment Tool for Technology Road Mapping (A1303)</b> Herbert Wancura, synergesis consulting; Graz/Austria</p> <p>14:15 <b>Full Steam Ahead? Public Acceptance of Hydrogen Technology (A1304)</b> Dr. René Zimmer, Independent Inst. for Environmental Issues; Berlin/Germany</p> <p>14:30 <b>HyProfessionals: Development of Educational Programmes and Training Initiatives Related to Hydrogen Technologies and Fuel Cells in Europe (A1305)</b> Lucía Alberdi, Joaquín Mora, Luis Correas, Aragon Hydrogen Foundation; Cuarte/Spain</p> <p>14:45 <b>European Curriculum in Fuel Cells and Hydrogen (A1306)</b> Robert Steinberger-Wilkens (1), Soeren Linderoth (2), Arief Dahoe (3), Josef Mertens (4), Svea Reiners (5), (1) Centre for Hydrogen and Fuel Cell Research, School of Chemical Engineering, Uni of Birmingham; Birmingham/UK; (2) Danish Technical Uni; Risø/Denmark; (3) Uni of Ulster; Belfast/Northern Ireland; (4) Forschungszentrum Jülich; Jülich/Germany; (5) Heliocentris GmbH; Berlin/Germany</p>	13:30	<p><b>Hydrogen Production, Storage, Purification (B13)</b></p> <p>13:30 <b>Carbon Dioxide as Hydrogen Vector – Sustainable H<sub>2</sub> Storage and Delivery (B1301)</b> Gábor Laurency, EPFL, École Polytechnique Fédérale de Lausanne, Lab. de Chimie Organométallique et Médicinale (LCOM); Lausanne/Switzerland</p> <p>13:45 <b>Investigations of the Steam Iron Process for Decentralised Renewable Hydrogen Production (B1302)</b> Stephan Nestl, Gernot Voitic, Viktor Hacker, Inst. of Chemical Engineering and Environmental Technology, Graz Uni of Technology; Graz/Austria</p> <p>14:00 <b>Formic Acid – a Suitable Material for Hydrogen Storage (B1303)</b> Peter Sponholz, Dörthe Mellmann, Henrik Junge, Matthias Beller, Leibniz-Inst. for Catalysis Rostock; Rostock/Germany</p> <p>14:15 <b>Efficient Large Scale Hydrogen Liquefaction (B1304)</b> Ilka Seemann, Christoph Haberstroh, Hans Quack, TU Dresden, Bitzer Chair of Refrigeration, Cryo and Compressor Technology; Dresden/Germany</p> <p>14:30 <b>Dense Palladium-Copper Alloy Membranes for Hydrogen Separation (B1305)</b> Naser A Al-Mufachi, Shahrour Nayeboossadri, John Speight, Waldemar Bujalski, David Book, Uni of Birmingham, School of Metallurgy and Materials; Birmingham/UK</p> <p>14:45 <b>Electro-chemical Hydrogen Compression (B1306)</b> Peter Bouwman, Sander ten Hoopen, Menno Koeman, Wiebrand Kout, Daniel Semerel, Marten-Jan Verbeek, Frans Mulder, Hydrogen Efficiency Technologies – HyET; Arnhem/The Netherlands</p>
15:00	Coffee Break – 1 <sup>st</sup> Floor in front of Auditorium & 2 <sup>nd</sup> Floor in front of Club Rooms		

Afternoon

Friday, July 5, 2013

Afternoon

**14<sub>A</sub>** Auditorium**15:30 P3: Perspectives on HFC future deployment (A14)**

15:30 **If Hydrogen Is Such a Great Solution, Why Is Taking So Long? (A1401)**  
David Hart, E4Tech; Lausanne/Switzerland and London/UK

**15<sub>A</sub>** Auditorium**16:00 P4: Summary, Next Conferences; Closing Ceremony (A15)**

- 16:00 **Summary by the Chairlady (A1501)**  
Deborah Jones, ICGM-CNRS, Uni Montpellier 2; Montpellier/France
- 16:12 **Information on Next EFCF: 11<sup>th</sup> European SOFC Forum 2014 – 5<sup>th</sup> PEFC & H<sub>2</sub> Forum 2015 (A1502)**  
Olivier Bucheli, Michael Spirig, European Fuel Cell Forum; Luzern/Switzerland
- 16:24 **Award for the Best Paper (A1503)**  
tbd, tbd
- 16:36 **Friedrich Schönbein Award for the Best Poster, Best Science Contribution, Medal of Honour (A1504)**  
Deborah Jones, ICGM-CNRS, Uni Montpellier 2; Montpellier/France
- 16:48 **Thank you and Closing by the Organizers (A1505)**  
Michael Spirig, Olivier Bucheli, European Fuel Cell Forum; Luzern/Switzerland

**17:00 End of Sessions – End of Conference**



3A **Poster Session I (with all Session Topics) Wednesday, July 3, 2013**  
 8A **Poster Session II (with all Session Topics) Thursday, July 4, 2013**

**Afternoon 13:15–14:30; Club Room 3–8**  
**Afternoon 13:15–14:30; Club Room 3–8**

**P2: Major Regional and Company Developments**

**A02**

**H<sub>2</sub>FC European Infrastructure Technical Support in Order to Strengthen Research and Development on Fuel Cells and Hydrogen Technologies (A0204)** Olaf Jedicke Karlsruhe Inst. of Technology, Inst. for Nuclear- and Energy Technologies; Eggenstein-Leopoldshafen/ Germany

**Generating a Strategic Energy Technology Development Plan In Case of Low Oil Prices and Additional Nuclear Plant Construction with Integrated AHP/TOPSIS Approaches (A0205)** Seongkon Lee (1,2), Gento Mogi (2), Sangkon Lee (3), K.N Hui (4), (1) Energy Policy Research Center, KIER; Daejeon/Republic of Korea; (2) Dep. of Technology Management for Innovation, Graduate School of Engineering, The Uni of Tokyo; Tokyo/Japan; (3) Green Transformation Technology Center, KITECH; Daegu/Korea; (4) School of Materials Science and Engineering, Pusan National Uni; Busan/Republic of Korea

**Fuel Cell Membrane Synthesis, Structure and Morphology\***

**A04**

**Performance of New Inorganic/Organic Hybrid Membranes as PEFC Electrolyte (A0407)** Haruo Sawa, Hiroto Motoegi, Kazuya Shimura, Masahiro Kuroiwa, Shinya Yamamoto, NIPPON KODOSHI Corp.; Kochi/Japan

**Durability Enhanced Sulfonated Poly(arylene ether) Sulfone for PEMFC (A0408)** Young-Woo Choi, Mi-Soon Lee, Chang-Soo Kim, Tae-Hyun Yang, Hydrogen and Fuel Cells Research Dep., Korea Inst. of Energy Research; Daejeon/South Korea

**Synthesis and Properties of Sulfonated Conjugated Polyphenylene Electrolyte Prepared by Nickel Catalyzed Carbon-carbon Coupling Polymerization (A0409)** — Young-Don Lim, Dong-Wan Seo, Soon-Ho Lee, Seong-Young Choi, Whan-Gi Kim, Konkuk Uni, Dep. of Applied Chemistry; Chungbuk/Korea

**Synthesis and Properties of Sulfonated Poly(fluorene-phenylene)s Containing Multiphenyl Structure by Diels-Alder Reaction (A0410)** Young-Don Lim, Dong-Wan Seo, Soon-Ho Lee, Ho-Hyoun Jang, Whan-Gi Kim Konkuk Uni, Dep. of Applied Chemistry; Chungbuk/Korea

**Multiblock Copolymers Containing Sulfonated Poly(arylene sulfone) Blocks for Proton Exchange Membrane Fuel Cell Applications (A0411)** Myung Su Jung (1), Tae-Ho Kim (1), Sang-Young Lee (2), Young Taik Hong (1)(1) Energy Materials Research Center, Korea Research Inst. of Chemical Technology; Daejeon/Korea; (2) Interdisciplinary School of Green Energy, Ulsan National Inst. of Science and Technology (UNIST); Ulsan/Korea

**Improved Mechanical Properties of Low Equivalent Weight Short Side Chain PFSA (A0412)** Deborah Jones (1), Surya Subianto(1), Jacques Rozière(1), Sara Cavaliere(1), Yannig Nedellec (1), Paula Cojocar (2), Luca Merlo (2), Graham Hards (3), Sarah Burton (3), Mario Casciola (4), Monica Pica (4), Anna Donnadio (4) (1) ICGM-CNRS, Uni Montpellier 2; Montpellier/France; (2) Solvay Speciality Polymers; Bollate/Italy; (3) Johnson Matthey Fuel Cells Ltd.; Swindon/U.K.; (4) Uni di Perugia; Perugia/Italy

**Advanced Fuel Cell Catalysts\***

**A05**

**An Investigation of the Effect of Cleaning Methodology upon the Electrochemical Performance of Platinum Bionanomaterial (A0508)** A R Williams (1,2), N V Rees (1), L E Macaskie (2), (1) Centre for Hydrogen and Fuel Cell Technologies, School of Chemical Engineering, Uni of Birmingham; Birmingham/UK; (2) Unit of Functional Bionanomaterials, School of Biosciences; Birmingham/UK

**Fabrication of Pt/C Electrode with Double Catalyst Layers by Electrophoresis Deposition Method for PEFC (A0509)** Yeon-Tae Yu, Ganpurev Adilbish, Jin-Woo Kim, Jun-Woo Lee, Division of Advanced Materials Engineering, College of Engineering, Chonbuk National Uni; Jeonju/South Korea

**High Temperature PEM Fuel Cell Membranes\***

**A06**

**Development of Cross-linked Membranes for High Temperature PEMFC Applications. (A0607)** Christina Morfopoulou (1,2), Aikaterini Andreopoulou (1,2), Maria Daletou (2), Stylianos Neophytides(2,3), Joannis Kallitsis (2,3), Uni of Patras, (1) Dep. of Chemistry; Patras/Greece; (2) FORTH-ICEHT; Patras/Greece; (3) Advent Technologies S. A.; Patras/Greece

**Development of Composite Membranes of Phosphate Based – Solid Acids for Medium Temperature PEM Fuel Cell and Electrolyser (A0608)** Asier Goñi-Urtiaga, Keith Scott, School of Chemical Engineering and Advanced Materials, Newcastle Uni; Newcastle upon Tyne/U.K.

**Novel Composite Proton Exchange Membrane Materials for Intermediate Temperature Fuel Cells. (A0609)** Mariska Hattenberger (1), Surbhi Sharma (1), Waldemar Bujalski (1), Valerie Self (2), John Richmond (2),(1) Centre for Hydrogen and Fuel Cell Research, The Uni of Birmingham; Birmingham/UK; (2) Tata Motors European Technical Centre, Uni of Warwick; Coventry/UK

**A Single Step Preparation Method for Cross-linked High Acid Doping Level Polybenzimidazole Membranes (A0610)**

Aurélien Kreis, Nicolas Donzel, Deborah Jones, Jacques Rozière, ICGM-CNRS, Uni Montpellier 2; Montpellier/France

**Next Generation High Temperature PEM Fuel Cells Incorporating Quasi-Anhydrous and Dry Membranes: from Components to MEA (A0611)**

Deborah Jones (1), Jacques Rozière (1), Nicolas Donzel (1), Sara Cavaliere(1), Irene Gatto (2), Alessandro Stassi (2), Antonino Arico(2), Silvain Buche (3), Graham Hards (3), Michael Schuster (4), Bernd Bauer (4), Arindam Sannigrahi (5), Patric Jannasch (5), Jennifer Wegener (6), Markus Klapper (6), (1) ICGM-CNRS, Uni Montpellier 2; Montpellier/France; (2) CNR-ITAE; Messina/Italy; (3) Johnson Matthey Fuel Cells Ltd.; Sonning Common/U.K.; (4) fumatech GmbH; Sankt Ingbert/Germany; (5) Lund Uni; Lund/Sweden; (6) Max-Planck-Inst. for Polymer Research; Mainz/Germany

**Bendable, Proton-Conductive Silicate Glass Electrolytes Integrated with Polyimide Nonwoven Fabrics for Medium-Temperature/Low-Humidity Proton Exchange Membrane Fuel Cells (A0612)**

Hyeon-Ji Lee (1), Young Taik Hong (2), Tae Ho Kim (2), Sang-Young Lee (1), (1) Interdisciplinary School of Green Energy, Ulsan National Inst. of Science and Technology (UNIST); Ulsan/Korea; (2) Energy Materials Research Center, Korea Research Inst. of Chemical Technology; Daejeon/Korea

#### PEM and Alkaline Electrolysis\*

A07

**New Materials for the Anion Exchange Membrane Electrolyzer (AEM) (A0707)** M. Manolova, C. Schöberl, R. Freudenberger, ForschungsInst. für Edelmetalle und Metallchemie (fem); Schwäbisch Gmünd/Germany

**An Efficient Numerical Model of a PEM Electrolyzer (A0708)** David L. Fritz, Marcelo Carmo, Jürgen Mergel, Detlef Stolten, Forschungszentrum Jülich, Inst. of Energy and Climate Research (IEK-3); Jülich/Germany

**Self-Sustainable Production of Hydrogen and Energy from Renewable Alcohols by Electrolysis (A0709)**

Hamish Miller, Francesco Vizza, Alessandro Lavacchi, Jonathan Filippi, Werner Oberhauser, Manuela Bevilacqua, Andrea Marchionni, Yanxin Chen, Lianqin Wang, ICCOM-CNR; Sesto Fiorentino (Fi)/Italy

**Degradation Characterisation of Nickel Electrodes of an Alkaline Electrolyser (A0710)**

Daniel Symes, Bushra Al-Duri, Aman Dhir, Chemical Engineering, Uni of Birmingham, Centre for Hydrogen and Fuel Cell Research; Birmingham/United Kingdom

**Titanium Dioxide Nanotubes Based Catalyst Supports for Hydrogen Evolution in PEM Water Electrolyser (A0711)** Radostina Genova-Koleva, Francisco Alcaide, Hans-Jürgen Grande, Oscar Miguel, Dep. de Energía, IK4-CIDE-TEC; Donostia-San Sebastián/Spain

**Pressurized PEM Electrolyzer Catalyst Development (A0712)**

Antti T. Pasanen (1), Elina Yli-Rantala (1), Eini Puhakka (1), Johanna Forsman (1), Pertti Kauranen (1), Max Johansson (2), Mikael Bergelin (2), Per Wittenhoff (3), Laila Grahl-Madsen (3), (1) VTT Technical Research Centre of Finland; Tampere/Finland; (2) Åbo Akademi Uni; Turku/Finland; (3) IRD Fuel Cells LLC; Svendborg/Denmark

**A Dual-circuit Redox Flow Battery for the Generation of Hydrogen from Renewable Energy (A0713)**

Véronique Amstutz, Kathryn E. Toghil, Christos Comninellis, Hubert H. Girault, Ecole Polytechnique Fédérale de Lausanne; Lausanne/Switzerland

**The Solar Fuel: a very Steep Energetic Vector (A0714)**

Salim Daoudi (1), Adbelhamid Iratni (2), (1) Uni of BBA, Faculty of the Sciences and Technology; Bordj Bou Arreridj/Algeria; (2) LMSE, Uni of BBA, Faculty of the Sciences and Technology; Bordj Bou Arreridj/Algeria

**Three-dimensional Modeling and Simulation of Hydrogen Desorption in Metal Hydride Hydrogen Storage Vessels (A0715)** Hyunchul Ju, Haneul Yoo, School of Mechanical Engineering, Inha Uni; Incheon/Republic of Korea

#### Renewable Hydrogen

A09

**Hydrogen Generation from Formic Acid: A new Iron-based Catalytic System (A0908)**

Dörthe Mellmann, Peter Sponholz, Henrik Junge, Matthias Beller, Leibniz Inst. for Catalysis Rostock; Rostock/Germany

**Nix-Cuy /Al<sub>2</sub>O<sub>3</sub> Catalyst for H<sub>2</sub> Production Via Methanol Steam Reforming (A0909)**

Martin Khzouz, Joe Wood, Uni of Birmingham, School of Chemical Engineering; Birmingham/UK

**Adsorptive Desulfurization of Natural Gas Using Mesoporous Material for Fuel Cell (A0910)**

Jaedong Kim (1), kihoon An (2), Dalryung Park (1), Jeonghwan Choi, Bongyu Kim (1), Younga Cho (1), Sungho Hong (1), Jiman Kim (2), (1) New Energy Technology Center, R & D Division, Korea Gas Corporation; Ansan/Korea; (2) Dep. of Chemistry, BK21 School of Materials Science and Dep. of Energy Science, Sungkyunkwan Uni, Suwon 440–476, Korea; Suwon/Korea

**Must and Fruit Juice Wastewaters Fermentation to Hydrogen (A0911)**

Araceli Gonzalez del Campo, Pablo Cañizares, Justo Lobato, Manuel Rodrigo, Francisco Jesus Fernandez, Uni of Castilla-La Mancha, Chemical Engineering Dep.; Ciudad Real/Spain

**Obtaining of Hydrogen in Gaseous and Metallic States from Sea Water (A0912)**

Leonid F. Dubikovskiy, I.Frantsevych Inst. for Problems of Materials Science NASU; Kiev/Ukraine

**Computational analysis of Hydrogen Embrittlement in Polycrystalline Nickel and Anisotropic Polygonal Micro, Nano Grain Size Effects (A0913)**

S.Jothi, T.N.Croft, S. G. R. Brown, E. de Souza Neto, College of Engineering, Swansea Uni; Swansea/UK

**An activity in Japan for Realisation of CO<sub>2</sub> Free H<sub>2</sub> Global Chains (A0914)**

Masaharu Sasakura, Ko Sakata, Atsushi Kurosawa, Yuki Ishimoto, Nobuyuki Goto, Kenji Murata, Kenzo Fukuda Inst. of Applied Energy; Tokyo/Japan

**Sensitivity Study on Hydrogen Cost in Inter-continental Renewable Energy**

**Transportation Systems (A0915)** Ko Sakata, Yuki Ishimoto, Kenzo Fukuda, The Institute of Applied Energy; Tokyo/Japan

**Characterisation of Fuel Cell Materials****A10****Micro-Raman Spectroscopy Characterization of Perfluorosulfonic Acid (PFSA) Ionomers (A1007)**

Corine Bas, Jean De Massas, Eddy Moukheiber, Gilles De Moor, Assma El Kaddouri, Lionel Flandin, LEPMI, UMR 5279, CNRS–Grenoble INP–Uni de Savoie–Uni J.Fourier; Le Bourget du Lac/France

**Influence of Operation Parameters on the Response of a PEMFC with Electrodeposited Pt-WO<sub>3</sub> Cathode (A1008)**

Antonio J. Martin, Antonio M. Chaparro, Dep. of Energy, CIEMAT; Madrid/Spain

**Spectroscopic Identification of Active Sites in Precious-Metal-Free Catalysts for Polymer Electrolyte Fuel Cells (A1009)**

Vincent Goellner, Adina Morozan, Moulay-Tahar Sougrati, Lorenzo Stievano, Deborah Jones, Frédéric Jaouen Inst. Charles Gerhardt Montpellier; Montpellier/France

**Analysis of the Cathode Behavior of an Air Breathing Single PEM Cell Based on a Flooded Agglomerate Model (A1010)**

Paloma Ferreira-Aparicio, Antonio M. Chaparro, Dep. of Energy, CIEMAT; Madrid/Spain

**Investigation Phase Inhomogeneous Distribution by Neutron and X-ray Scattering on 6ScSZ Electrolyte in SOFC Stacks (A1011)**

Tzu-Wen Huang, Artur Braun, Lab. for High Performance Ceramics Empa, Swiss Federal Lab. for Materials Science and Technology; Dübendorf/Switzerland

**Characterisation of High Temperature PEM Fuel Cells****A11****Extending Lifetime of Alkaline Fuel Cells via Efficient Water Management Strategies (A1107)**

Naveed Akhtar, Gene Lewis, AFC Energy plc.; Cranleigh/UK

**Demonstration and Deployment\*****A12****HHO Fact or Fiction? (A1207)**

Aman Dhir (1), Daniel Symes (1), Jose Herreros Arellano (2), (1) Centre for Hydrogen and Fuel Cell Research, School of Chemical Engineering, Uni of Birmingham; Birmingham/UK; (2) Engines Group, School of Mechanical Engineering, Uni of Birmingham; Birmingham/UK

**Effect of Using Different Fuels on Performance of High-Temperature PEMFC Systems (A1208)**

Suthida Authayanun (1), Amornchai Arpornwichanop (2), (1) Srinakharinwirot Uni, Dep. of Chemical Engineering, Faculty of Engineering; Nakhon Nayok/Thailand; (2) Chulalongkorn Uni, Dep. of Chemical Engineering, Faculty of Engineering; Bangkok/Thailand

**A Passive Proton Exchange Membrane Fuel Cell and Li-ion Battery Hybrid System (A1209)**

Sheng-Miao Lin, Yong-Song Chen, Advanced Inst. of Manufacturing for High-tech Innovations and Dep. of Mechanical Engineering, National Chung Cheng Uni; Chiayi County/Taiwan ROC

**On the Complementarity of Batteries and Fuel Cells for Electric Driving (A1210)**

Amon Smatt (1), Alain Le Duigou (2), (1) Arts et Métiers ParisTech – internship at CEA/DEN/DANS/I-tésé; Gif Sur Yvette/France; (2) CEA/DEN/DANS/I-tésé; Gif Sur Yvette/France

**Operation Strategies of a Diesel Fuel Processor for Fast Start-up and Catalyst Regeneration (A1211)**

Marius Maximini (1), Philip Engelhardt (1), Martin Brenner (2), Hans-Georg Anfang (3), (1) Oel-Waerme-Inst. GmbH; Herzogenrath/Germany; (2) BEHR GmbH & Co. KG; Stuttgart/Germany; (3) Clariant Produkte (Deutschland) GmbH; Heufeld/Germany

**Reva Electric Vehicle Conversion to a Hydrogen Fuel Cell Powered Vehicle (A1212)**

Lorenzo Nasarre Cortes, Joaquín Mora Larramona, Marcos Ruperez, Luis Correas Uson, Aragon Hydrogen Foundation; Cuarte/Spain



**Fuel Cell Operating on Conventional Fuel as Auxiliary Power Source for Battery Electric Vehicles (A1213)**

C. Cremers (1), U. Groos (2), A. Schaadt (2), J.-E. Svensson (3), T. Steenberg (4), J. Krömer (5), M. Bang (6), H.-P. Schmid (7) (1) Fraunhofer Inst. for Chemical Technology ICT; Pfalz/Germany; (2) Fraunhofer Inst. for Solar Energy Systems ISE; Freiburg/Germany; (3) Chalmers Uni of Technology; Gothenburg/Sweden; (4) Danis Power Systems Ltd; Lyngby/Denmark; (5) Borit NV; Geel/Belgium; (6) Serenergy A/S; Hobro/Denmark; (7) WS Reformer GmbH; Renningen/Germany

**Studies on the Catalytic CO Oxidation over Ce-promoted Pt/Al<sub>2</sub>O<sub>3</sub> Catalyst for Preferential**

**CO Oxidation (A1214)** Kee Young Koo, Un Ho Jung, Wang Lai Yoon, Hydrogen and Fuel Cell Dep., Korea Inst. of Energy Research; Daejeon/Republic of Korea

**Investigation of Different HT-PEM MEA with Reformate from a Methanol Steam Reformer (A1215)**

Thomas Huck (1), Philip Engelhardt (2), (1) Aixcellsys GmbH; Herzogenrath/Germany; (2) OWI Oel-Waerme-Inst. GmbH; Herzogenrath/Germany

**The Study of Copper Doped CGO for Preferential Oxidation (A1216)**

Jiwoo Oh, Joongmyeon Bae, School of Mechanical, Aerospace & System Engineering, KAIST; Daejeon/Korea

**Development of HTPEM Fuel Cell Stack with an Integrated Reactant Preheating System (A1217)**

Vasu Gollangi, E Haribabu, M R Pawar, BHEL Corporate R&D Division, Fuel cells & Renewable Energy Group; Hyderabad/India

**Stack and Systems Integration, Early Market Implementation****B04****Hydrogen- Based Peak Power Management Unit for a Residential Application (B0407)**

Mihai Varlam, Mihai Culcer, Mariana Iliescu, Mircea Raceanu, Adrian Enache, National R&D Inst. for Cryogenics and Isotopic Technologies- ICIT Ramnicu Valcea; Ramnicu Valcea/Romania

**Fuel Processing, Stack and Systems Integration****B05****Fuel Cell Modelling****B06****Polymer electrolyte Fuel Cell Stack Modeling in VHDL-AMS Language with Temporal and EIS Experimental Validations (B0607)**

El-Hassane AGLZIM (1), Daniela CHRENKO (1), Amar ROUANE (2), Djilali KOURTICHE (2), Mustapha NADI (2) (1) Uni of Burgundy – ISAT Lab.; Nevers/France; (2) Uni of Lorraine – LIEN Lab.; Vandoeuvre Lès Nancy/France

**A Novel Model for Cathode Electrode of PEMFCs Based on Lattice-Boltzmann Method (B0608)**

G.R. Molaeimanesh, M.H. Akbari, Center for Fuel Cell Research, School of Mechanical Engineering, Shiraz Uni; Shiraz/Iran

**Novel Supports and non-Platinum Fuel Cell Catalysts****B07****An innovative H<sub>2</sub>/O<sub>2</sub> Biofuel Cell Based on a O<sub>2</sub>, CO and T° Tolerant Hydrogenase (B0707)**

E. Lojou (1), A. Ciaccafava (1), A. De Poulpique (1), C. Innocent (2), S. Tingry (2), MT. Giudici-Ortoni (1) (1) Bioénergétique et Ingénierie des Protéines, UMR 7281, IMM, CNRS-AMU; Marseille/France; (2) I.E.M., UMR 5635; Montpellier/France

**Valve Metal Oxide Based Catalysts for the Oxygen Reduction Reaction in Acidic DMFCs (B0708)**

Thomas Mittermeier, Pankaj Madkikar, Xiaodong Wang, Hubert A. Gasteiger, Michele Piana, Technische Uni München, Lehrstuhl Technische Elektrochemie; Garchingb. München/Germany

**The Catalytic Activity of Cathode with Sputtered Iron with Graphene on Carbon Paper (B0709)**

Kiseong Lee (1), Dong-Il Kim (2), Tae-Whan Hong (3), Whan-Gi Kim (4), Hyun-Chul Ju (5), Dong Min Kim (1), (1) Dep. of Materials Science and Engineering, Hongik Uni, Dep. of Fuel Cells; Chungnam/Republic of Korea; (2) Dongjin Semichem. Co Ltd.; Incheon/South Korea; (3) Dep. of Materials Science and Engineering, Korea National Uni of Transportation; Chungbuk/Republic of Korea; (4) Dep. of Applied Chemistry, Konkuk Uni; Chungbuk/Republic of Korea; (5) Dep. of Mechanical Engineering, Inha Uni; Incheon/Republic of Korea

**The Catalytic Activity of Sputtered Cobalt with Carbon Nanotube on Carbon Paper (B0710)**

Kiseong Lee (1), Minku Lee (2), Dong Min Kim (1), (1) Dep. of Materials Science and Engineering, Hongik Uni, Dep. of Fuel Cells; Sejong/Republic of Korea; (2) Nuclear Materials Development Division, Korea Atomic Energy Research Inst.; Daejeon/South Korea

**Fabrication of Carbon Nanocapsule Supported non-Precious Catalysts for Oxygen Reduction Reaction (B0711)** Cheng-Hong Liu, Wen-Lin Wang, Chao-Ho Lan, Fang-Hei Tsau, Dep. of Hydrogen Energy and Fuel Cells, Green Energy and Eco-technology Center, Industrial Technology Research Inst. (ITRI), South Campus; Tainan City/Taiwan

**Synthesis Strategies of Precious-Metal-Free Catalysts for Polymer Electrolyte Fuel Cells (B0712)**

Adina Morozan, Vincent Goellner, Marta Zaton, Jacques Rozière, Frédéric Jaouen, Inst. Charles Gerhardt Montpellier; Montpellier/France

**Dopant-driven Architectures of Nanostructured SnO<sub>2</sub>: “Loose-tube” Fibres as Novel PEMFC Electro-catalyst Supports (B0713)** S. Cavaliere, S. Subianto, I. Savych, M. Tillard, D. J. Jones, J. Rozière, Inst. Charles Gerhardt, Lab. des Agrégats, Interfaces et Matériaux pour l’Energie, Uni Montpellier 2; Montpellier/France

**Enhanced Electrochemical Stability of PEMFC Electrodes Based on Electrospun Titanium Dioxide Nanofibres (B0714)** I. Savych, J. Bernard d’Arbigny, S. Subianto, S. Cavaliere, D. J. Jones, J. Rozière, Inst. Charles Gerhardt, Lab. des Agrégats, Interfaces et Matériaux pour l’Energie, Uni Montpellier 2; Montpellier/France

**Fuel Cell Components****B09****The Effect of Compression on MEA Performance: Changes in the GDL Properties (B0907)**

Ahmad El-Kharouf, Waldemar Bujalski, Neil Rees, Uni of Birmingham, Centre of Hydrogen & Fuel Cell Research, School of Chemical Engineering; Birmingham/UK

**Metal-based Gas Diffusion Layer in Proton Exchange Membrane Fuel Cells (B0908)**

N. Alhazmi, D. B. Ingham, M. S. Ismail, K. Hughes, L. Ma, M. Pourkashanian, Energy Technology and Innovation Initiative, The Uni of Leeds; Leeds/UK

**Highly Conductive Elastic Epoxy/Graphite/Carbon Fiber Filament Composites for Bipolar Plate Application in Polymer Electrolyte Fuel Cells (B0909)**

Jae-Young Lee, Hee-Suck Jung, Hong-Ki Lee, Hydrogen Fuel Cell Regional Innovation Center, Woosuk Uni; Chonbuk/Korea

**Carbon Coated Stainless Steel for Bipolar Plates in PEM Fuel Cells (B0910)**

Anna Jansson, Hanna Bramfeldt, Jörgen Westlinder and Håkan Holmberg  
R&D Sandvik Materials Technology; Sandviken/Sweden

**Alkaline and Direct Alcohol Fuel Cells****B10****Ex-situ NMR and Raman Studies of H<sub>3</sub>PO<sub>4</sub> and H<sub>2</sub>O Uptake of Polybenzimidazole Membranes for PEMFC (B1107)**

Fosca Conti (1,2), Anne Majerus (1), Sabine Willbold (3), Werner Lehnert (1,4), Carsten Korte(1), (1) Inst. of Energy and Climate Research – Electrochemical Process Engineering (IEK-3), Forschungszentrum Jülich GmbH; Jülich/Germany; (2) Dep. of Chemical Sciences, Uni of Padova; Padova/Italy; (3) Central Division of Analytical Chemistry (ZCH), Forschungszentrum Jülich; Jülich/Germany; (4) Modeling in Electrochemical Process Engineering, RWTH Aachen Uni; Aachen/Germany

**Nitrogen Modified Few-walled Carbon Nanotubes for Direct Ethanol Fuel Cell (B1008)**

Petri Kanninen (1), Maryam Borghei (2), Virginia Ruiz (2,3), Esko I. Kauppinen (2), Tanja Kallio (1), (1) Dep. of Chemistry, Aalto Uni; Aalto/Finland; (2) Dep. of Applied Physics, Aalto Uni; Aalto/Finland; (3) IK4-CIDETEC – Centre for Electrochemical Technologies; Donostia-San Sebastián/Spain

**Project LASER-CELL: Laser Fabrication Processes for Alkaline Fuel Cell Production (B1009)**

Martin Thomas, AFC Energy plc; Cranleigh/UK

**Performance of a Passive Direct Methanol Fuel Cell: Modelling and Experimental Studies (B1010)**

V.B. Oliveira, M. Fortunato, A.M.F.R. Pinto, Faculdade de Engenharia da Uni do Porto, Dep. de Engenharia Química; Oporto/Portugal

**Carbon-metal Oxide Heterostructures by Electrospinning and Atomic Layer Deposition for Methanol Oxidation (B1011)**

I. Savych (1), C. Marichy (2), N. Pinna (3), S. Cavaliere (1), D. J. Jones (1), J. Rozière (1), (1) Inst. Charles Gerhardt, Lab. des Agrégats, Interfaces et Matériaux pour l'Energie, Uni Montpellier 2; Montpellier/France; (2) Dep. of Chemistry, CICECO, Uni of Aveiro; Aveiro/Portugal; (3) Dep. of Chemistry, Humboldt-Uni zu Berlin; Berlin/Germany

**Improved Durability and Cost-effective Components for New Generation Solid Polymer- DURAMET Project (B1012)**

A.S. Aricò (1), V. Baglio (1), E. Modica (1), A. Stassi (1), C. D'Urso (1), S.C. Zignani (1), D. Jones (2), M. Dupont (2), J. Rozière (2), M. Schuster (3), B. Bauer (3), M. F. Sgroi (4), D. Pullini (4), V. Dallacà (4), M. Piana (5), T. Mittermeier (5), Xiaodong Wang (5), H. A. Gasteiger (5), J. L. Bonde (6), T. De Ricke (6), S. Specchia (7), C. Francia (7), N. Cros (8), G. Tsotridis (9), T. Malkow (9), (1) CNR-ITAE; Messina/Italy; (2) CNRS; Montpellier/France; (3) FUMATECH; Germany; (4) CRF; Torino/Italy; (5) TUM; Munich/ Germany; (6) IRD FUEL CELLS A/S; Denmark; (7) Politecnico di Torino; Torino/Italy; (8) PRETEXO; Montpellier/France; (9) Inst. for Energy and Transport, European Commission, Directorate-General Joint Research Centre; Petten/The Netherlands

**PVA Based Membranes Modified by Benzimidazolium Groups for Fuel Cell Application (B1013)**

Pratima Gajbhiye (1,2), Anil Kumar (1), J.K.Singh (1), (1) Indian Inst. of Technology Kanpur (IIT Kanpur); Kanpur/India

**Durability, Degradation and Mitigation Strategies****B11****Effects of Inlet Relative Humidity on the Performance of a Phosphoric Acid Doped Polybenzimidazole Fuel Cell (A1107)**

Purushothama Chippar (1), Gisu Jeong (2), Eunae Cho (2), Hyunchul Ju (1), (1) School of Mechanical Engineering, Inha Uni; Incheon/Republic of Korea; (2) Fuel Cell Research Center, Korea Inst. of Science and Technology; Sungbuk-Gu/Republic of Korea

**Ion Chromatography of Process Waters of Various Fuel Cell Systems (B1108)**

Nadine Bruns, Peter Wagner, Carl von Ossietzky Uni Oldenburg, NEXT ENERGY · EWE-Research Centre for Energy Technology; Oldenburg/Germany

**The Effect of Hydrocarbon Impurities in the Hydrogen Fuel on the Anode Activity in PEMFC (B1109)**

Rakel Wreland Lindström, Katrin Kortsdottir, Francisco J. Perez Ferriz, Julio J. Conde Lopez, Benjamin Cormier, Carina Lagergren, Göran Lindbergh, Applied Electrochemistry, KTH Royal Inst. of Technology; Stockholm/Sweden

**Focuses on the Perfluorosulfonic Acid (PFSA) Membrane Degradation Induced by PEMFC Operation (B1110)**

Corine Bas, Laurent Leclerc, Eddy Moukheiber, Gilles De Moor, Lionel Flandin, LEPMI, UMR 5279, CNRS – Grenoble INP – Uni de Savoie – Uni J.Fourie; Le Bourget du Lac/France

**Embedment of Anti-corrosive Graphite Layer onto the Metal Bipolar Plate for Proton Exchange Membrane Fuel Cell (B1111)**

Wen-Lin Wang, Cheng-Hong Liu, Chao-Ho Lan, Fang-Hei Tsau, Dep. of Hydrogen Energy and Fuel Cells, Green Energy and Eco-technology Center, Industrial Technology Research Inst. (ITRI), South Campus; Tainan City/Taiwan

**The AVL PEMFC System Validation Program (B1112)**

Gunther Weirum, Vincent Lawlor, Kurt Salzgeber, Hannes Hick, AVL List GmbH; Graz/Austria

**Numerical Modeling and Analysis of Degradation Rate for Membrane Electrode Assemblies in High Temperature PEM Fuel Cells (B1113)**

Minjin Kim (1,2), Taegon Kang (1,2), Young-Jun Sohn (1), (1) Korea Inst. of Energy Research; Daejeon/Korea; (2) Uni of Science and Technology; Daejeon/Korea

**Fuel Cell Diagnostics**

**B12**

**Measurements of Water Droplet Behavior in Cathode Channel of Polymer Electrolyte Fuel Cell (B1207)**

Eiji Ejiri, Chiba Inst. of Technology; Narashino-City/Japan

**PEM Fuel Cell Modeling and Effective Diffusivity Characterization in Simulated Cathode Catalyst Layer (B1208)**

Young-Jun Sohn (1,2), Sung-Dae Yim (1), Gu-Gon Park (1), Minjin Kim (1), Kyoungyoun Kim (2), Suk Won Cha (3), (1) Korea Inst. of Energy Research (KIER); Daejeon/Republic of Korea; (2) Dep. of Mechanical Engineering, Hanbat National Uni; Daejeon/Republic of Korea; (3) School of Mechanical and Aerospace Engineering, Seoul National Uni; Seoul/Republic of Korea

**Spatial Heterogeneities in Influence of Heat Transfer on the Electronic Structure and Conductivity of LSM Cathodes in SOFC Stacks (B1209)**

Tzu-Wen Huang, Artur Braun, Lab. for High Performance Ceramics Empa, Swiss Federal Lab. for Materials Science and Technology; Dübendorf/Switzerland

**Hydrogen Production, Storage, Purification**

**B13**

**On-site Hydrogen Production at Refueling Stations from Diesel and Biodiesel (B1307)**

Stefan Martin (1), Dick Liefstink (2), David Wails (3), George Karagiannakis (4), Toste Azevedo (5), Marina Aguiar (6), Maria Maynar (7), (1) German Aerospace Center; Germany; (2) HyGear B.V.; The Netherlands; (3) Johnson Matthey PLC.; United Kingdom; (4) Centre for Research and Technology Hellas; Greece; (5) Instituto Superior Técnico; Portugal; (6) Abengoa Bioenergía San Roque, S.A; Spain; (7) Abengoa Hidrógeno, S.A.; Spain

**Low Temperature Reforming of Diesel over Structured Catalysts (B1308)**

Sangho Lee, Joongmyeon Bae, Dept. of Mechanical Eng., KAIST; Daejeon/Republic of Korea

**La<sub>0.75</sub>Sr<sub>0.25</sub>Cr<sub>0.5</sub>Mn<sub>0.5</sub>O<sub>3-δ</sub> Oxide Based Steam Reforming Catalyst for SOFC Direct Internal Reforming (B1309)**

Byoung Young Yoon, Joongmyeon Bae, Dept. of Mechanical Eng., KAIST.; Daejeon/Republic of Korea

**Ru/Ni/MgAl<sub>2</sub>O<sub>4</sub> Catalysts for Steam Reforming of Methane: Effects of Ru Content on Self-activation Property (B1310)**

Dal-Ryung Park, Jae-Dong Kim, Seung-Chan Baek, Ki-Won Jeon, (1) New Energy Research Center, Korea Gas Corporation; Ansan/Republic of Korea; (2) Petroleum Displacement Technology Research Center, Korea Research Inst. of Chemical Technology(KRICT); Daejeon/Republic of Korea

**Structural Investigations of the Phase Space of Cl-doped LiNH<sub>2</sub> (B1311)**

Rosalind Davies, Paul Anderson, Uni of Birmingham, Hydrogen Storage Chemistry Group, School of Chemistry; Birmingham/UK

**Hydrogen Permeation of a Palladium-coated Vanadium-10at.%Aluminium Membrane (B1312)**

Meng-Chang Lin, Yen-Hsun Chi, Yu-Li Lin, Ting-Wei Huang, Green Energy and Environment Research Lab., Industrial Technology Research Inst.; Hsinchu/Taiwan

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The International Board of Advisors guides the European Fuel Cell Forum in technical and strategic matters. It is currently constituted by the following distinguished experts:

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### of the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013

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A Scientific Advisory Committee has been formed to structure the technical program of the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM. This panel has exercised full scientific independence in all technical matters.

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of the **4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013**

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Dr. Mélanie Taillades, Université Montpellier 2, France

Dr. Surya Subianto, CNRS Montpellier, France

Dr. Nicolas Donzel, CNRS Montpellier, France



## Special Events

### Welcome Gathering

Tuesday, 2 July: 18:00, Luzerner Terrasse, 2<sup>nd</sup> floor: Meet old friends, find new ones and enjoy the splendid view of the lake and the historic town – a perfect starter to the conference.

### Swiss Surprise (optional, limited to 80 participants)

Wednesday, 3 July: 18:30, place to be announced. A special surprise is offered in an unusual place close to Lucerne: Enjoyable evening with Swiss folklore, music, drinks and dinner. Tickets are sold at a first-come-first-serve-basis for CHF 120.– per person. Please choose this option during your on-line registration or use the registration form at [www.efcf.com](http://www.efcf.com) (EFCF 2013 Info, Downloads) to purchase tickets in advance for you and your guests.

### Dinner on the Lake

Thursday, 4 July: 19:30 Pier 6 (“Brücke 6”) next to Congress Center: Historic paddle wheel steamer “Stadt Luzern” (1927, flagship of the fleet) will take us past a magnificent landscape to the “Rutli” glade, birthplace of Switzerland (1291). Enjoy the unique blend of music, drinks and candle-light dinner while gliding past beautiful scenery. Live music contributes to this unforgettable evening. This event is included in the registration fee. Please choose this option during your on-line registration at [www.efcf.com](http://www.efcf.com) (EFCF 2013 Info, Downloads) to purchase additional tickets for your guests (CHF 120.– per person).

### Entertainment for Accompanying Person

The Lucerne Tourist Office offers an entertainment program for accompanying persons from visits to the medieval part of the town to delightful excursions to the picturesque surroundings of Lucerne. All excursions are arranged locally. Accompanying persons may participate in the “Swiss Surprise” and “Dinner on the Lake”. Please choose this option during your on-line registration at [www.efcf.com](http://www.efcf.com) to purchase additional tickets for your guests (each CHF 120.– per person).

## List of Exhibitors and Demonstration Area Participants

At the time of print of this Final Announcement the following developers, material, measurement tool and component suppliers as well as research institution had registered for the exhibition and/or the demonstration area:

### **balticFuelCells GmbH**

Hagenower Strasse 73  
19061 Schwerin / Germany  
<http://www.balticfuelcells.de>

### **Belenos Clean Power Holding Ltd**

Rue des sors 3  
2074 Marin-Epagnier / Switzerland  
<http://www.belenoscleanpower.com/>

### **Bronkhorst (Schweiz) AG**

Nenzlingerweg 5  
4153 Reinach / Switzerland  
<http://www.bronkhorst.ch>

### **CEA-LITEN**

accompanied by Partner Companies  
17, rue des Martyrs  
38054 Grenoble Cedex 9 / France  
<http://www-liten.cea.fr>

### **Daimler AG**

Mercedesstraße 137  
70327 Stuttgart / Germany  
<https://www.daimler.com/technology-and-innovation/drive-technologies/fuel-cell>

### **e-mobil BW GmbH**

Leuschnerstraße 45  
70176 Stuttgart / Germany  
<http://www.e-mobilbw.de>

### **Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud (HEIG-VD)**

Institut d'Énergie et de Systèmes Électriques  
Route De Cheseaux 1  
1401 Yverdon / Switzerland  
<http://iese.heig-vd.ch/en-gb/home/Pages/home.aspx>

### **Heliocentris Academia GmbH**

Rudower Chaussee 29  
12489 Berlin / Germany

### **GermanyKNF FLODOS**

Wassermatte 2  
6210 Sursee / Switzerland  
<http://www.knf-flodos.ch>

### **PostAuto Schweiz AG**

Belpstrasse 37  
3030 Bern / Switzerland  
<http://www.postauto.ch/>

### **Quintech e.K.**

Danziger Straße 8  
73035 Göppingen  
Germany  
<http://www.quintech.de>

### **WEKA AG – Schweiz**

Schuerlistrasse 8  
8344 Bäretswil  
Switzerland  
<http://www.weka-ag.ch>

## Tutorial Fee

The fee for the optional Fuel Cell Tutorial given by Dr. Günther G. Scherer (former ex PSI Villigen) and Dr. Jan Van herle (EPF Lausanne) covers the lectures with complete documentation of the six hour program Herle, a starter, business lunch, sweets, coffees and refreshments. You can register for the Tutorial also without participating at the Scientific Conference. Please indicate your choice during on-line registration on [www.efcf.com](http://www.efcf.com). The Tutorial Fee is CHF 500.–.

## Conference Fees

All participants enjoy full conference privileges. Accompanying persons and guests are kindly asked to buy tickets for meals and social events at the registration desk. The following conference privileges are contained in the conference package:

- Participation in the conferences and access to the exhibition
- One copy of the electronic proceedings, agenda and bag inserts
- Download of presentations accessible with author permission (after the conference)
- Participation in all networking events:
  - Tuesday: Welcome Gathering with drinks and snacks
  - Thursday: Dinner on the Lake with the historical paddle wheel steamer
- Three business lunches (Wednesday to Friday)
- Refreshments during intermissions and breaks.

Not included: Swiss Surprise on Wednesday night. Please order tickets when registering for the conference.

## Conference Registration

➡ [www.efcf.com](http://www.efcf.com)

**Please register on-line** for all Forum events (conference, tutorial, side events) and pay by Credit Card or via bank if sufficiently in advance. Please use the on-line registration option also for your **hotel reservation**. Credit cards are needed to reserve your hotel room, but hotel bills are paid when you leave Lucerne.

[www.efcf.com](http://www.efcf.com) "Registration & Hotel" Button or Manual Link Input:  
<https://secure.event-booker.com/booking1.asp?AllEvents=ok&MainID=20&LanguageFE=1>

In case you cannot register on-line, please obtain the off-line **Registration Form** and the **Hotel Reservation Form** from [www.efcf.com](http://www.efcf.com) (Services, Conference-Registration). Complete these forms and return them by e-mail or fax to the address shown on the bottom of each form.

## Exhibition Registration

➡ [www.efcf.com](http://www.efcf.com)

Companies wishing to participate in the exhibition should complete and return the **Exhibition Registration Form** to the European Fuel Cell Forum AG – address shown on the bottom of the form ([www.efcf.com](http://www.efcf.com) – Forum, Exhibition & Demonstration).

## Free Project Meeting Organisation

### Support Service Enquiry

➡ [www.efcf.com](http://www.efcf.com)

Stakeholders interested in the Free Organization Support Service for their project-, set-up- or other issue-meetings should view [www.efcf.com](http://www.efcf.com) – Networking plus and mail to [forum@efcf.com](mailto:forum@efcf.com).

### The following admission fees apply:

#### Students, Trainees, Unemployed

Full-time students (age 26 or younger), trainees and no-income persons  
Student fee (with valid identification) CHF 700.–

#### Academic Staff, Government, Consultants

Admission of academic staff etc. CHF 1 400.–

#### Industry, Trade and Commerce

Fuel cell developers, manufacturers and distributors pay an extra CHF 600.– to support the participation of students and trainees. The 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013 will provide an excellent platform for recruitment. Participants from industry and commerce benefit from the student support contribution.

Admission of industry etc. CHF 2 000.–

#### Surcharge for Late Registration

Extra fee for late registration after 01 May 2013 CHF 100.–

Extra fee for on-site registration (after 23 June 2013) CHF 250.–

#### One-Day Tickets

Registration includes one conference proceedings in electronic form and one Forum Agenda as well as all conference privileges of the day plus download of presentations accessible with author permission. Please register on line at [www.efcf.com](http://www.efcf.com) in advance or pay at the registration desk. CHF 700.–

#### Swiss Surprise (optional)

Tickets for the entertaining evening event "Swiss Surprise" on Wednesday (3 July 2013) night are sold on a first-come-first-serve basis. Participation is limited to 80 persons and is not

included in the conference fee. Please order your tickets on-line at [www.efcf.com](http://www.efcf.com) with your registration for the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013. CHF 120.–

### Payments of the Registration Fee

All conference registrations and hotel reservations will be handled on-line, exceptionally an Offline Registration Form is available. The registration can be paid by credit card or bank transfer. Payments are acknowledged in writing. Institutions and companies may request invoices for registration of employees on company stationery. Please accept all bank charges related to the transfer expenses of your payment. All payments must be made in Swiss Francs (CHF). Foreign currency exchange rates for February 2013: CHF 1.– ≈ EUR 0.84 ≈ USD 1.09 ≈ JPY 86. Registrations are accepted as long as space is available.

### Cancellation of Registration

Cancellations of confirmed registrations have to be sent by email to [forum@efcf.com](mailto:forum@efcf.com) before 31 May 2013. Fees already paid will be refunded, except for a charge of CHF 300.– to cover administrative expenses and the cost of the Electronic Proceedings that will be mailed to the registrant after the event.

No refunds can be made for cancellations received after 31 May 2013. All withdrawing registrants will receive the Electronic Proceedings of the EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013.

### Hotel Reservation

➡ [www.efcf.com](http://www.efcf.com)

Please book your hotel rooms on-line. Please find the link on our website [www.efcf.com](http://www.efcf.com), use the on-line "Hotel Reservation" button of STC. Hotel expenses are paid directly to the hotel management. **The European Fuel Cell Forum is not responsible for hotel accommodations. Please make sure to register ONLY ONCE!**



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1625 K Street NW, Suite 725  
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P.O. Box 248294  
Coral Gables, FL 33124/USA

### **SIA (Berufsg. Technik und Industrie)**

Selnaustrasse 16  
CH-8039 Zurich/Switzerland

### **Swiss Academy of Engineering Sciences**

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CH-8603 Schwerzenbach/Switzerland

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DE-69469 Weinheim/Germany

### **Vätgas Sverige**

Drottninggatan 21 SE-411 14  
Gothenburg/Sweden

## Lucerne

Lucerne is located in the heart of Switzerland on the Lake of Lucerne admired for its beauty and tranquility. Nostalgic paddle wheel steamers connect the romantic town to charming sites. From there you may ascend picturesque “Mount Rigi” and steep “Mount Pilatus”, or reach the high regions in the Alps of Switzerland. Cogwheel mountain trains, cable cars or aerial tramways take you past alpine scenery to breath-taking panoramic views of the Top of Switzerland. Most of the places can be reached within 1–3 hours travel.

Lucerne itself is built along the “Lake of Lucerne” and the “Reuss River”, outflow of the lake. The medieval part is closest to the waterfront. Bridges connect both banks. The famous wooden “Kapellbrücke” has been perfectly rebuilt by local artisan after total destruction by a catastrophic fire in 1993.

Switzerland is located in the heart of Europe. You may ideally combine your conference participation with business visits or private trips before and after the event.



## Travel Arrangements

### TRAVEL INFORMATION

Swiss International Air Lines is proud to be the Official Carrier for the 4<sup>th</sup> EUROPEAN PEFC AND H<sub>2</sub> FORUM 2013 and is offering special Congress Fares to all participants. These Congress Fares offer reductions of up to 25 % depending on the fare type, route and space availability.

Congress Fares are valid on the entire SWISS route network for flights to Switzerland, including flights operated by partner airlines under an LX flight number. These fares are now bookable for the travel period 14 days prior to and 14 days after the event.

Only **registered congress participants** can take advantage of this offer. After successful on-line registration (see also button Registration and Hotel Reservations).



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