

Organized by the
European Fuel Cell Forum
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Swiss Academy of Engineering Sciences

Swiss Gas and Water Industry Association

International Hydrogen Energy Association



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FINAL ANNOUNCEMENT

15th highly valued conference series of the European Fuel Cell Forum in Lucerne

European Fuel Cell Forum 2011

28 June – 1 July 2011

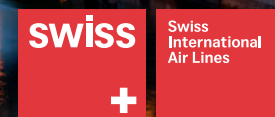
Kultur- und Kongresszentrum Luzern – KKL Luzerne / Switzerland

International FUEL CELL and HYDROGEN Conference with Exhibition



International gathering of 300 fuel cell and hydrogen experts. More than 180 technical presentations – 120 orals and 60 posters. Exhibition of FUEL CELL and HYDROGEN solutions and technology. Reports on successful research, developments and leading EU-demonstration projects as well as a valuable up-date on the TECHNICAL STATE-OF-THE-ART and of the worldwide FUEL CELL & HYDROGEN PROGRAMS

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28 June 2011
FUEL CELL TUTORIAL
by Dr. Günther G. Scherer, PSI Villigen
Dr. Jan Van Herle, EPF Lausanne

Schedule of Events

Motto 2011

The future with Fuel Cells & Hydrogen: International Research – Programs – Realization

Tuesday, 28 June 2011	10:00 – 16:00	Exhibition set-up
	10:00 – 16:00	Tutorial by Dr. Günther G. Scherer & Dr. Jan Van Herle
	10:00 – 16:00	International Project and Set-up Meetings
	14:00 – 18:00	Poster pin-up
	16:00	Official opening of the exhibition
	16:00 – 18:00	Registration (continued on following days)
	18:00 – 19:00	Welcome gathering on terrace above registration area
	from 19:00	Thank-you Dinner (according to special invitation) and Networking meetings (in individual groups)
Wednesday, 29 June 2011	08:00 – 09:00	Speakers Breakfast
	09:00 – 18:00	Conference sessions 1 – 5 including worldwide FCH program overview, poster presentation by authors, networking and demonstrator show
	12:30	Press Conference (by invitation only)
	18:30 – 23:00	Swiss Surprise Event (first-come-first-serve, 80 – 100 places, separate registration)
Thursday, 30 June 2011	08:00 – 09:00	Speakers Breakfast
	09:00 – 18:00	Conference sessions 6 – 10 including common session on demonstration projects in transportation, poster presentation by authors and networking
	19:30 – 23:00	Great Dinner on the Lake
Friday, 1 July 2011	08:00 – 09:00	Speakers Breakfast
	09:00 – 17:00	Conference sessions 11 – 15 including common session on demonstration projects in the stationary field and networking
	17:00 – 17:45	Award Ceremony for best paper, speaker, presentation and poster: Christian Friedrich Schoenbein and ZAHNER-Elektrik GmbH Award
	17:45 – 18:00	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 in a very charming, inspirational location.

Like every year in summer and in Lucerne, the heart of Switzerland, the European Fuel Cell Forum invites more than 4,000 stakeholders to its international fuel cell and hydrogen event. About 180 contributions and posters will be presented in 23 partially parallel sessions during 3 intensive and stimulating days. Beside the high level scientific content, the targets, status, programs and future calls of Europe, USA, Japan and China will be outlined. Ongoing big demonstration projects in the transportation and stationary application areas are presented, and two poster sessions are performed. In 2009, 200 participants from 21 countries attended. 400 attended in 2010 when the conference focused on SOFC. 300 to 400 participants are expected in 2011.

The European Fuel Cell Forum was initiated in 1994 by Dr. Ulf Bossel and has now a tradition of 17 years. Already the 1st EUROPEAN SOFC FORUM (1994) attracted highly qualified and international speakers and audience. Over the years an appreciated high quality conference series has been established, alternating the conference focus between general fuel cells and hydrogen in odd years, and SOFC only in even years. This track record of conferences with high technical level builds the base for this years' edition, the 15th European Fuel Cell Forum. It is open to all fuel cells and hydrogen technologies. Many fruitful contacts and promising solutions have been initiated around this event thanks to a caretaking organisation and watch eye on scientific quality. For his enormous inputs and constancy over all the years, we would like to take the opportunity in the name of all of us and say "thank you very much, dear Ulf".

For Ulf, at his respectable age, time has come to retire. The management of the highly successful conference series was handed over to Olivier Bucheli and Dr. Michael Spirig. Both are for many years active members of the European fuel cell and hydrogen community. Thus the organisation remains in the hands of fuel cell technologists, which are aware of the community's interest. The stakeholders needs will remain the focus for the organisation of the future events.

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

Together with the conference chair, Prof. Dr. K. Andreas Friedrich from German Aerospace Center DLR, we would like to offer you herewith a sound scientific program and invite you to the known, 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 European Fuel Cell Forum 2011.

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

European Fuel Cell Forum

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EUROPEAN FUEL CELL FORUM 2011

Chairman: Prof. Dr. K. Andreas Friedrich

German Aerospace Center DLR

The 2011 conference stands under the Motto:

The future with Fuel Cells & Hydrogen:

International Research – Programs – Realization

ALL FUEL CELL technologies – PEFC, DMFC, AFC, PAFC, MCFC and SOFC, including HYDROGEN production and storage – will be presented at the EUROPEAN FUEL CELL FORUM 2011. The topics will range from material to systems and FC&H demonstrations including hydrogen infrastructure. The conference is chaired by Prof. Dr. K. Andreas Friedrich of the German Aerospace Center DLR.

The EUROPEAN FUEL CELL FORUM 2011 will address scientific questions, 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. A Europe-bound event with high participation of stakeholders from all continents.

The technical program of the EUROPEAN FUEL CELL FORUM 2011 has been set-up by the Scientific Committee. This panel exercises full independence in all technical matters. All papers presented as lectures or 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.

Conference language is English.

The Chairman: Prof. Dr. K. Andreas Friedrich

Dr. K. Andreas Friedrich is Professor of Mechanical Engineering at the University of Stuttgart and Head of the Fuel Cell Research Activities at the German Aerospace Center (DLR) in Stuttgart, Germany.

His research areas include polymer electrolyte fuel cells as well as solid oxide fuel cells. Starting with fundamental work on electro-catalysts, he has become increasingly application-oriented leading to the recent specialization on aircraft fuel cell systems.

The primary goals comprise enhanced power density, long lifetime, reduction of materials and manufacturing costs, identification of degradation mechanisms in stacks and their prevention, advanced stack design, and optimised integration of fuel cells into energy supply systems.

Dr. Friedrich has authored and co-authored more than 110 papers in the described areas of research. In 2009 he received the Helmut Fischer Medal 2009 (DECHEMA) for outstanding research.



Tutorial

Tuesday, 28 June 2011, from 10:00 to 17:00

The Tutorial is an excellent Kick-Start to the European FUEL CELL FORUM 2011

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 as broad as possible these different aspects, 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 long and daily expertise of both lecturers in their respective fields.



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

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

The Tutorial language is English.

Each participant will receive a complete documentation of the Tutorial lectures. Tutorial registration fee for all participants is 500 CHF (8 % VAT is included).

Please register online on www.efcf.com

The Tutorial addresses 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.

Date and Place

The EUROPEAN FUEL CELL FORUM 2011 will be held from 28 June to 1 July, 2011 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 Railroad 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 exclusively deal with all fuel cell technologies including hydrogen production and storage. This year also worldwide fuel cell and hydrogen programs from Europe, USA, Japan and China will be outlined by high level representatives. Two focus sessions pay special attention to running key-demonstration projects in the stationary and transportation application areas. An attractive four-day program offers product presentations, scientific lectures, demonstrations, posters and exhibits. All together, more than 180 scientific contributions will be presented i.e. more than 120 papers in 21 oral sessions, and more than 60 posters in two additional sessions.

All events are offered in the same building. Registration covers unrestricted admission to conference and 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 fuel cells of all kinds and hydrogen technologies are addressed. The EUROPEAN FUEL CELL FORUM 2011 will be a major European fuel cell and hydrogen event in the year 2011.

Exhibition

Fuel cell products are exhibited in the lobby area of the lecture halls. Developers of all kinds of fuel cells and system hardware, suppliers of components 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 for further information. The names of confirmed exhibitors are listed below.

International Project Meetings

As many internationally relevant persons participate at the EUROPEAN FUEL CELL FORUM, Monday and Tuesday of the conference week have become more and more established as 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 and download registration form on www.efcf.com.



Proceedings

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. If you are unable to attend the event, you may order the proceedings by mail. The Proceedings Purchase Form can be downloaded from our website www.efcf.com. Payment by credit card is preferred.

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, governments, investment groups, consultants and electric power 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 EUROPEAN FUEL CELL FORUM 2011 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, June 29, 2011

Morning

1	Auditorium
09:00	Opening Session Worldwide Fuel Cell & Hydrogen Programs 1 (A01) Welcome by the Organizers Michael Spirig, Olivier Bucheli European Fuel Cell Forum, Lucerne / Switzerland Welcome by the Chairman K. Andreas Friedrich German Aerospace Center (DLR), Stuttgart / Germany Welcome to Lucerne the Inspiring Meeting Point to be announced Welcome to Switzerland the Smart Research Place to be announced Europe's Fuel Cells and Hydrogen Joint Undertaking Jean-Luc Delplancke Fuel Cells and Hydrogen Joint Undertaking, Brussels / European Commission Overview of DOE Hydrogen and Fuel Cell Activities Dimitrios Papageorgopoulos U.S. Department of Energy, Pittsburgh / USA
10:30	Break

Session Overview				Page	Page
1	Opening Session & Worldwide Fuel Cell & Hydrogen Programs 1	8	A		
2	Worldwide Fuel Cell & Hydrogen Programs 2	9	A		
3	Poster Session I	21 – 24			
4	PEMFC Applications	10	A	SOFC Development and Durability	10 B
5	Fuel Cell Applications I	11	A	Intermediate Temperature SOFC	11 B
6	Fuel Cell Demonstration – Transportation	12	A		
7	PEMFC Components – Electrodes	13	A	Fuel Cell Applications II	13 B
8	Poster Session II	21 – 24			
9	Direct Methanol Fuel Cell Components	14	A	High Temperature Fuel Cell characterisation	14 B
10	PEMFC Components – Characterisation and Improvements	15	A	SOFC Components – Characterisation and Improvements	15 B
11	Fuel Cell Demonstration – Stationary	16	A		
12	Fuel Processing Integration and Durability	17	A	Fuel Cell Diagnostics	17 B
13	Fuel Cell Modelling	18	A	Development of Fuel Processing	18 B
14	Control Strategies and Modelling	19	A	Hydrogen Production and Storage	19 B
15	Closing Ceremony	20	A		

Morning

Wednesday, June 29, 2011

Morning

2	Auditorium
11:00	Worldwide Fuel Cell & Hydrogen Programs 2 (A02) Overview of Japan's Fuel Cell and Hydrogen Program Akira Izumi New Energy and Industrial Technology Development Organization, Paris or Tokyo / Japan Overview of Fuel Cell and Hydrogen Activities in the People's Republic of China Jianxi Ma Tongji University, Shanghai / China Recent Developments in the SECA Program Shailesh D. Vora U.S. Department of Energy, Pittsburgh / USA
12:30	Lunch

Afternoon

Wednesday, June 29, 2011

Afternoon

3	Club Room 3 & 4
13:30	Poster Session I

4	Auditorium	Club Room 5 & 6
14:30	<p>PEMFC Applications (A04)</p> <p>Improvement of PEMFC Stack Components for Commercializing Residential CHP Systems Haruhiko Adachi Tokyo Institute of Technology, Tokyo/Japan</p> <p>H₂/O₂ Fuel Cell System for Automotive Application Jérôme Bernard (1), Marcel Hofer (1), Uwe Hannesen (2), Felix N. Büchi (1) (1) Paul Scherrer Institut, Villigen/Switzerland (2) Belenos Clean Power Holding, Biel/Switzerland</p> <p>Preliminary results from the EcoMotion Demonstration Project – Reformed Methanol Fuel Cells in Niche Transport Applications Jesper Lebak, Morten Holst Johansen, Johan Hardang Vium Danish Technological Institute, Aarhus/Denmark</p> <p>PEMFCs compared to other technologies for air independent energy supply Thomas Nietsch, Olivier Verdu HELION, Aix-en-Provence/France</p> <p>Uninterruptible Power Supply with PEM FC Technology Ulrike Trachte, Beat Wellig Lucerne School of Engineering and Architecture, Horw/Switzerland</p> <p>Auto-Stack – Implementing a European Automotive Fuel Cell Stack Cluster André Martin, Ludwig Jörissen Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW), Ulm/Germany</p>	<p>SOFC Development and Durability (B04)</p> <p>Fabrication of Low-Profile and Large Size Solid Oxide Fuel Cell Combined with Strength Reinforcement Layer and Shrinkage Control Layer Hongyoul Bae, Junghoon Song, Youngmin Park, Jinsoo Ahn Research Institute of Industrial Science & Technology (RIST), Pohang/Korea</p> <p>Sol-Gel Process to Prepare an Anode Supported SOFC Emilie Courtin, Philippe Boy, Nathalie Poirot, Christel Laberty-Robert CEA-DAM, Monts/France</p> <p>SOFC Degradation Quantification Using Image Analysis Robert Steinberger-Wilkens, Maxim Ananyev, Alexander Gavriluk Forschungszentrum Jülich GmbH, Jülich/Germany</p> <p>Direct Methanol Solid Oxide Fuel Cell: a resistant anode towards carbon deposition Maurizio Minutoli, Massimiliano Lo Faro, Vincenzo Antoncci, Antonino Salvatore Arico CNR-ITAE, Messina/Italy</p> <p>Influence of artificial wood gas with alkali salt vapors on the Solid Oxide Fuel Cell Ni-cermet anode Gunnar Nurk, Artur Braun, Peter Holtappels, Thomas Graule EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf/Switzerland</p> <p>Production and testing of an anode-supported SOFC made from in-house synthesized NiO-YSZ nano-composite powder Hanna Tikkanen (1), Crina Suciu (2), Ivar Wærnhus (2), Alex C. Hoffmann (1) (1) University of Bergen, Bergen/Norway, (2) Prototech AS, Bergen/Norway</p>
16:00	Break	

5	Auditorium	Club Room 5 & 6
16:30	<p>Fuel Cell Applications I (A05)</p> <p>Regenerative Fuel Cell System as alternative energy storage device Willigert Raatschen, Joachim Lucas, Walter Jehle, Sebastian Markgraf Astrium GmbH, Friedrichshafen/Germany</p> <p>PEM Electrolysis for Decentralized Energy Supply Uwe Kueter, Claus Wuerfel h-tec Wasserstoff-Energie-Systeme GmbH, Lübeck/Germany</p> <p>Design and characterisation of a portable high temperature PEM fuel cell module Timo Kurz, Julian Keller Fraunhofer Institute for Solar Energy Systems ISE, Freiburg/Germany</p> <p>Recent developments of micro DMFC and FC/battery hybrid power supply system in ITRI Welkin Ling, Li-Duan Tsai, Yin-Wen Tsai, Ku-Yen Kang ITRI Industrial Technology Research Institute, Chutung/Taiwan ROC</p> <p>Development of alkaline direct alcohol fuel cells Carsten Cremers, Florina Jung, André Niedergesäß, Jens Tübke Fraunhofer Institute for Chemical Technology ICT, Pfaffenhofen/Germany</p> <p>High efficient solar hydrogen generation using a HyCon® system Sebastian Rau, Aurelien Yanwou, Gerhard Peharz, Tom Smolinka Fraunhofer Institute for Solar Energy Systems ISE, Freiburg/Germany</p>	<p>Intermediate Temperature SOFC (B05)</p> <p>Low Temperature Preparation and Characterization of LSGMC based IT-SOFC cell by Aerosol Deposition Jong-Jin Choi, Joon-Hwan Choi, Dong-Soo Park Korea Institute of Material Science, Gyeongnam/Korea</p> <p>Discussion on the feasibility of SOFC anodes based on CeO₂-ZrO₂ mixed oxides Marta Boaro, Chiara Abate, Matteo Ferluga, Alfonsina Pappacena, Alessandro Trovarelli Università di Udine, Udine/Italy</p> <p>Nd-Nickelate Based Solid Oxide Fuel Cell Cathodes Sensitivity to Cr-, Si-Contamination J. Andreas Schuler, Henning Lübke, Aicha Hessler-Wyser, Jan Van Herle Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne/Switzerland</p> <p>Preparation of SOFC materials via co-precipitation Giovanni Dotelli, Cinzia Cristiani, Renato Pelosato, Luca Zampori, Politecnico di Milano, Milano/Italy</p> <p>Functional Layers Design between Multiple Doped Electrolyte and Perovskite Electrodes Horng-Yi Chang, Shing-Hoa Wang, Chia-Ming Chang, Chien-Wei Lai National Taiwan Ocean University, Keelung/Taiwan ROC</p> <p>Correlation of electronic structure and electronic transport in LaSrFeNi-oxide – a potential IT-SOFC cathode material Artur Braun, S. Erat, L.J. Gauckler, T. Graule EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf/Switzerland</p>
18:00	End of Sessions	
18:30	Swiss Surprise Event (first-come-first-serve, 80 – 100 places, separate registration online – www.efcf.com)	

6	Auditorium
9:00	Fuel Cell Demonstration – Transportation (A06) Fuel Cell Bus Service – Update on Canada and London Geoffrey Budd Ballard Power Burnaby/Canada CHIC – Clean Hydrogen in European cities Monika Kentzler, Ulrich Piotrowski Daimler EvoBus GmbH, Kirchheim/Germany Hydrogen Pathways in France: Results of the HyFrance3 Project Alain Le Duigou, Marie-Marguerite Quéméré, Pierre Marion, Philippe Menanteau, Sandrine Decarre, Laure Sinegre, Lionel Nadau, Aline Rastetter, Aude Cuni, Philippe Mulard, Loic Antoine, T. Alleau CEA Saclay, Gif-Sur-Yvette/France Fuel Cells for Green Corridors Walter Huber IIT (Institut für Innovative Technologien), Bozen/Italy
10:00	Break

7	Auditorium	Club Room 5 & 6
10:30	PEMFC Components – Electrodes (A07) Surface properties of Pt and PtCo electro-catalysts and their influence on the performance and degradation of high temperature polymer electrolyte fuel cells Antonino Salvatore Arico, Alessandro Stassi, Enza Passalacqua, Irene Gatto CNR-ITAE, Messina/Italy Towards stable catalyst supports Isotta Cerri, Tetsuo Nagami, Jon Davies, Brian Hayden, Toyota Motor Europe, Zaventem/The Netherlands Continuous preparation of highly active Pt/CNT catalysts Alicja Schlange, Antonio Santos, Thomas Turek, Ulrich Kunz Clausthal University of Technology, Clausthal-Zellerfeld/Germany Ultrasonic Spraying of PEM-FC Electrodes Casey J. Hoffman, Daniel F. Walczyk, Christopher Cichetti, Rensselaer Polytechnic Institute, Troy/USA-NY PEM systems with Pt-free cathodes using FlowCath® Technology Andrew M. Creeth, Andrew R. Potter, Kathryn J. Knuckey, Brian Clarkson ACAL Energy Ltd, Runcorn/United Kingdom Effect of oxide formation on the oxygen reduction kinetics on Pt and PtCo PEMFC cathodes Max Cimenti, Robert Kehoe, Jürgen Stumper Automotive Fuel Cell Cooperation Corporation, Burnaby/Canada Integrated Electrodes with Pt Nanowires in Polymer Electrolyte Fuel Cells Shangfeng Du, Benjamin Millington, Bruno G. Pollet University of Birmingham, Birmingham/United Kingdom	Fuel Cell Applications II (B07) Advanced Electrolysers for Hydrogen Production with Renewable Energy Sources Olivier Bucheli, Florence Lefebvre-Joud, Annabelle Brisse, Martin Roeb, Manuel Romero HTceramix SA, Yverdon-les-Bains/Switzerland Status of the RelHy project on innovative Solid Oxide Electrolyser Stacks for Efficient and Reliable Hydrogen production Florence Lefebvre-Joud (1), Marie Petitjean (1), Bert Rietveld (2), Jacob Bowen (3) (1) CEA/DEHT/Liten, Grenoble/France, (2) ERC, Petten/The Netherlands, (3) Risoe National Laboratory, Frederiksborgvej/Denmark and Imperial College of London, Eifer, Topsoe Fuel Cell/DK Coupling an SOFC System with a High-Performing Metal Hydride Storage Robert Steinberger-Wilckens, Arvin Mossadegh pour, Klaus Taube, Jose Belosta von Colbe Forschungszentrum Jülich GmbH, Jülich/Germany Hydrogen Cooker by Catalytic Combustion on Porous SiC Ceramics Ulrich F. Vogt, Víctor Siong, Benjamin Fumey, Michael Biemann, Andreas Züttel EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf/Switzerland SOFC Module for Rapid Start-Ups and Many applications Ulf Bossel, ALMUS AG, Oberrohrdorf/Switzerland Development of Anode Supported Tubular Solid Oxide Fuel Cells with Low Cost and High Performance Hong Ryul Lee, Han Ul Yoo, Jae Hyuk Jang Corporate R&D Institute, Samsung Electro-Mechanics Co. Ltd, Suwon City/Korea Composite materials for molten carbonate fuel cell anodes Fabio Zaza, Hary Devianto, Claudia Paoletti, Elisabetta Simonetti, ENEA, Rome/Italy
12:15	Lunch	

8	Club Room 3 & 4	
13.30	Poster Session II	
9	Auditorium	Club Room 5 & 6
14.30	Direct Methanol Fuel Cell Components (A09) RuSe cluster-like as cathode catalyst in a formic acid laminar flow fuel cell N. Alonso-Vante, A. S. Gago, L. Timperman University of Poitiers, Poitiers/France Oxygen reduction reaction (ORR) on Ir, Rh, and Ru selenides M. Neergat, R. K. Singh Indian Institute of Technology Bombay (IITB), Mumbai/India Pt Nanoparticle Decorated Carbon Nanofibres for Methanol Electro-oxidation Eithne Dempsey, Baljit Singh, Calum Dickinson Centre for Research in Electroanalytical Technologies (CREATE), Dublin/Ireland Effect of carbon hydrophobicity as electrocatalyst support on vapour-fed DMFC performance Lúcia Brandão, Nadine Grandjean, Paula Oliveira, Alfredo Tanaka, Adélio Mendes LEPAE – Laboratório de Engenharia de Processos, Ambiente e Energia, Porto/Portugal Electro-catalytic of Pt-CeO₂/C catalyst for enhanced oxygen reduction reaction Rui Lin, Jianxin Ma, Haiyan Zhang, Chunhui Cao, Tongji University, Shanghai/China Carbide-based Electrocatalysts for Oxygen Reduction Reaction Pei Kang Shen, Hui Meng, Guoqiang He, Zhaoxue Yan, Sun Yat-sen University, Guangzhou/China	High Temperature Fuel Cell characterisation (B09) Experimental Characterization of a μ-CHP Unit based on SOFC Stack Angelo Esposito, Bastian Ludwig, Philippe Moçotéguy, Mohsine Zahid European Institut for Energy Research (EIFER), Karlsruhe/Germany Control of a Solid Oxide Fuel Cell System with Biased Gas Temperature Measurements Leonidas Tsikonis, Joel Albrektsson, Jan Herle, Daniel Favrat Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne/Switzerland Single layer fuel cell Bin Zhu, Rizwan Raza, Haiying Qin, Liangdong Fan, KTH Stockholm, Stockholm/Sweden Synthesis and Characterization of LaSr₂Fe_{3-y}CryO_{9-δ} Cathode for IT-SOFC Bok-Hee Kim, Eun-Sil Choi, Min Chen Chonbuk National University, Jeonju/Korea Parametric comparative analysis of lifetime energy demand + CO₂-eq savings of a SOFC μ-CHP unit D. Giannopoulos, M. A. Founti, National Technical University of Athens, Athen/Greece Role of Sn Catalyst Mixture for Electrochemical Oxidation of Solid Carbon in Direct Carbon Fuel Cell Jaeyoung Lee, HyungKuk Ju, Sunghyun Uhm, Jin Won Kim Gwangju Institute of Science and Technology (GIST), Gwangju/Korea
16:00	Break	

10	Auditorium	Club Room 5 & 6
16:30	PEMFC Components – Characterisation and Improvements (A10) PEMFC ageing: effect of operating conditions on performance and MEA components degradation Sylvie Escribano (1), M. Holber (2), L. Merlo (3), M. Schulze (4), G. Tsotridis (5) (1) CEA/DEHT/Liten, Grenoble/France, (2) Volvo Technology Corporation, Göteborg/Sweden, (3) Solvay-Solexis, Bollate/Italy, (4) German Aerospace Center (DLR), Stuttgart/Germany, (5) JRC, Petten/European Commission Degradation of fuel cell materials investigated by atomic force microscopy Renate Hiesgen (1), Ines Wehl (2), Stefan Helmly (2), Andrea Haug (3), Mathias Schulze (3), Alexander Bauder (3), K. Andreas Friedrich (3), Haijiang Wang (4), Xiao-Zi Yuan (4) – (1) University of Applied Sciences Esslingen, Esslingen/Germany, (2) Uni Stuttgart & (3) DLR, Stuttgart/Germany, (4) National Research Council Ottawa/Canada New Aryl Monomers, Polymers and Membranes for PEMFC and DMFC Jochen Kerres, Universität Stuttgart, Stuttgart/Germany Improving the long-term stability of proton + anion conducting membranes for fuel cell applications Markus Gross, Robert Gärtner, Hans-Georg Herz, Gerhard Maier, Polymaterials AG, Kaufbeuren/Germany Study of the TiO₂ content as filler in PBI-based membranes for high temperature PEM fuel cells F. Javier Pinar, Justo Lobato, Pablo Cañizares, Manuel A. Rodrigo, Diego Úbeda University of Castilla-La Mancha, Ciudad Real/Spain Determination of “good” or “bad” protic ionic liquids or molten salts for high temperature PEMFC electrolytes Jiangshui Luo, Ivo F. J. Vankelecom, Carsten Agert, Olaf Conrad, Next Energy, EWE Research Center for Energy Technology, Oldenburg/Germany	SOFC Components – Characterisation and Improvements (B10) GDC Buffer Layer Coating by Aerosol Deposition Method Byeong-Geun Seong, Hong-Youl Bae, Jong-Jin Choi, Dong-Soo Park Research Institute of Industrial Science & Technology (RIST), Pohang/Korea Anode Structure Improvement Ghazanfar Abbas (1), Rizwan Raza (2), M. Ashraf Chaudhary (1), Bin Zhu (3) (1) Bahauddin Zakaria University (BZU), Multan/Pakistan, (2) COMSATS Institute of Information Technology, Islamabad/Pakistan, (3) KTH Stockholm, Stockholm/Sweden Testing of mechanical performance of reactive-airbrazed (RAB) metal/ceramic joints for SOFC applications Jörg Brandenberg, Bernd Kuhn, Tilmann Beck, Forschungszentrum Jülich GmbH, Jülich/Germany Synthesis and Electrical Properties of Strontium Titanate-Based Materials for Solid Oxide Fuel Cells Jong-Won Lee, Beom-Kyeong Park, Rak-Hyun Song, Korea Institute of Energy Research, Daejeon/Korea Testing metallic Interconnects for SOFC with working “real life” parameters at 600 °C Paolo Piccardo (1), Sebastian Fontana (2), Roberta Amendola (3), Massimo Viviani (3), Zeynep Ilhan (4), Kazimierz Przybylski (5) – (1) University of Genoa, Genoa/Italy, (2) Université Nancy, Nancy/France, (3) CNR-IPEN, Milano/Italy, (4) German Aerospace Center (DLR), Stuttgart/Germany, (5) AGH, Kraków/Poland Cobalt electrodeposition in 430 steel for use as interconnects of solid oxide fuel cells (SOFC) Eric Marsalha Garcia, Tulio Matencio, Rosana Zacarias Domingues, Universidade Federal de Minas Gerais, Minas Gerais/Brazil
18:00	End of Sessions	
19:30	Dinner on the Lake	

11	Auditorium
09:00	Fuel Cell Demonstration – Stationary (A11) Status and Accomplishments of Worldwide SOFC Demonstration Robert Steinberger-Wilckens, Ludger Blum Forschungszentrum Jülich GmbH, Jülich/Germany Fuel Cells for Commercial Buildings Whitney G. Colella, Mike Rinker, Jamie Holladay, Carl Baker Pacific Northwest National Laboratory (PNNL), Richland/USA-WA Galileo 1000 N – Status of Development and Operation Experiences Volker Nerlich, Thomas Doerk, Andreas Mai, Alexander Schuler Hexis AG, Winterthur/Switzerland
10:00	Break

12	Auditorium	Club Room 5 & 6
10:30	Fuel Processing Integration and Durability (A12) Bio-Ethanol Reformer with HT-PEM Fuel Cell for Residential Combined Heat and Power Generation Lisbeth Rochlitz, Wolfgang Koch, Thomas Aicher, Fraunhofer Institute for Solar Energy Systems ISE, Freiburg/Germany Integrated fuel cell APU based on a diesel steam reformer and a PEM fuel cell Philip Engelhardt, Frank Beckmann, Martin Brenner, Sascha Toelle, OWI Oel-Waerme-Institut GmbH, Aachen/Germany An overview of current micro-structured fuel processing activities from fundamental studies to early markets application Martin O'Connell, Martin Wichert, David Tiemann, Gunther Kolb, Institut für Mikrotechnik Mainz GmbH, Mainz/Germany Hydrogen Quality for LT-PEM Fuel Cells – Commercial and operational aspects of Selective Methanation Hans-Peter Schmid, Lutz Schilling, WS Reformer GmbH, Renningen/Germany Design and evaluation of a cyclic fixed bed reactor for hydrogen purification Christoph Hertel, Peter Heidebrecht, Kai Sundmacher Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg/Germany Characterization of a 500 We PEMFC Stack During Ageing Philippe Mocôtéguy, Bastian Ludwig, Guillaume Gehier, European Institut for Energy Research (EIFER), Karlsruhe/Germany Surface characterization of Ni-based anode after poisoning with low concentration of H₂S in MCFC Hary Devianto, Fabio Zaza, Claudia Paoletti, Elisabetta Simonetti, ENEA, Rome/Italy	Fuel Cell Diagnostics (B12) Spatially resolved analysis of water transport mechanisms Dietmar Gerteisen, Andreas Spadinger, Maximilian Schwager, Walter Mérida, Christopher Hebling Fraunhofer Institute for Solar Energy Systems ISE, Freiburg/Germany An in operando and time resolved x-ray absorption spectroscopy study of the ethanol oxidation reaction Julia Melke, Carsten Cremers, David E. Ramaker, Christina Roth, Uni of Technology, Darmstadt/Germany On-line Gas Measurements within PEM Fuel Cell Flow Fields by Electric Arc Emission Spectroscopy and Raman Spectroscopy Hans Bettermann, Peter Fischer, Martin Labus, Heinrich-Heine-University of Düsseldorf, Düsseldorf/Germany PEMFC diagnostics: Segmented Cell for in situ current distribution measurements Mikael Holber, A. Selimovic, I. Ahmed, Volvo Technology Corporation, Göteborg/Sweden Electrochemical Impedance Spectroscopy – a Tool for SOFCs Studies Daria Vladikova, Zdravko Stoyanov, Anthony Chesnaud, Gergana Raikova Institute of Electrochemistry and Energy Systems – BAS, Sofia/Bulgaria Multiscale and element specific microstructure characterization of SOFC assemblies with resonant ultra small angle x-ray scattering Artur Braun, EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf/Switzerland Investigation of the Transport Properties on the Strained Ceramic Proton Conductors under Pressure Qianli Chen, Artur Braun, Nikolai Bagdassarov, Thomas Graule EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf/Switzerland
12:15	Lunch	

Afternoon

Friday, July 1, 2011

Afternoon

13	Auditorium	Club Room 5 & 6
13:30	Fuel Cell Modelling (A13) Understanding Water Removal from Fuel-Cell Gas-Diffusion Layers Adam Z. Weber, Prodip Das, Haluna P. Gunterman Lawrence Berkeley National Laboratory, Berkeley/Canada Two phase Pore Network Model of the cathode catalyst layer of the PEMFC Mohamed El Hannach, Joël Pauchet, Marc Prat CEA/DEHT/Liten, Grenoble/France A Numerical Model Predicting Liquid Water Saturation within the Cathode Electrode of a Proton Exchange Membrane Fuel Cell Naveed Akhtar, Piet J.A.M. Kerkhof Technical University, Eindhoven, Eindhoven/The Netherlands Aging mechanisms in fuel cell and battery and there correlation in a car model Frieder Herb Daimler AG, Kirchheim/Germany Dynamic Simulation of a Proton Exchange Membrane Fuel Cell (PEMFC) for Automotive Systems Abid Rabbani, Masoud Rokni Technical University of Denmark, Lyngby/Denmark Influence of nature and concentration of iron ions on the degradation of PEMFCs: a modeling study Romain Coulon (1), Alejandro A. Franco (1), Wolfgang G. Bessler (2) (1) CEA/DRT/Liten/DTH, Grenoble/France, (2) German Aerospace Center (DLR), Stuttgart/Germany	Development of Fuel Processing (B13) The review of on-board hydrogen production and CO purification for transportation fuel cells Athanasios Tsolakis, J. J. Chong, W. C. Tsolakis University of Birmingham, Birmingham/United Kingdom Pyrochlore-based Diesel Reforming Catalysts for Fuel Cell Applications Dushyant Shekhawat, David Berry, Daniel Haynes, Mark Smith, James Spivey National Energy Technology Laboratory, Morgantown, WV/USA-WV Combined dry and steam reforming of biogas for generation of H₂ and CO rich fuel gas for SOFC Carsten Spieker, Christian Spitta, Michael Steffen, Angelika Heinzel Zentrum für Brennstoffzellen Technik ZBT GmbH, Duisburg/Germany Pre-reforming of liquid hydrocarbons at atmospheric pressure Nils Kleinohl, Ansgar Bauschulte, Klaus Lucka OWI Oel-Waerme-Institut GmbH, Aachen/Germany Pyrolysis, a Low Cost Multi-fuel Processor for Fuel Cells Robert Szolak, Thomas Aicher Fraunhofer Institute for Solar Energy Systems ISE, Freiburg/Germany Further development of a compact steam reformer for diesel fuel Marius Maximini, Melanie Grote, Martin Brenner, Sascha Tölle OWI Oel-Waerme-Institut GmbH, Aachen/Germany
15:00	Break	

Afternoon

Friday, July 1, 2011

Afternoon

14	Auditorium	Club Room 5 & 6
15:30	Control Strategies and Modelling (A14) Using Electrochemical Impedance Spectroscopy for fuel cell control Stefan Keller, Abdellatif Zaghloul, Quirin Meder Fraunhofer Institute for Solar Energy Systems ISE, Freiburg/Germany Numerical and experimental study of PEMFC water strategies design management for on-board control and diagnosis Cesare Pianese, Angelo Esposito, Pierpaolo Polverino University of Salerno, Salerno/Italy Application of Proton Exchange Membrane Fuel Cell for Lift Trucks Elham Hosseinzadeh, Masoud Rokni Technical University of Denmark, Lyngby/Denmark Nonlinear operating behaviour of PEM fuel cells Richard Hanke-Rauschenbach, Michael Mangold, Kai Sundmacher Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg/Germany Model-based analysis of the environmental operating range of direct methanol fuel cell systems Ulrike Krewer, Federico Zenith Otto-von-Guericke-University, Magdeburg/Germany Thermal Management of Fuel Cell Air Independent Propulsion System Sangseok Yu, Young Duk Lee, Chan Ho Song, Seok Yeon Im Chungnam National University, Daejeon/South Korea	Hydrogen Production and Storage (B14) Thermo-chemical H₂ production: Thermo-economic modeling and process integration Laurence Tock, François Maréchal Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne/Switzerland Optimised hydrogen storage and operating pressure of electrolyzers Thomas Nietsch, Anais Konieczny HELION, Aix-en-Provence/France Solid Ammonia as Energy Carrier: Possibilities and Technology Development Debasish Chakraborty, Henrik Nybo Petersen, Tue Johannessen AmmineX A/S, Soeborg/Denmark Modeling of heat and mass transfer in metal hydride matrix during hydrogen adsorption-desorption cycle Akanji Olaitan, Andrei Kolesnikov Tshwane University of Technology, Pretoria/South Africa Functionalized metal oxide nanoparticulate films for solar photo-electrochemical hydrogen generation Artur Braun, D.K. Bora, E.C. Constable, T. Graule EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf/Switzerland Towards Solving Fundamental Issues For Alkaline Exchange Membrane Fuel Cells Andrew M. Herring, James L. Horan, Mei-Chen Kuo, Jerri D. Jessop Colorado School of Mines, Golden/USA-CO
17:00	Congregate in Auditorium	

15	Auditorium
17:00	<div>Closing Ceremony (A15)</div> <div>Summary by the Chairman K. Andreas Friedrich German Aerospace Center (DLR), Stuttgart /Germany</div> <div>Information on Next EFCF in 2012 Olivier Bucheli, Michael Spirig European Fuel Cell Forum, Luzern /Switzerland</div> <div>Zahner Award for the Best Paper Carl-Albrecht Schiller ZAHNER-Elektrik GmbH & Co.KG, Kronach /Germany</div> <div>Friedrich Schönbein Award for the Best Poster, Best Presentation, Most Impressive Booth K. Andreas Friedrich (1), Ulf Bossel (2) (1) German Aerospace Center (DLR), Stuttgart /Germany (2) European Fuel Cell Forum, Luzern /Switzerland</div> <div>Thank you and Closing by the Organizers Michael Spirig, Olivier Bucheli European Fuel Cell Forum, Luzern /Switzerland</div>
18:00	End of Sessions
	End of Conference

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Wednesday, June 29, 2011

Afternoon

Poster Session I – Club Room 3 & 4

PEMFC Applications (A04)
<div>Distributed characteristics of PEMFC operated in dead-end mode with gas recirculation Adélio Mendes, Luis C. Pérez, José M. Sousa LEPAE – Laboratório de Engenharia de Processos, Ambiente e Energia, Porto /Portugal</div> <div>A Smart Grid-Connected Ethanol Powered PEMFC System José Geraldo de Melo Furtado, Gisele Ezechiello da Silva, Roberto Furtado, Eduardo Torres Serra Electric Power Research Center – Eletrobras Cepel, Rio de Janeiro /Brazil</div>
Fuel Cell Applications I (A05)
<div>Challenges for operating a MCFC in Switzerland: Requirements for installation and first results of initial operation Mevina Feuerstein, Georg Dubacher Zurich Municipal Electric Utility company, ewz, Zurich /Switzerland</div> <div>Design Optimization of the 1 kW Residential Power Generator with PEMFC Minjin Kim, Young-Jun Sohn, Won-Yong Lee Korea Institute of Energy Research, Daejeon /Korea</div> <div>Study on purge performance improvement of fuel cells with a pulsating flow Min Soo Kim, Ji Yong Jang, Sung Il Kim Seoul National University, Seoul /Korea</div> <div>The influence of CO on the current density distribution of a high temperature PEM fuel cell Marta Boaventura (1), Heinz Sander (2), K. Andreas Friedrich (2), Adélio Mendes (1) (1) Faculdade de Engenharia – Universidade do Porto, Porto /Portugal (2) German Aerospace Center (DLR), Stuttgart /Germany</div> <div>Water Droplet Dynamics in a Micro-Tubular, Proton Exchange Membrane Fuel Cell Naveed Akhtar, Technical University, Eindhoven, Eindhoven /The Netherlands</div>

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Thursday, June 30, 2011

Afternoon

Poster Session II – Club Room 3 & 4

SOFC Development and Durability (B04)
<div>Effect of Sr contents of (Ba,Sr)(Co,Fe)O_{3-δ} Cathodes on Chromium Poisoning Phenomena Yu-Mi Kim, Xinbing Chen, San Ping Jiang, Joongmyeon Bae KAIST, Daejeon /Korea</div> <div>Development of Anode-supported Flat-tube SOFC Stack having a New IC Design Seung-Bok Lee, Seok-Joo Park, Rak-Hyun Song Korea Institute of Energy Research, Daejeon /Korea</div>
Intermediate Temperature SOFC (B05)
<div>Composite Cathodes Assisted Low Temperature Micro-SOFCs Yan Yan, Janine Conde, Paul Murali Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne /Switzerland</div>
Fuel Cell Applications II (B07)
<div>BZ-BattExt – DMFC as Battery-Extender in solar-boat application Johannes Schirmer (1), Regine Reißner (1), Jochen Zabold (2), Katia Krajcinovic (3), Thomas Häring (4), Stefan Nettesheim (5), Joachin Kopf (6), Klaus Steinhart (7) (1) German Aerospace Center (DLR), Stuttgart /Germany (2) Freudenberg FCCT KG, Weinheim /Germany (3) Universität Stuttgart, Stuttgart /Germany (4) Between Lizenz GmbH, Stuttgart /Germany (5) Staxon Consulting GbR, Berlin /Germany, (6) Kopf Solarschiff GmbH, Sulz-Kastell /Germany (7) Ulmer Brennstoffzellen Manufaktur GmbH, Ulm /Germany</div>
<div>Optimization of MCFC Hybrid Plant Design for CO₂ Recovery Meeyoung Park, Won-Joon Choi, Ahrim Yoo, Jong Kyun You, Gi pung Lee, Kil ho Moon, Tae won Lee Doosan Heavy Industries & Construction Co., Ltd, Daejeon /Korea</div> <div>Exergetic Analysis on SOFC micro CHP System Young Duk Lee, Byungjun Kim, Sang Min Lee, Kook Young Ahn Korea Institute of Machinery and Materials, Daejeon /Korea</div>

PEMFC Components – Electrodes (A07)

Pt based thin films deposited by magnetron sputtering for PEMFC and DMFC fuel cells

Aboubakr Ennajdaoui, Matthieu Vogt, Marjorie Cavarroc
Made In Dreux Innovation, Vernouillet/France

Development of Membrane Electrode Assemblies for PEFC based on Aromatic Membranes

Sebastian Altmann, Erich Gülzow, K. Andreas Friedrich
German Aerospace Center (DLR), Stuttgart/Germany

CNT/PTFE composite film coating on stainless steel bipolar plate as anticorrosion coating

Yoshiyuki Show
Tokai University, Kanagawa/Japan

CNTs grown on Carbon paper as a cathode for PEMFC

Yong-Gun Shul, Jinhee Ok, Altsukh Dorjgotov, Junki Rhee, Sangsun Park
Yonsei University, Seoul/Korea

Direct Methanol Fuel Cell Components (A09)

Methanol tolerance of Pt-Co catalysts

F. G. S. Wasim (1), B. P. Ladewig (2), M. Neergat (1)
(1) Indian Institute of Technology Bombay (IITB), Mumbai/India
(2) Monash University, Melbourne/Australia

Promising Non-Ru Methanol Electro-Oxidation Catalysts for Direct Methanol Fuel Cell Application

Syed Javid Zaidi, Mukhtar Bello, Sleem-Ur Rahman, Shakeel Ahmed
King Fahd University of Petroleum & Minerals, Dhahran/Saudi Arabia

Methanol Electro-oxidation by Carbon Supported Cobalt and Nickel based Catalysts

Eithne Dempsey, Baljit Singh
Centre for Research in Electroanalytical Technologies (CREATE), Dublin/Ireland

Studies of the Synergetic Effects of Sb₂O₄ on Pt Electrocatalyst for Intermediate Temperature DMFC Application

Jin Hu, Jiangshui Luo, Peter Wagner, Carsten Agert
EWE-Forschungszentrum für Energietechnologie e. V., Oldenburg/Germany

PEMFC Components – Characterisation and Improvements (A10)

Influence of different Micro Porous Layers on electrochemical performance of PEFCs

Paola Gallo Stampino, Saverio Latorata, Cinzia Cristiani, Giovanni Dotelli
Politecnico di Milano, Milano/Italy

Development of High Performance and Durable Fuel Cell Membranes Based on Radiation Grafting

Lorenz Gubler, Hicham Ben Youcef, Sandro Lüscher, Jürg Thut, Lukas Bonorand, Günther G. Scherer
Paul Scherrer Institut, Villigen/Switzerland

High-Temperature Polymer Electrolyte Membrane Fuel Cells: The Effect of Compression

Anja Diedrichs, Peter Wagner, Olaf Conrad
Next Energy, EWE Research Center for Energy Technology, Oldenburg/Germany

Stability of Suspensions and Manufacturing of Electrolyte Films

Hosane Aparecida Taroco, Rosana Zacarias Domingues, Tulio Matencio
Universidade Federal de Minas Gerais, Minas Gerais/Brazil

Preparation and characterization of new sulfonated partially fluorinated polyarylenethioether and their blends with a polybenzimidazole

Corina Seyb, Jochen Kerres, Universität Stuttgart, Stuttgart/Germany

New High Performance Proton Conducting Membranes for Hotter, Drier Operation of Polymer Electrolyte Fuel Cells

Andrew M. Herring, James L. Horan, Mei-Chen Kuo, Gregory J. Schlichting
Colorado School of Mines, Golden/USA-CO

Stabilization of SAP membranes for PEMFCs

Giuseppe Barbieri, Enrica Fontananova, Adele Brunetti, Enrico Drioli
University of Calabria, Rende/Italy

Thermally stabilized PVA-g-PAA substituted benzimidazolium group membranes for Fuel cell applications

Pratima Gajbhiye, Anil Kumar, J. K. Singh
Indian Institute of Technology Kanpur (IITK), Kanpur/India

Development of covalently cross-linked sulfonated PEEK/heteropoly acid composite membranes for PEMFC

Yong-Gun Shul, Heesoo Na, Hyungkwon Hwang, Channin Lee, Yonsei University, Seoul/Korea

Characterization of anion exchange membranes for use in alkaline anion exchange membrane fuel cells

Carolina Nunes Kirchner, Peter Wagner, Olaf Conrad
Next Energy, EWE Research Center for Energy Technology, Oldenburg/Germany

High Temperature Fuel Cell characterisation (B09)

Estimating of the SOFC electrolyte/electrode contact area by impedance spectroscopy

Rosana Domingues, Jacqueline Amanda F. dos Santos, Tulio Matencio
Universidade Federal de Minas Gerais, Minas Gerais/Brazil

Development and Characterization of Biomass-derived Fuels Powered SOFC

José Geraldo de Melo Furtado, Taisa Eva Gutieres, Roberto Furtado, Eduardo Torres Serra
Electric Power Research Center – Eletrobras Cepel, Rio de Janeiro/Brazil

Oxide Scale Formation in Different Metallic Interconnects for Solid Oxide Fuel Cells (SOFCs)

V. Miguel-Pérez, Ana Martínez-Amesti, K. Vidal, A. Larrañaga, M. L. Nô, M. I. Arriortua
Universidad del País Vasco/Euskal Herriko Unibertsitatea (UPV/EHU), Leioa/Spain

Electrochemical and Structural Properties of Li/K Carbonate Electrolyte in Matrix for MCFCs

Suk-Youn Jang, Mi-Youn Shin, Bo-Hyun Ryu, Tae-Won Lee
Doosan Heavy Industries & Construction Co., Ltd, Daejeon/Korea

SOFC Components – Characterisation and Improvements (B10)

Obtaining and characterization of 3YSZ+8YSZ mixtures for SOFC electrolyte

Crina Suciu-Ilea, Hanna Tikkanen, Eugen Doroliti, Catalin G. Ilea
Prototech AS, Bergen/Norway

Thin-film solid oxide fuel cells using proton conductor

Suk Won Cha, Ikwhang Chang, Yoonho Lee, Seungbum Ha
Seoul National University, Seoul/Korea

Ceramic and glass composite interconnects for Solid Oxide Fuel Cells

Seung-Bok Lee, Seuk-Hoon Pi, Rak-Hyun Song
Korea Institute of Energy Research, Daejeon/Korea

Electrochemical performance of nano-structured GDC buffer layer for IT-SOFC

Yu-Mi Kim, Joongmyeon Bae
KAIST, Daejeon/Korea

Development of a laser-based glass soldering process for fuel cell stack manufacturing

Dietrich Faidel, Wilfried Behr, Uwe Reisgen
Forschungszentrum Jülich GmbH, Jülich/Germany

Fuel Cell Diagnostics (B12)

Microbial fuel cells: Electron transfer from the outer cell membrane to the anode

Fabian Fischer, Ana Ferreira da Costa, Christèle Bastian, Manuel A. Happe
University of Applied Sciences Western Switzerland, Sion/Switzerland

Local measurement of electrical potential in a PEMFC stack using wire instrumentation technique

Samir Rachidi, Ludovic Rouillon, Sébastien Rosini, Serguei Martemianov
CEA/DEHT/Liten, Grenoble/France

Analysis of the ethanol oxidation in alkaline media

Carsten Cremers, Dominik Bayer, Birgit Kintzel, Jens Tübke
Fraunhofer Institute for Chemical Technology ICT, Pfaffzettel/Germany

Fuel Cell Modelling (A13)

Numerical Simulation of Solid Oxide Fuel Cell for Impedance Analysis

Rafat Mohammadi, Majid Ghassemi, Y. Mollayi Barzi, M. Hossein Hamed
K. N. Toosi University of Technology, Tehran/Iran

Numerical study on the capillary effect of microchannel in bipolar plate in PEMFC

Yongchan Kim, Bosung Kim, Ahyoung Woo, Yongtaek Lee
Korea University, Seoul/Korea

Kinetic Monte Carlo Simulation of Ion Conduction in Ydoped Barium Zirconate

Rojana Pornprasertsuk, Onthida Kosasang, Kittichai Somroop, Friedrich B. Prinz
Chulalongkorn University, Bangkok/Thailand

A Parameter Estimation Method for Fuel Cell Diagnostics

Leonidas Tsikonis, Arata Nakajo, Jan Herle, Daniel Favrat
Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne/Switzerland

Multiphysics Model of the Anode of a Direct Methanol Fuel Cell

Pablo A. García-Salaberri, Marcos Vera, Immaculada Iglesias, Ramón Zaera
Universidad Carlos III de Madrid, Leganés/Spain

Fuel Processing Integration and Durability (A12)

Highly integrated micro fuel cell system based on a methanol steam reformer and a HT-PEM fuel cell

Philip Engelhardt, Daniel Wichmann, Thomas Huck, Klaus Lucka
OWI Oel-Waerme-Institut GmbH, Aachen / Germany

Influence of Gas Composition on the Polymer Membrane Fuel Cell (PEFC) Performance

Norbert Wagner, Günter Schiller
German Aerospace Center (DLR), Stuttgart / Germany

Control Strategies and Modelling (A14)

The study on thermal management of the proton exchange membrane fuel cell system for the unmanned aerial vehicle

Sanggyu Kang, Byungjun Kim, Hanseok Kim, Sangmin Lee
Korea Institute of Machinery and Materials, Daejeon / Korea

Matlab/Simulink as design tool of PEM Fuel Cells as electrical generation systems

Maria T. Outeiro, Adriano S. Carvalho
Faculdade de Engenharia – Universidade do Porto, Porto / Portugal

Numerical study on the capillary effect of microchannel in bipolar plate in PEMFC

Yongchan Kim, Bosung Kim, Ahyoung Woo, Yongtaek Lee
Korea University, Seoul / Korea

Development of a dynamic model and control of a PEM fuel cell

Paolo Iora, Jekanthan Thangavelautham
Università degli Studi di Brescia, Brescia / Italy

Increasing the Efficiency of High Temperature PEM-Fuel-Cells by Using Simulated Optimized Flowfields

Thorsten Kandelhardt, Volker Wesling, Peter Giese
Clausthal University of Technology, Clausthal-Zellerfeld / Germany

Development of Fuel Processing (B13)

An experimental approach to the capability of metering units for future fuels

Thomas Rolland, Axel Müller, Horst Kappler
Thomas Magnete GmbH, Herdorf / Germany

Preferential CO oxidation over Ru/ α -Al₂O₃ catalyst prepared by deposition-precipitation

Wang Lai Yoon, Kee Young Koo, U. H. Un Ho Jung
Korea Institute of Energy Research, Daejeon / Korea

Hydrogen Production and Storage (B14)

Scenarios For The Hydrogen Society

Tabea Hirzel
SMC University, Zurich-Kloten / Switzerland

Hydrogen Production by Alkaline Electrolysis: Development and Electrochemical Characterization of Advanced Separator Materials

Jelena Stojadinović, Michal Gorbar, Ulrich Vogt, Andreas Züttel
EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf / Switzerland

Composite ceramics (CMCs) diaphragms for hydrogen production via alkaline electrolysis

Michal Gorbar, Ulrich Vogt, Jelena Stojadinović, Andreas Züttel
EMPA Swiss Federal Laboratories for Materials Science and Technology, Dübendorf / Switzerland

HT-PEM-Electrolysis

Sebastian Stypka, Claudia Schöberl, Corina Seyb, Bernd Oberschachtsiek
Zentrum für BrennstoffzellenTechnik ZBT GmbH, Duisburg / Germany

Protic ionic liquid and ionic melts prepared from imidazole and methanesulfonic acid as non-aqueous electrolytes

Jiangshui Luo, Ivo F. J. Vankelecom, Carsten Agert, Olaf Conrad
Next Energy, EWE Research Center for Energy Technology, Oldenburg / Germany

A Novel Testing Cell for Alkaline Water Electronics

Cecilia Kjartansdóttir, Lars Yde, Jørgen Jensen, Per Møller
Technical University of Denmark, Lyngby / Denmark



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Dr. Robert Steinberger (Chair; FZJ/Germany)
 Prof. Constantinos Vayenas (University of Patras/Greece)
 Prof. Martin Winter (Uni Münster/Germany)
 Dr. Christian Wunderlich (Staxera/Germany)

Special Events

Welcome Gathering

Tuesday, 28 June: 18:00, near the registration area. Meet old friends, find new ones and enjoy the splendid view of lake and historic town.

Swiss Surprise (optional, limited to 80 participants)

Wednesday, 29 June: 18:30, place to be announced. Again, a special surprise is offered in an unusual place of 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 use registration form on www.efcf.com to purchase ticket(s) in advance for you and your guests.

Dinner on the Lake

Thursday, 30 June: 19:30 Pier 6 ("Brücke 6") next to Congress Center: Historic paddle wheel steamers "Stadt Luzern & Uri" (1927, flagship of the fleet) will take us past magnificent landscape to the "Rütli" 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. Additional tickets are available at the registration desk (CHF 120 per person).

Entertainment for Accompanying Persons

The Lucerne Tourist Office offers 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 on a daily base depending on weather conditions and requests. A representative of the Luzern Tourist Office will be present in the registration area. Accompanying persons may participate in the "Swiss Surprise" and "Dinner on the Lake". Tickets are sold at the registration desk.

Scientific Advisory Committee

Prof. Dr. K. Andreas Friedrich, DLR, Stuttgart/Germany (Chair)

Prof. Nicolas Alonso-Vante, U. de Poitiers, Poitiers/France
 Dr. Antonio S. Aricò, CNR ITAE, Messina/Italy
 Dr. Sylvie Escribano, CEA, Grenoble/France
 Prof. Hubert Gasteiger, TU Munich, Munich/Germany
 Dr. Peter Holtappels, Risø/DTU, Roskilde/Denmark
 Dr. Deborah Jones, Université CNRS, Montpellier/France
 Dr. Ludwig Jörissen, ZSW, Ulm/Germany
 Prof. Anthony Kucernak, Imperial College London, London/UK
 Prof. Göran Lindbergh, KTI, Stockholm/Sweden
 Prof. Adélio Mendes, Universidade do Porto, Porto/Portugal
 Dr.-Ing. Angelo Moreno, ENEA – CR Casaccia, Rome/Italy
 Ing. Bert Rietveld, ECN, Petten/The Netherlands
 Prof. Elena Savinova, U. de Strasbourg, Strasbourg/France
 Prof. Detlef Stolten, FZ Jülich, Jülich/Germany
 Prof. Kai Sundmacher, MPI and U. Magdeburg/Germany
 Dr. Georgios Tsotridis, JRC, Petten/The Netherlands
 Prof. Daria Vladikova, Bulgarian Acad. of Sci., Sofia/Bulgaria

The Scientific Advisory Committee has been formed to structure the technical program of the EUROPEAN FUEL CELL FORUM 2011. This panel has exercised full scientific independence in all technical matters.

Scientific Organizing Committee

Prof. Dr. K. Andreas Friedrich, DLR, Stuttgart/Germany (Chair)

Dr. Wolfgang G. Bessler, DLR, Stuttgart/Germany
 Dr. Günter Schiller, DLR, Stuttgart/Germany
 Dr. Norbert Wagner, DLR, Stuttgart/Germany

List of Exhibitors

(in constitution, as confirmed on March 10, 2011)

At the time of print of the Final Announcement the following developers, material, measurement tool and component supplies as well as research institution had registered for the exhibition:

Bronkhorst (Schweiz) AG

Nenzlingerweg 5
 4153 Reinach/Switzerland
 Contact: David Peyer
d.eyer@bronkhorst.ch

CEA – Commissariat à l'énergie atomique et aux énergies alternatives

BP16
 37360 Monts/France
 Contact: Bertrand Degrolard
bertrand.degrolard@cea.fr

DLR – Deutsches Zentrum für Luft- und Raumfahrt DLR

Pfaffenwaldring 38 – 40
 70569 Stuttgart/Germany
 Contact: Werner Hoyer
werner.hoyer@dlr.de

HYDROPOLE (affirmation pending)

c/o EMPA Dübendorf
 Überlandstrasse 129
 CH-8600 Dübendorf/Switzerland
 Contact: Andreas Züttel
h2e@empa.ch

IMM – Institut für Mikrotechnik Mainz GmbH

Carl-Zeiss-Str. 18 – 20
 55129 Mainz/Germany
 Contact: Dr. Gunther Kolb
kolb@imm-mainz.de

Pragma Industries

665, rue de Bassibour
 64210 Bidart/France
 Contact: Christophe Bruniau
Christophe.bruniau@pragma-industries.com

Scribner Associates, Inc.

150 E. Connecticut Ave.
 Southern Pines, North Carolina/USA
 Contact: Jason Scribner
jason@scribner.com

Tutorial Fee

The fee for the optional Fuel Cell Tutorial by Dr. Günther G. Scherer (PSI Villigen) and Dr. Jan Van Herle (EPF Lausanne) covers the lectures with complete documentation of the six hour program, a business lunch and refreshments. You do not necessarily need to register for the Scientific Conference to participate in the Tutorial. Please indicate your choice on the Registration Form downloaded from www.efcf.com.

Tutorial Fee 500 CHF (8 % VAT is included)

Conference Fees

All participants enjoy full conference privileges, but 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
- Participation in all networking events:
 - Tuesday: Welcome Gathering with drinks and snacks
 - Thursday: Dinner on the Lake with the historical paddle wheel steamers
- 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.

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) 700 CHF (8 % VAT is included)

Academic Staff, Government, Consultants

Admission of academic staff etc. 1,400 CHF (8 % VAT is included)

Industry, Trade and Commerce

Fuel cell developers, manufacturers and distributors pay an extra 600 CHF to support the participation of students and trainees. The EUROPEAN FUEL CELL FORUM 2011 will provide an excellent platform for job search or head hunting. Participants from industry and commerce benefit from the student support contribution.

Admission of industry etc. 2,000 CHF (8 % VAT is included)

Surcharge for Late Registration

Extra fee for late registration after 01 May 2011 250 CHF (8 % VAT is included)

One-Day Tickets

Registration includes one proceedings in electronic form and one Forum Agenda as well as all conference privileges of the day. Please register on line at www.efcf.com in advance or pay at the registration desk. 700 CHF (8 % VAT is included)

Swiss Surprise (optional)

Tickets for the entertaining evening event "Swiss Surprise" on Wednesday (29 June 2011) night are sold on a first-come-first-serve basis. As participation is limited to 80 – 100 persons, the event cannot be included in the conference fee. Please order your tickets also online on www.efcf.com with your registration for the EUROPEAN FUEL CELL FORUM 2011. 120 CHF (8 % VAT is included)

Conference Registration

➔ www.efcf.com

Please register on-line for all Forum events (conference, tutorial, side events) and pay by credit card. Please use the on-line registration option also for your easy **hotel reservation**. Credit cards are needed to reserve your hotel room, but hotel bills are paid when you leave Lucerne.

www.efcf.com Registration Button or Manual Link Input:
<https://secure.event-booker.com/booking1.asp?EventID=699&MainID=6&LanguageFE=1>.

In case you cannot or do not want to register on-line, please obtain the off-line **Registration Form** and the **Hotel Reservation Form** by mouse click. Fill out these forms and return them by e-mail or fax to the address shown on the bottom of each form (Luzern Incoming).

Exhibition Registration

➔ 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.

Free Project Meeting Organisation Support Service Enquiry

➔ www.efcf.com

Stakeholders interested in the Free Organization Support Service for their project-, set-up- or other issue-meetings should complete and return the **Free Project Meeting Organisation Support Enquiry Form** to Luzern Incoming – the address shown on the bottom of the form.

Payments of the Registration Fee

All conference registrations and hotel reservations will be handled online by Luzern Incoming GmbH. The registration fee should be paid by credit card. 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 to your payment. All payments must be made in Swiss Francs (CHF). Foreign currency exchange rates for February 2011: 1 CHF ≈ 0.76 EUR ≈ 1.07 USD ≈ 88 JPY. Registrations are accepted as long as space is available.

Cancellation of Registration

Written cancellations of confirmed registrations should reach Luzern Incoming GmbH before 31 May 2011. Fees already paid will be refunded, except for a charge of 300 CHF 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 2011. All withdrawing registrants will receive the Electronic Proceedings 2011.

Hotel Reservation

➔ www.efcf.com

There are 2 options for hotel reservation. 1: Online Hotel Reservation. Please find the link on our website www.efcf.com, use the online "Hotel Reservation" button of Luzern Incoming GmbH. 2: You can download on www.efcf.com the HOTEL RESERVATION FORM and send it by first class mail or fax to the Luzern Incoming GmbH, fax +41 41 318 4146. They will confirm all hotel reservations and send you information about Lucerne. Hotel expenses are paid directly to the hotel management. **The European Fuel Cell Forum is not responsible for hotel accommodations. Register ONLY ONCE!**

The event is endorsed by

FUEL CELLS 2000
1625 K Street NW, Suite 725
Washington, DC 20006/USA

International Hydrogen
Energy Association
P.O. Box 248294
Coral Gables, FL 33124/USA

VDI Verein Deutscher Ingenieure
Graf-Recke-Strasse 84
DE-40239 Düsseldorf/Germany

SIA (Berufsgruppe Technik und Industrie)
Selnastrasse 16
CH-8039 Zurich/Switzerland

Swiss Academy of Engineering Sciences
Seidengasse 16
CH-8001 Zurich/Switzerland

Eurosolar e.V.
Kaiser-Friedrich-Strasse 11
DE-53113 Bonn/Germany

Swiss Gas and Water
Industry Association
Eschengasse 10
CH-8603 Schwerzenbach/Switzerland

ALPHEA
Rue Jacques Callot
FR-57600 Forbach/France

Wiley – VCH Publishers
Boschstrasse 12
DE-69469 Weinheim/Germany

Lucerne

Lucerne is located in the heart of Switzerland on the Lake of Lucerne admired for its beauty and tranquillity. Nostalgic paddle wheel steamers connect the romantic town to many piers of 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 between 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.

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

Travel Arrangements

Official Carrier



Travel Information

Swiss International Air Lines is proud to be the Official Carrier for the EUROPEAN FUEL CELL FORUM 2011 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.

To take advantage of this offer, book easily and conveniently through SWISS.COM via the following link:
entering your email address and the following event code:

www.swiss.com/event
3266-2523-9494-8373

The special SWISS congress fare is marked with a "C". It may not necessarily be the lowest fare but it offers flexibility in the event of rebooking or cancellation.

How to get to Lucerne

By car or train:

The Gotthard trans-alpine autobahn and railway pass through Lucerne and provide easy access by car or train from north or south.

By airplane:

Zurich is the gateway for the annual Lucerne fuel cell conference of the EUROPEAN FUEL CELL FORUM 2011. Choose Zurich as your destination. The Official Carrier SWISS offers special conference rates for convenient direct flights to Zurich from all major locations. Take the direct train from Zurich Airport to Lucerne. The train station is below the airport terminal complex. Direct trains leave always 47 minutes past the hour. There are three more connections per hour with one train change in Zurich. The pleasant ride takes a little bit more than one hour. Most hotels are within walking distance from the Lucerne train station.

Have a pleasant journey!

We look forward to welcoming you in Lucerne!



European Fuel Cell Forum

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