

FUEL CELLS FOR A SUSTAINABLE WORLD

July 4 to July 8, 2005

Kultur- und Kongresszentrum Luzern

Session Schedule Overview

Day	Event
Monday – July 4 10:00	Tutorial Auditorium
	Fuel Cells for a Sustainable World Sessions Sequence "A"
Tuesday- July 5	
09:00	A01 Opening Session
11:00	A02 Global Fuel Cell Developments
14:00	A03 Sustainable Fuels for Fuel Cells
16:00	A04 Sustainable Transportation Solutions
Wednesday – July 6	
09:00	A05 Portable Fuel Cells
11:00	A06 Education/Training/Public Awareness
14:00	A07 Fuel Cells in Experimental and Demonstration Vehicles
16:00	A08 Fuel Cells in Experimental and Demonstration Vehicles
Thursday – July 7	
09:00	A09 Stationary Polymer Electrolyte Fuel Cell Systems
11:00	A10 Stationary Solid Oxide Fuel Cell Power Systems
14:00	A11 Stationary Molten Carbonate Fuel Cell Systems
16:00	A12 Innovative Applications of Fuel Cell Systems
Friday – July 8	
09:00	A13 Hydrogen or Else?
11:00	A14 Round Table Discussion: Hydrogen or Else?

FUEL CELLS FOR A SUSTAINABLE WORLD

Tuesday, July 5, 09:00 – 10:30

Session A01

Opening Session

Chairman: **Ulf Bossel**, European Fuel Cell Forum, Oberrohrdorf / Switzerland

Opening Remarks

Dr. Ulf Bossel
European Fuel Cell Forum, Oberrohrdorf / Switzerland

Welcome to Lucerne

Ms. Ursula Stämmer-Horst
Member of the City Council, Director of Public Security, Lucerne / Switzerland

Welcome to Switzerland

Prof. Dr. Ralph Eichler
Director, Paul Scherrer Institut / Switzerland

Welcome to FUEL CELLS FOR A SUSTAINABLE WORLD

Prof. Lars Sjunnesson
Sydkraft AB, Malmö / Sweden

Welcome to the 3rd EUROPEAN PEFC FORUM

Dr. Christopher Hebling
Fraunhofer Institute for Solar Energy Systems, Freiburg / Germany

Key Note Address

Sustainable Future Based on Renewable Energy

Dr. Hermann Scheer
President EUROSOLAR e.V., Member of the German Parliament
Recipient of the Alternative Nobel Prize and many other distinguished awards
Berlin / Germany

Tuesday, July 5, 11:00 – 12:30

Session A02

Global Fuel Cell Developments

Chairman: **Lars Sjunnesson**, Sydkraft AB, Malmö / Sweden

The International Partnership for the Hydrogen Economy and the Hydrogen Fuel Initiative

Nancy Garland and Valri Lightner
Hydrogen, Fuel Cells and Infrastructure, US Department of Energy, Washington, DC / USA

Fuel Cell Installations and Products in Japan

Takehiko Kato
Interlink Corporation, Tokyo / Japan

US DOE Stationary Fuel Cell Program

Mark Williams
Nat. Energy Technology Lab., US Department of Energy, Morgantown, WV / USA

Tuesday, July 5, 14:00 – 15:30

Session A03

Sustainable Fuels for Fuel Cells

Chairman: **David Hart**, Imperial College, London / United Kingdom

The Transition to Hydrogen and Fuel Cells

Joep P. P. Huijsmans

Shell Hydrogen, Amsterdam / The Netherlands

The Use of Biogas in Fuel Cell Systems

Paloma Ferreira

CIEMAT, Madrid / Spain

Conversion of Solid Biomass into Fuels for Fuel Cells

Hermann Hofbauer

TU Wien, Vienna / Austria

Tuesday, July 5, 1600 – 1730

Session A04

Sustainable Transportation Solutions

Chairman: **David Hart**, Imperial College, London / United Kingdom

Fuel Cell or Battery: Electric Cars are the Future

Gaston Maggetto

European Association for Battery, Hybrid and Fuel Cell Electric Vehicles

Brussels / Belgium

Wind-Fuelled Hybrid Electric Hydrogen Buses

Paul B. Scott

ISE Corporation, San Diego, CA / USA

Wind-to-Wheel Energy Assessment

Patrick Mazza and Roel Hammerschlag

Inst. of Lifecycle Environmental Assessment, Seattle, WA / USA

Wednesday, July 6, 09:00 – 10:30

Session A05

Portable Fuel Cells

Chairlady: **Angelika Heinzl**, Gerhard-Mercator-Universität, Duisburg / Germany

Portable Direct Methanol Fuel Cell Power Units

Manfred Stefener

Smart Fuel Cells AG, Brunnthal-Nord / Germany

Power from Portable PEFC Generators

Stephen Voller

Voller Energy Limited, Basingstoke / United Kingdom

A 75 Watt Solid Oxide Fuel Cell for Diesel Fuel

Jerry L. Martin, Mesoscopic Devices, Broomfield, CO

Tad Armstrong, Materials and Systems Research, Salt Lake City, UT and

Anil Virkar, University of Utah, Salt Lake City, UT / USA

Wednesday, July 6, 11:00 – 12:30

Session A06

Education/Training/Public Awareness

Chairlady: **Angelika Heinzl**, Gerhard-Mercator-Universität, Duisburg / Germany

Fuel Cell Education and Training Center Ulm: A Key Step for Market Preparation

Jürgen Garche, Thomas Aigle, Werner Tillmetz and Ludwig Joerissen

Weiterbildungszentrum Ulm, Ulm / Germany

Fuel Cell Training Systems for Universities and Colleges Based on Ballard Nexa(R) Power Module

Henrik Colell, Christian Leu and Stefan Sonntag

Heliocentris GmbH, Berlin / Germany

Fuel Cell Education Perspectives from the United Kingdom

James Larminie

Electro-Chem-Technic, Headington, Oxford / United Kingdom

Wednesday, July 6, 14:00 – 15:30

Session A07

Fuel Cells in Experimental and Demonstration Vehicles

Chairman: **Anthony Kucernak**, Imperial College, London / United Kingdom

HYCAR Improved by Collaboration of Dutch Stack and Swiss System Developers

Wiebrand Kout¹, Stefan Camenzind² and Erik Middelman¹

¹NedStack Fuel Cell Technology BV, Arnhem / The Netherlands

²ESORO AG, Fällanden / Switzerland

HyLite Project - Fuel Cell Hybrid Vehicle as a Technology Platform

Andreas Brinner, Horst E. Friedrich, Markus Gräf, Franz Philipps and Peter Treffinger
German Aerospace Center, Stuttgart / Germany

Innovative Powertrain Technologies of the HY-LIGHT Demonstration Vehicle

Philip Dietrich, Felix N. Buechi, PSI, Villingen / Switzerland

and Antonio Delfino, CD Michelin, Givissiez / Switzerland

Wednesday, July 6, 16:00 – 17:30

Session A08

Fuel Cells in Experimental and Demonstration Vehicles

Chairman: **Anthony Kucernak**, Imperial College, London / United Kingdom

Direct Methanol Fuel Cell Scooter

Detlef Stolten

Forschungszentrum Jülich, Jülich / Germany

HYSUN 3000 Record: 3000 km from Berlin to Barcelona on 3.3 kg Hydrogen

Frieder Herb

ExtraEnergy e.V., Tanna / Germany

Demonstration of Fuel Cell Vehicles

Thursday, July 7, 09:00 – 10:30

Session A09

Stationary Solid Oxide Fuel Cell Systems

Chairman: **Mark Williams**, Nat. Energy Techn. Lab., US-DOE, Morgantown, WV / USA

SOFC Cogenerators for Business

Christopher McFarlane
Fuel Cell Technology, Kingston, ON / Canada

SOFC Cogenerators for Private Homes

Harald Raak
Sulzer Hexis, Winterthur / Switzerland

Solid Oxide Fuel Cells in Alaska

Dennis Witmer
Artic Energy Technology Development Laboratory, Fairbanks, AK / USA

Combined Cycle SOFC of Siemens-Westinghouse

Kevin Litzinger and Thomas Flower,
Siemens-Westinghouse, Pittsburg, PA / USA

Questions and Answers, all presentations of Session A09

Thursday, July 7, 11:00 – 12:30

Session A10

Stationary Molten Carbonate Fuel Cell Systems

Chairman: **Mark Williams**, Nat. Energy Techn. Lab., US-DOE, Morgantown, WV / USA

Convincing Experience with MCFC Installations in Europe

Thorsten Bardewyck
MTU CFC Solutions GmbH, München / Germany

Carbonate Fuel Cells Convert Waste Gases into Useful Energy

Jerry D. Leitman
FuelCell Energy, Danbury, CT / USA

Ansaldo's Molten Carbonate Fuel Cells

Bartolomeo G. Marcenaro
Ansaldo Fuel Cells, Genova / Italy

MCFC – Gas Turbine Combined Cycle Power Plant

Hans Maru
FuelCell Energy, Danbury, CT / USA

Questions and Answers, all presentations of Session A10

Thursday, July 7, 14:00 – 15:30

Session A11

Stationary Polymer Electrolyte Fuel Cell Systems

Chairman: **Paul B. Scott**, ISE Research, San Diego, CA / USA

NUVERA Natural Gas Micro-CHP System for Distributed Generation

Francesco Fiore

NUVERA Fuel Cells Europe SPA, Milan / Italy

The Fuel Cell Heating Appliance of RWE / IdaTech / BBT

Lars Kaufmann, RWE Fuel Cells GmbH, Essen / Germany

Steffen Wieland, BBT Thermotechnik GmbH, Lollar / Germany

Bill Pledger, IdaTech LLC, Bend, OR / USA

PEM Cogeneration Systems of Plug Power

Roger B. Saillant

Plug Power, Lantham, NY / USA

Fuel Cell Cogenerator for Residential Applications

Guido Gummert

European Fuel Cells, Hamburg / Germany

Questions and Answers, all presentations of Session A11

Thursday, July 7, 16:00 – 15:30

Session A12

Innovative Applications of Fuel Cell Systems

Chairman: **Paul B. Scott**, ISE Research, San Diego, CA / USA

Uninterruptible Fuel Cells Power for Telecommunication Transmitters

Peter Britz

P21 GmbH, Brunthal / Germany

Technical Challenges of Large Fuel Cell Vehicles

Arnold R. Miller and David L. Barnes

Vehicle Projects LLC, Denver, Colorado / USA

Fuel Cell Power for Maritime Applications

Marc Kickulies

HDW-Fuel Cell Systems, Kiel / Germany

PEM Fuel Cell Power in the Autonomous Underwater Vehicle "DeepC"

Willi Hornfeld¹ and Ludwig Joerissen²

¹STN ATLAS Elektronik GmbH, Bremen / Germany

²Zentrum für Sonnenenergie und Wasserstoff-Forschung, Ulm / Germany

Questions and Answers, all presentations of Session A12

Friday, July 8, 09:00 – 10:30

Session A13

Hydrogen or Else?

Chairman: **Lars Sjunnesson**, Sydkraft AB, Malmö / Sweden

21st Century's Energy: Hydrogen Energy System

T. Nejat Veziroglu

International Association for Hydrogen Energy

UNIDO International Centre for Hydrogen Energy Technologies

Clean Energy Research Institute

University of Miami, Coral Gables, FL / USA

The Myth of a Hydrogen Economy

Reuel Shinnar, City College of New York, NY / USA

From Fossil Fuels to a Sustainable Energy Future

Ulf Bossel, European Fuel Cell Forum, Oberrohrdorf / Switzerland

Friday, July 8, 11:00 – 12:30

Session A13

Round Table Discussion: Hydrogen or Else?

Chairman: **Lars Sjunnesson**, Sydkraft AB, Malmö / Sweden

Panelists:

Prof. Nejat Veziroglu (International Association for Hydrogen Energy)

Prof. Carl-Jochen Winter (International Association for Hydrogen Energy)

Prof. Reuel Shinnar (City College of New York / New York / USA)

Prof. Konstantin Boulouchos (ETH Zürich / Switzerland)

Dr. Ulf Bossel (European Fuel Cell Forum)

Christian Friedrich Schoenbein Medal Awards

Closing Ceremony

12:30: End of Lucerne FUEL CELL FORUM 2005 and Farewell Lunch
