

# FCH JU Programme Review Days 2013

## PRELIMINARY PROGRAMME

### Monday 11 November

13:00 – 13:45 Registration

13:45 – 14:15 OPENING & WELCOME ADDRESS

**Bert de Colvenaer**, FCH JU Executive Director  
**Jean Luc Delplancke**, Head of FCH JU Programme Unit

14:15 – 15:00 Introduction to portfolio of Technology Demonstration projects

**Energy:** Mirela Atanasiu, FCH JU Project Manager  
**Transport:** Enrique Giron, FCH JU Project Manager  
Q&A session

15:00 – 15:30 Coffee break & networking

15:30 – 18:00 PARALLEL SESSIONS on Technology Demonstration projects

#### SESSION 1

**Demonstration in the field of Energy (micro-CHP, back-up power and electrolysers)**

*Moderators: Angelo Moreno, Mirela Atanasiu*

#### SESSION 2

**Demonstration in the field of Transport (light-duty vehicles, buses, APU for trucks and material-handling vehicles)**

*Moderators: Lars Sjunesson, Enrique Giron*

15:30-16:00	<b>ENE.FIELD</b> 'European-wide field trials for residential fuel cell micro-CHP' <i>Fiona Riddoch, COGEN EUROPE</i>	<b>H2MOVES</b> 'H2MOVES.EU SCANDINAVIA' <i>Ulrich Buenger, Ludwig-Bölkow-Systemtechnik GmbH</i>
16:00-16:30	<b>LOTUS</b> 'Low temperature solid oxide fuel cells for micro-CHP applications' <i>Ellart De Wit, HyGear</i>	<b>CHIC</b> 'Clean hydrogen in european cities' <i>Helmut Warth, Daimler</i>
16:30-17:00	<b>REFORCELL</b> 'Advanced multi-fuel reformer for fuel cell CHP system' <i>Jose Luis Viviente, Tecnalía</i>	<b>DESTA</b> 'Demonstration of 1st European SOFC Truck APU' <i>Jürgen Rechberger, AVL</i>
17:00-17:30	<b>FITUP</b> 'Fuel cell field test demonstration of economic and environmental viability for portable generators, backup and UPS power system applications' <i>Ilaria Rosso, Electro Power Systems</i>	<b>FCGEN</b> 'Fuel Cell Based On-board Power Generation' <i>Jazaer Dawody, Volvo</i>
17:30-18:00	<b>ELYGRID</b> 'Improvements to Integrate High Pressure Alkaline Electrolysers for Electricity/H2 production from Renewable Energies to Balance the Grid.' <i>Luis Correas, Hidrogeno Aragon</i>	<b>HYLIFT</b> 'European demonstration of hydrogen powered fuel cell material handling vehicles' <i>Hubert Landinger, Ludwig-Bölkow-Systemtechnik GmbH</i>

18:00 – 20:30 Poster session & walking dinner

## Tuesday 12 November

08:30 – 09:00 Registration

09:00 – 09:45 Introduction to portfolio of System development, Components, Materials and Operation Diagnostics projects

**Energy:** Nikolaos Lymeropoulos, FCH JU Project Manager  
**Transport:** Carlos Navas, FCH JU Project Manager  
Q&A session

09:45 – 10:15 Coffee break & networking

10:15 – 12:15 PARALLEL SESSIONS on Systems, Components and Materials Development projects for Energy and Transport applications

### SESSION 1

#### Degradation Analysis and Materials Development for CHP

Moderators: Florence Lefebvre-Joud, Alan Atkinson

### SESSION 2

#### Materials Development for Hydrogen Storage and Portable applications

Moderators: Andreas Dorda, Nikos Lymeropoulos

10:15-10:45 **KEEPEMALIVE** 'Knowledge to enhance the endurance of PEM fuel cells by accelerated lifetime verification experiments'  
Steffen Moller-Holst, SINTEF

**HYCOMP** 'Enhanced design requirements and testing procedures for composite cylinders intended for the safe storage of hydrogen'  
Clemence De Villers, Air Liquide

10:45-11:15 **SOFC-LIFE** 'Solid-Oxide Fuel Cells – Integrating degradation effects into lifetime prediction models'  
L.G.J de Haart, Forschungszentrum Juelich

**SSH2S** 'Fuel Cell Coupled Solid State Hydrogen Storage Tank'  
Marcello Barricco, University of Torino

11:15-11:45 **MAESTRO** 'Membranes for stationary application with robust mechanical properties'  
Deborah Jones, Université de Montpellier II

**HYPHER** 'Integrated hydrogen power packs for portable and other autonomous applications'  
Juliet Kauffmann, Orion Innovations

11:45-12:15 **METSAPP** 'Metal supported SOFC technology for stationary and mobile applications'  
Niels Christiansen, Topsoe Fuel Cell A/S

**DURAMET** 'Improved durability and cost-effective components for new generation solid polymer electrolyte direct methanol fuel cells'  
Antonino Arico, CNR-ITAE

12:15 – 13:30 Lunch (Poster session)

13:30 – 14:30 PARALLEL SESSIONS on Systems, Components and Materials Development projects for Energy and Transport applications

### SESSION 1

#### Sustainable Hydrogen Production

Moderators: Eden Mamut, Jean-Luc Delplancke

### SESSION 2

#### Materials Development for Transport

Moderators: Daria Vladikova, Joerg Wind

13:30-14:00 **COMETHY** 'Compact multifuel-energy to hydrogen converter'  
Alberto Giaconia, ENEA

**PEMICAN** 'PEM with innovative low cost core for automotive application'  
Joel Pauchet, CEA

14:00-14:30 **RESELYSER** 'Hydrogen from RES: pressurised alkaline electrolyser with high efficiency and wide operating range'

**STAMPEM** 'Stable and low cost manufactured bipolar plates for PEM fuel cells'

14:30 – 15:00 Coffee break & networking

15:00 – 15:30 Introduction to portfolio of Cross-Cutting projects

**Cross-Cutting Issues: Guillaume Leduc, FCH JU Project Manager**

15:30 – 17:00 SESSION on Cross-Cutting projects

*Moderators: Guillaume Leduc, Carlos Navas*

15:30-16:00 **HYINDOOR** 'Pre-normative research on safe indoor use of fuel cells and hydrogen systems'  
*Béatrice L'Hostis, Air Liquide*

16:00-16:30 **FC-EUROGRID** 'Evaluating the Performance of Fuel Cells in European Energy Supply Grids'  
*Robert Steinberger-Wilckens, University of Birmingham*

16:30-17:00 **TEMONAS** 'Technology monitoring and assessment'  
*Peter Claassen, CLIMT*

17:00 – 17:30 Concluding remarks - Scientific Committee members

17:30 – 18:00 Closure speech  
**Bert de Colvenaer, FCH JU Executive Director**

18:30 – 21:00 Cocktail dinner

## Panel 1: Demo in transport

### **H2MOVES SCANDINAVIA**

#### **H2MOVES.EU SCANDINAVIA**

Dr. Ulrich Buenger, Ludwig-Boelkow-Systemtechnik GmbH  
[www.h2moves.eu](http://www.h2moves.eu)

### **CHIC**

#### **Clean Hydrogen in European Cities**

Ms. Helmut Warth, EVOBUS GMBH  
<http://chic-project.eu>

### **HYLIFT-Demo**

European demonstration of hydrogen powered fuel cell forklifts

Mr. Hubert Landinger  
Ludwig-Boelkow-Systemtechnik GmbH  
<http://www.hylift-demo.eu/>

### **MOBYPOST**

Mobility with Hydrogen for Postal Delivery

Mr. Michel Romand  
UNIVERSITE DE TECHNOLOGIE DE BELFORT  
MONTBELIARD  
<http://mobyproject.eu/>

### **DESTA**

Demonstration of 1st European SOFC Truck APU

Dr. Jurgen Rechberger  
AVL LIST GMBH  
<http://www.desta-project.eu/desta-project/>

### **FCGEN**

Fuel Cell Based On-board Power Generation

Mr. Dawody Jazaer  
VOLVO TECHNOLOGY AB  
<http://www.fcgen.com/>

### **HYTEC**

Hydrogen Transport in European Cities

Mrs. Diana Raine  
AIR PRODUCTS PLC  
<http://hy-tec.eu/>

### **HYTRANSIT**

European Hydrogen Transit Buses in Scotland

Mr. Nicholas Rolf  
BOC LIMITED

### **HYLIFT-EUROPE**

Large scale demonstration of fuel cell powered material handling vehicles

Mr. Hubert Landinger  
Ludwig-Boelkow-Systemtechnik GmbH  
<http://www.hylift-europe.eu/>

### **PURE**

Development of Auxiliary Power Unit for Recreational yachts

Dr. Ellart De Wit  
HyGear Fuel Cell Systems B.V.

### **SAPIENS**

SOFC Auxiliary Power In Emissions/Noise Solutions

Prof. Kevin Kendall  
ADELAN LTD  
<http://www.adelan.co.uk/sapiens/>

### **SWARM**

Demonstration of Small 4-Wheel fuel cell passenger vehicle Applications in Regional and Municipal transport

Mr. Robert Steinberger  
PLANET PLANUNGSGRUPPE ENERGIE UND TECHNIK GBR  
<http://swarm-project.eu/home.html>

### **HYCARUS**

HYdrogen cells for AiRborne Usage

Mr. Jean-Paul Libis  
ZODIAC CABIN CONTROLS GMBH

### **HIGH V.LO-CITY**

Cities speeding up the integration of hydrogen buses in public fleets

Mr. Paul Jenné  
VAN HOOL N.V.  
<http://highvlocity.eu/>

## Panel 2: Demo in energy

### **FLUMABACK**

Fluid Management component improvement for Back up fuel cell systems

Mrs. Ilaria Rosso  
ELECTRO POWER SYSTEMS  
<http://www.flumaback.eu/>

### **FITUP**

Fuel cell field test demonstration of economic and environmental viability for portable generators, backup and UPS power system applications

Dr. Ilaria Rosso  
ELECTRO POWER SYSTEMS

#### **ELYGRID**

Improvements to Integrate High Pressure Alkaline Electrolysers for Electricity/H<sub>2</sub> production from Renewable Energies to Balance the Grid.

Dr. Luis Correas

FUNDACION PARA EL DESARROLLO DE LAS NUEVAS TECNOLOGIAS DEL HIDROGENO EN ARAGON

<http://www.elygrid.com/>

#### **FCPOWEREDRBS**

Demonstration Project for Power Supply to Telecom Stations through FC technology

Dr. Giancarlo Tomarchio

ERICSSON TELECOMUNICAZIONI

<http://fcpoweredrbs.eu/>

#### **DON QUICHOTE**

Demonstration Of New Qualitative Innovative Concept of Hydrogen Out of windTurbine Electricity

Mr. Raymond Schmid

HYDROGENICS EUROPE NV

#### **SOFT-PACT**

Solid Oxide Fuel Cell micro-CHP Field Trials

Mr. Andrew Thomas

E.ON NEW BUILD & TECHNOLOGY LIMITED

#### **ENE.FIELD**

European-wide field trials for residential fuel cell micro-CHP

Dr. Fiona Riddoch

THE EUROPEAN ASSOCIATION FOR THE PROMOTION OF COGENERATION VZW

<http://enefield.eu>

### Panel 3: Research and Activities Portable APP

#### **IRAFC**

Development of an Internal Reforming Alcohol High Temperature PEM Fuel Cell Stack

Dr. Ioannis Kallitsis

ADVANCED ENERGY TECHNOLOGIES AE EREUNAS & ANAPTYXIS YLIKON & PROIONTONANANEOSIMON PIGON ENERGEIAS & SYNAFON SYMVOULEFTIKON Y PIRESION ADVEN

<http://irafc.iceht.forth.gr/>

#### **ISH2SUP**

In situ H<sub>2</sub> supply technology for micro fuel cells powering mobile electronics appliances

Prof. Aarne Halme

AALTO-KORKEAKOULUSAATIO

#### **DURAMET**

Improved Durability and Cost-effective Components for New Generation Solid Polymer Electrolyte Direct Methanol Fuel Cells

Dr. Agatino Nicita

CONSIGLIO NAZIONALE DELLE RICERCHE

<http://www.duramet.eu/>

#### **IRMFC**

Development of a Portable Internal Reforming Methanol High Temperature PEM Fuel Cell System

Mr. Andreas Plagakis

FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS

#### **SUAV**

Microtubular Solid Oxide Fuel Cell Power System development and integration into a Mini-UAV

Dr. Ellart De Wit

HyGear Fuel Cell Systems B.V.

<http://www.suav-project.eu/SUAV.html>

#### **BEINGENERGY**

Integrated low temperature methanol steam reforming and high temperature polymer electrolyte membrane fuel cell

Ms. Mafalda Soeiro

UNIVERSIDADE DO PORTO

#### **HYPER**

Integrated hydrogen power packs for portable and other autonomous applications

Dr. Juliet Kauffmann

Orion Innovations (UK) Ltd

<http://www.hyperproject.eu/>

## Panel 4: FC Degradation for CHP APP

### STAYERS

Stationary PEM fuel cells with lifetimes beyond five years

Mr. Jf Coolegem

NEDSTACK FUEL CELL TECHNOLOGY BV

<http://www.sintef.no/Projectweb/STAYERS/>

### DEMMEA

Understanding the Degradation Mechanisms of Membrane-Electrode-Assembly for High Temperature PEMFCs and Optimization of the Individual Components.

Dr. Stylianos Neophytides

ADVANCED ENERGY TECHNOLOGIES AE EREUNAS & ANAPTYXIS YLIKON & PROIONTONANANEOSIMON PIGON ENERGEIAS & SYNAFON SYMVOULEFTIKON Y PIRESION ADVEN

PIRESION ADVEN

<http://demmea.iceht.forth.gr/>

### KEPEMALIVE

Knowledge to Enhance the Endurance of PEM fuel cells by Accelerated Lifetime Verification Experiments

Dr. Ann Mari Svensson

STIFTELSEN SINTEF

<http://www.sintef.no/Projectweb/KEPEMALIVE/>

### LOLIPEM

Long-life PEM-FCH &CHP systems at temperatures higher than 100°C

Dr. Giuseppe Barbieri

CONSIGLIO NAZIONALE DELLE RICERCHE

### MCFC-CONTEX

MCFC catalyst and stack component degradation and lifetime: Fuel Gas CONTaminant effects and EXtraction strategies

Dr. Angelo Moreno

AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE

<http://mcfc-contex.enea.it/>

### ROBANODE

Understanding and minimizing anode degradation in hydrogen and natural gas fuelled SOFCs

Ms. Antonia Fardis

FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS

### PREMIUM ACT

Predictive Modelling for Innovative Unit Management and Accelerated Testing Procedures of PEFC

Dr. Sylvie Escribano

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

### SOFC-LIFE

Solid Oxide Fuel Cells? Integrating Degradation Effects into Lifetime Prediction Models

Ms. Anne Bosch

FORSCHUNGSZENTRUM JUELICH GMBH

## Panel 5: Research H2 Production and Distribution

### HYDROSOL-3D

Scale Up of Thermochemical HYDROgen Production in a SOLar Monolithic Reactor: a 3rd Generation Design Study

Dr. Athanasios Konstandopoulos

CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS

<http://www.hydrisol3d.org/>

### NEXPEL

Next-Generation PEM Electrolyser for Sustainable Hydrogen Production

Dr. Magnus Skinlo Thomassen

STIFTELSEN SINTEF

<http://www.sintef.no/Projectweb/nexpel/>

### PRIMOLYZER

PRessurized PEM electrOLYZER

Dr. Laila Grahl-Maden

IRD FUEL CELLS A/S (INDUSTRIAL RESEARCH & DEVELOPMENT A/S)

<http://www.primolyzer.ird.dk/>

### ADEL

Advanced Electrolyser for Hydrogen Production with Renewable Energy Sources

Mr. Olivier Bucheli

HTceramix SA

<http://www.adel-energy.eu/>

### COMETHY

Compact Multifuel-Energy To Hydrogen converter  
Dr. Alberto Giaconia  
AGENZIA NAZIONALE PER LE NUOVE  
TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO  
SOSTENIBILE  
<http://www.comethy.enea.it/>

### DELIVERHY

Optimisation of Transport Solutions for Compressed  
Hydrogen  
Mr. Reinhold Wurster  
Ludwig-Boelkow-Systemtechnik GmbH  
<http://www.deliverhy.eu/>

### HY2SEPS-2

Hybrid Membrane - Pressure Swing Adsorption (PSA)  
Hydrogen Purification Systems  
Ms. Theophilos Ioannides  
FOUNDATION FOR RESEARCH AND TECHNOLOGY  
HELLAS  
<http://hy2seps2.iceht.forth.gr/>

### HYTIME

Low temperature hydrogen production from second  
generation biomass  
Mr. Pieter Nel Claasen  
STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK  
<http://www.hy-time.eu/hytime/32530/5/0/30>

### NEMESIS2+

New Method for Superior Integrated Hydrogen  
Generation System 2+  
Ms. Stefan Martin  
DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT  
EV  
<http://www.nemesis-project.eu/home.html>

### RESELYSER

Hydrogen from RES: pressurised alkaline electrolyser  
with high efficiency and wide operating range  
Ms. Regine Reissner  
DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT  
EV  
<http://www.reselyser.eu/>

### ARTIPHYCTION

Fully artificial photo-electrochemical device for low  
temperature hydrogen production  
Prof. Guido Saracco  
POLITECNICO DI TORINO  
<http://www.artiphyction.org/>

### EDEN

High energy density Mg-Based metal hydrides storage  
system  
Dr. Luigi Crema  
FONDAZIONE BRUNO KESSLER  
<http://www.h2eden.eu/>

### ELECTROHYPEN

Enhanced performance and cost-effective materials for  
long-term operation of PEM water electrolyzers coupled  
to renewable power sources.  
Dr. Antonino Salvatore Arico  
CONSIGLIO NAZIONALE DELLE RICERCHE  
<http://www.electrohypem.eu/about.html>

### NOVEL

Novel materials and system designs for low cost,  
efficient and durable PEM electrolyzers  
Ms. Magnus Thomassen  
STIFTELSEN SINTEF  
<http://www.sintef.no/Projectweb/NOVEL/>

### UNIFHY

UNIQUE gasifier for hydrogen Production  
Ms. Gabriella Calderari  
UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA  
<http://www.unifhy.eu/impact.asp>

### BIOROBUR

Biogas robust processing with combined catalytic  
reformer and trap  
Dr. Elena Pertusato  
POLITECNICO DI TORINO  
<http://biorobur.org/default.aspx>

### SOL2HY2

Solar To Hydrogen Hybrid Cycles  
Dr. Carla Baldasso  
ENGINSOFT SPA

## Panel 6: Research H2 Storage

### HYCOMP

Enhanced Design Requirements and Testing Procedures  
for Composite Cylinders intended for the Safe Storage of  
Hydrogen

Dr. Clemence Devilliers  
L'AIR LIQUIDE S.A  
<http://hycomp.eu/>

### SSH2S

Fuel Cell Coupled Solid State Hydrogen Storage Tank

Prof. Marcello Baricco  
UNIVERSITA DEGLI STUDI DI TORINO  
<http://www.ssh2s.eu/>

### IDEALHY

Integrated Design for Efficient Advanced Liquefaction of  
Hydrogen

Ms. Alice Eliot  
SHELL GLOBAL SOLUTIONS INTERNATIONAL B.V.  
[www.idealhy.eu](http://www.idealhy.eu)

### BOR4STORE

Fast, reliable and cost effective boron hydride based  
high capacity solid state hydrogen storage materials

Dr. Fabien Nony  
HELMHOLTZ-ZENTRUM GEESTHACHT ZENTRUM FUR  
MATERIAL- UND KUSTENFORSCHUNG GMBH  
<http://www.hzg.de/mw/bor4store/>

### HYUNDER

Assessment of the potential, the actors and relevant  
business cases for large scale and seasonal storage of  
renewable electricity by hydrogen underground storage  
in Europe

Dr. Luis Correas  
FUNDACION PARA EL DESARROLLO DE LAS NUEVAS  
TECNOLOGIAS DEL HIDROGENO EN ARAGON  
[www.hyunder.eu](http://www.hyunder.eu)

### PHAEDRUS

High Pressure Hydrogen All Electrochemical  
Decentralized Refueling Station

Mr. Wiebrand Kout  
HYDROGEN EFFICIENCY TECHNOLOGIES (HYET) BV  
<http://www.phaedrus-project.eu/>

### COPERNIC

COst & PERformance Improvement for Cgh2 composite  
tanks

Dr. Jean-Philippe Nicolai  
COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES  
<http://project-copernic.com/>

### HYTRANSFER

Pre-Normative Research for Thermodynamic  
Optimization of Fast Hydrogen Transfer

Ms. Sofia Capito  
Ludwig-Boelkow-Systemtechnik GmbH  
<http://www.hytransfer.eu/>

## Panel 7: New Materials and Stacks for Transport APP

### PEMICAN

PEM with Innovative low cost Core for Automotive  
application

Dr. Joël Pauchet  
COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES  
<https://www.pemican.eu/>

### ARTEMIS

Automotive pemfc Range extender with high  
TEMPerature Improved meas and Stacks

Mr. Yannig Nedellec  
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE  
<http://www.artemis-ju.eu/>

### CATHCAT

Novel catalyst materials for the cathode side of MEAs  
suitable for transportation applications

Mr. Oliver Schneider  
TECHNISCHE UNIVERSITAET MUENCHEN  
<http://cathcat.eu/index.php/home>

### IMMEDIATE

Innovative autoMotive MEa Development ?  
implementation of Iphe-genie Achievements Targeted at  
Excellence

Dr. Jacob Lindner Bonde  
IRD FUEL CELLS A/S (INDUSTRIAL RESEARCH &  
DEVELOPMENT A/S)

### **IMPACT**

Improved Lifetime of Automotive Application Fuel Cells with ultra low Pt-loading

Mr. Andreas Friedrich

DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT  
EV

[www.tcellproject.eu/index.php/the-project/impact](http://www.tcellproject.eu/index.php/the-project/impact)

### **IMPALA**

IMprove PEMFC with Advanced water management and gas diffusion Layers for Automotive application

Mr. Joel Pauchet

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES

### **LIQUIDPOWER**

Fuel cell systems and Hydrogen supply for Early markets

Mr. Mikael Sloth

H2 Logic A/S

### **STAMPEM**

STable and low cost Manufactured bipolar plates for PEM Fuel Cells

Ms. Anders Odegard

STIFTELSEN SINTEF

<http://www.sintef.no/Projectweb/Stampem/>

### **AUTO-STACK CORE**

Automotive Fuel Cell Stack Cluster Initiative for Europ II

Dr. Ludwig Joerissen

ZENTRUM FUER SONNENENERGIE- UND WASSERSTOFF-  
FORSCHUNG, BADEN-WUERTEMBERG

### **CATAPULT**

CATALyst structures employing Pt at Ultra Low and zero loadings for auTomotive MEAs

Mr. Deborah Jones

UNIVERSITE MONTPELLIER 2 SCIENCES ET TECHNIQUES

### **NANO-CAT**

Development of advanced catalysts for PEMFC automotive applications

Mr. Pierre-Andre Jacques

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES

### **SMARTCAT**

Systematic, Material-oriented Approach using Rational design to develop break-Through Catalyst s for commercial automotive PEMFC stacks

Mr. Pascal Brault

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

### **PUMA MIND**

Physical bottom Up Multiscale Modelling for Automotive PEMFC Innovative performance and Durability optimization

Mr. Yves Hussenot

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES

<http://www.pumamind.eu/>

## Panel 8: New Materials and Stacks for CHP APP

### **MAESTRO**

MembrAnEs for STationary application with RObust mechanical properties

Dr. Jocelyn Mere

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

<http://www.maestro-fuelcells.eu/about.html>

### **RAMSES**

Robust Advanced Materials for metal Supported SOFC

Dr. Julie Mougín

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES

### **SCOTAS-SOFC**

Sulphur, Carbon, and re-Oxidation Tolerant Anodes and Anode Supports for Solid Oxide Fuel Cells

Dr. Peter Holtappels

DANMARKS TEKNISKE UNIVERSITET

### **LASER-CELL**

INNOVATIVE CELL AND STACK DESIGN FOR STATIONARY INDUSTRIAL APPLICATIONS USING NOVEL LASER PROCESSING TECHNIQUES

Mr. Mark Boland

AFC ENERGY PLC

<http://www.laser-cell.eu/>

### **METPROCELL**

Innovative fabrication routes and materials for METal and anode supported PROton conducting fuel CELLS

Dr. Maria Parco

FUNDACION TECNALIA RESEARCH & INNOVATION

<http://www.metprocell.eu>

### **METSAPP**

Metal supported SOFC technology for stationary and mobile applications  
Mr. Tobias Schmidt Nielsen  
TOPSOE FUEL CELL A/S  
<http://www.metsapp.eu>

### **MMLRC=SOFC**

Working towards Mass Manufactured, Low Cost and Robust SOFC stacks  
Ms. May Chung  
THE UNIVERSITY OF BIRMINGHAM

### **EURECA**

Efficient use of resources in energy converting applications  
Dr. Alexander Dyck  
EWE-Forschungszentrum für Energietechnologie e. V.

### **EVOLVE**

Evolved materials and innovative design for high-performance, durable and reliable SOFC cell and stack  
Ms. Remi Costa  
DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT  
<http://www.evolve-fcell.eu>

### **T-CELL**

Innovative SOFC Architecture based on Triode Operation  
Prof. Dimitrios Tsiplakides  
CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS

### **SCORED 2.0**

Re-Inspecting Steel Coatings For Reducing Degradation  
Mr. Robert Steinberger-Wilckens  
THE UNIVERSITY OF BIRMINGHAM

### **ALKAMMONIA**

Ammonia-fuelled alkaline fuel cells for remote power applications.  
Mr. Boland Mark  
AFC ENERGY PLC

### **CISTEM**

Construction of Improved HT-PEM MEAs and Stacks for Long Term Stable Modular CHP Units  
Mr. Peter Wagner  
EWE-Forschungszentrum für Energietechnologie e. V.

### **DEMSTACK**

Understanding the Degradation Mechanisms of a High Temperature PEMFC Stack and Optimization of the Individual Components  
Mr. Andreas Plagakis  
FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS

### **ONSITE**

Operation of a Novel Sofc-battery Integrated hybrid for Telecommunication Energy systems  
Dr. Vincenzo Antonucci  
CONSIGLIO NAZIONALE DELLE RICERCHE

### **PROSOFC**

Production and Reliability Oriented SOFC Cell and Stack Design  
Mr. Martin Hauth  
AVL LIST GMBH

## Panel 9: CHP proof of concept, including components and diagnostic tools

### **ASSENT**

Anode Sub-System Development & Optimisation for SOFC systems  
Dr. Jari Kiviaho  
TEKNOLOGIAN TUTKIMUSKESKUS VTT  
<http://assent.vtt.fi/>

### **GENIUS**

GEneric diagNosis InstrUment for SOFC Systems  
Ms. Heike Stockmann  
EIFER EUROPAISCHES INSTITUT FÜR ENERGIEFORSCHUNG EDF-KIT EWIV  
<https://genius.eifer.uni-karlsruhe.de/>

### **ASTERIX3**

ASsessment of SOFC CHP systems build on the TEchnology of htceRamIX 3  
Dr. Per Baslev  
DANTHERM POWER A.S  
<http://asterix3.eu/>

### **CATION**

Cathode Subsystem Development and Optimisation  
Mr. Jari Kiviaho  
TEKNOLOGIAN TUTKIMUSKESKUS VTT

### **D-CODE**

DC/DC COntverter-based Diagnostics for PEM systems  
Prof. Cesare Pianese  
UNIVERSITA DEGLI STUDI DI SALERNO  
<http://www.d-code.unisa.it/>

### **DESIGN**

DEGRADATION SIGNATURES IDENTIFICATION FOR STACK  
OPERATION DIAGNOSTICS  
Mr. Yves Hussenot  
COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES  
<http://www.design-sofc-diagnosis.com/>

### **FC-EUROGRID**

Evaluating the Performance of Fuel Cells in European  
Energy Supply Grids  
Ms. May Chung  
THE UNIVERSITY OF BIRMINGHAM  
[http://www.fz-juelich.de/iek/iek-9/EN/Projects/FC-EuroGrid\\_Ziel.html?nn=1228494](http://www.fz-juelich.de/iek/iek-9/EN/Projects/FC-EuroGrid_Ziel.html?nn=1228494)

### **LOTUS**

Low Temperature Solid Oxide Fuel Cells for micro-CHP  
applications  
Dr. Ellart De Wit  
HyGear Fuel Cell Systems B.V.  
<http://www.lotus-project.eu/>

### **REFORCELL**

Advanced Multi-Fuel Reformer for Fuel Cell CHP Systems  
Mr. Alberto García Luis  
FUNDACION TECNALIA RESEARCH & INNOVATION  
<http://reforcell.eu/>

### **SOFCOM**

SOFC CCHP WITH POLY-FUEL: OPERATION AND  
MAINTENANCE  
Prof. Massimo Santarelli  
POLITECNICO DI TORINO  
<http://areweb.polito.it/ricerca/sofcom/>

### **TRISOFC**

Durable Solid Oxide Fuel Cell Tri-generation System for  
Low Carbon Buildings  
Mr. Paul Cartledge  
THE UNIVERSITY OF NOTTINGHAM

### **SAPPHIRE**

"System Automation of PEMFCs with Prognostics and  
Health management for Improved Reliability and  
Economy"  
Dr. Zenith Federico  
STIFTELSEN SINTEF

## Panel 10: PNR issues including safety aspects

### **HYINDOOR**

Pre-normative research on safe indoor use of fuel cells  
and hydrogen systems  
Ms. Beatrice L'Hostis  
L'AIR LIQUIDE S.A  
<http://www.hyindoor.eu>

### **MATHRYCE**

Material Testing and Recommendations for Hydrogen  
Components under fatigue  
Mr. Laurent Briottet  
COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX  
ENERGIES ALTERNATIVES  
<http://www.mathryce.eu/>

### **STACKTEST**

Development of PEM Fuel Cell Stack Reference Test  
Procedures for Industry  
Dr. Ludwig Joerissen  
ZENTRUM FUER SONNENERGIE- UND WASSERSTOFF-  
FORSCHUNG, BADEN-WUERTEMBERG  
<http://stacktest.zsw-bw.de/>

### **FIRECOMP**

Modelling the thermo-mechanical behaviour of high  
pressure vessel in composite materials when exposed to  
fire conditions  
Mr. Lucas Bustamante-Valencia  
L'AIR LIQUIDE S.A

### **H2SENSE**

Cost-effective and reliable hydrogen sensors for  
facilitating the safe use of hydrogen  
Mrs. Thomas Hübert  
BUNDESANSTALT FUER MATERIALFORSCHUNG UND –  
PRUEFUNG  
<http://www.h2sense.bam.de/en/home/index.htm>

### **H2TRUST**

Development of H2 Safety Expert Groups and due  
diligence tools for public awareness and trust in  
hydrogen technologies and applications.  
Dr. Lourdes Vega  
MATGAS 2000 A.I.E.  
<http://h2trust.eu/>

### **HYRESPONSE**

European Hydrogen Emergency Response training programme for First Responders  
Mr. Marc Lopez  
ECOLE NATIONALE SUPERIEURE DES OFFICIERS DE SAPEURS-POMPIERS

### **SUSANA**

Support to SAFETY ANALYSIS of Hydrogen and Fuel Cell Technologies  
Mr. Olaf Jedicke  
Karlsruher Institut fuer Technologie

## Panel 11: Socio-economic aspects including LCA and training activities

### **NEXTHYLIGHTS**

Supporting action to prepare large-scale hydrogen vehicle demonstration in Europe.  
Mr. Hubert Landerer  
Ludwig-Boelkow-Systemtechnik GMBH  
<http://www.nexthylights.eu/>

### **AUTO-STACK CORE**

Automotive Fuel Cell Stack Cluster Initiative for Europe  
Mr. Ludwig Joerissen  
ZENTRUM FUER SONNENENERGIE- UND WASSERSTOFF-FORSCHUNG, BADEN-WUERTEMBERG  
<http://autostack.zsw-bw.de>

### **HYFACTS**

Identification, Preparation and Dissemination of Hydrogen Safety Facts to Regulators and Public Safety Officials  
Ms. Brigitte Hanemann  
TUV SUD Akademie GMBH

### **HYGUIDE**

HyGuide  
Mr. Oliver Schuller  
PE INTERNATIONAL AG  
<http://www.fc-hyguide.eu/>

### **HYPROFESSIONALS**

Development of educational programmes and training initiatives related to hydrogen technologies and fuel cells in Europe.  
Mr. Luis Correas  
FUNDACION PARA EL DESARROLLO DE LAS NUEVAS TECNOLOGIAS DEL HIDROGENO EN ARAGON  
<http://hyprofessionals.eu/>

### **TRAINHY-PROF**

Building Training Programmes for Young Professionals in the Hydrogen and Fuel Cell Field  
Ms. Robert Steinberger-Wilckens  
THE UNIVERSITY OF BIRMINGHAM

### **TEMONAS**

TEchnology MONitoring and Assessment  
Mr. Peter Claassen  
CLAASSEN INDUSTRIE MANAGEMENT TRADING GMBH  
<http://www.temonas.eu/>

