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H₂FC

Integrating European Infrastructure to support science and development of Hydrogen- and Fuel Cell Technologies towards European Strategy for Sustainable, Competitive and Secure Energy

Deliverable

D5.6 Schedule and Report on Thematic Workshops

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1 SCHEDULE AND REPORT ON THEMATIC WORKSHOPS

1.1 Introduction

The present deliverable report is framed within the H₂FC European Infrastructure project *WP5 – Dissemination and Public Relations*, which is one of the 5 networking activities within the project itself.

In this WP, *Task N4.4 – Workshops* foresees the organization of at least 3 thematic workshops or special sessions at various conferences within the field in years 2-4, following thus the first Annual Review Meeting Panel in year 1.

Aim of the workshops is to address key bottlenecks and provide breakthroughs in H₂Fc research. In particular, they aim at reaching the potential user groups and individual researchers in the complete hydrogen chain, from hydrogen production to the applications in fuel cells.

The “Specification of key scientific bottlenecks” realized within WP4, taskN3.1, has a fundamental role within the identification of the key workshop’s issues. As such, it will constitute a basis for agreeing on future workshops.

Up to date, the following workshops’ calendar has been foreseen:

Number	Title / Object	Where	When
<i>Workshop n. 1</i>	Integrating Numerical and Experimental Approaches for the Design of Next Generation Fuel Cells	Rome, Italy at ENEA Headquarters	10 th December 2013
<i>Workshop n.2</i>	Development and improvement of materials for electrolysers, PEMFC, SOFC, for H storage	Donostia-San Sebastián - Gipuzkoa (Spain) at Parque Tecnológico de San Sebastián (Tecnalia)	18 th March 2014 (<i>supposed date</i>)
<i>Workshop n. 3</i>	t.b.d.	t.b.d.	t.b.d.
<i>Workshop n.x?</i>	t.b.d.	t.b.d.	t.b.d.

As listed here above, it has been agreed then that the 1st of the three workshops will investigate the disjunction / integration between the worlds of the ‘experimentalists’ and ‘modellers’ within the fuel cells world.

This deliverable focus on a description of the above mentioned workshop which is scheduled on 10th December 2013.

1.2 The first scheduled workshop: “Integrating Numerical and Experimental Approaches for the Design of Next Generation Fuel Cells”

This task foresees the organization of at least 3 thematic workshops or special sessions at various conferences within the field in years 2-4, following thus the first Annual Review Meeting Panel in year 1, so to address key bottlenecks and provide breakthroughs in H₂FC research.

These events aim at reaching the potential user groups and individual researchers in the complete hydrogen chain, from hydrogen production to the applications in fuel cells.

The “specification of key scientific bottlenecks” realized within task 3.1 has a fundamental role within the identification of the key workshop’s issues.

With reference to this, the 1st workshop has been scheduled and its organization is under performance.

The **1st one-day workshop**, titled “**Integrating Numerical and Experimental Approaches for the Design of Next Generation Fuel Cells**”, will be held on 10th December 2013 in Rome, Italy at the ENEA Headquarters. It has been scheduled the day before the starting of the “European Fuel Cells Technology & Applications Piero Lunghi Conference” (EFC13) so to reach a broader audience.

The event has been organized with the support of the University of Perugia and ENEA (organizers of the EFC13), as well as the European Energy Research Alliance (EERA).

Participation at the event is free of charge, but registration is mandatory. Interested people can register through the following link <http://h2fc.eu/approachesworkshop>

A participation of about 50 people is foreseen.

Information regarding location (how to reach the workshop’s venue; some suggested hotels closed to ENEA Headquarters) have been also included in the above mentioned link.

The workshop focus on one of the key scientific bottlenecks highlighted through the deliverable D4.1, that is the disjunction between the worlds of the ‘experimentalists’ and ‘modellers’. To overcome the scientific challenges between current and next-generation fuel cells, a joint approach is absolutely vital, where the experts of each ‘world’ plan and operate their activities beforehand, in parallel, and in synergy. This workshop aims to facilitate this process, which is fully in line with the efforts towards harmonisation and alignment of capacities, infrastructures and programmes of the European Union and EERA, for the creation of critical mass and world-class expertise.

Here it is a first draft of the programme:

Time slot	Argument	Speaker
8:30-9:00	Registration	
9:00-9:15	Welcome and introduction	Angelo Moreno (ENEA)
9:15-9:45	A global framework for examination of degradation	Mark Williams? (DOE)
	<i>Fundamental research</i>	
9:45-10:15	Advanced experimental techniques for identifying fundamental mechanisms and processes (PEM)	Gérard Gebel (CEA)
10:15-10:45	Advanced modelling tools for identifying fundamental mechanisms and processes (SOFC)	Vitaliy Yurkiv (DLR)
10:45-11:00	<i>Coffee Break</i>	
11:00-11:30	Advanced experimental techniques for diagnosing stack degradation mechanisms (SOFC)	André Leonide (KIT-Siemens)?
11:30-12:00	Advanced numerical tools for diagnosing stack degradation mechanisms (PEMFC & MCFC & SOFC)	Barbara Bosio (Uni Genoa)
12:00-12:30	Synergy of simulation and experimentation of stack degradation (SOFC)	Michael Lang (DLR)
12:30-14:00	<i>Lunch</i>	
14:00-14:30	Experimental techniques for system control (PEMFC/SOFC)	Antti Pohjoranta (VTT)
14:30-15:00	Status of modelling tools for product development (PEMFC)	Mathias Gerard (CEA)
15:00-15:30	Synergy of simulation and experimentation in Product Industrialization	Murat Peksen (FZJ)
15:30-16:00	<i>Coffee Break</i>	
16:00-17:30	Round Table discussion	Moderator: Valentina Vetere (CEA)
17:30	<i>Close of Workshop</i>	

The event has been advertised mainly through the H2FC website under the section “Approaches workshop” (<http://h2fc.eu/approachesworkshop>); the EFC13 website (www.europeanfuelcell.it); EERA website (www.eera-set.eu/).

The Fuel Cell Laboratory of the University of Perugia and ENEA have also included a note on the workshop in their website.

13/11/13
Approaches Workshop

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Approaches Workshop




Workshop 2013

INTEGRATING NUMERICAL AND EXPERIMENTAL APPROACHES FOR THE DESIGN OF NEXT GENERATION FUEL CELLS

ENEA Rome Headquarters
Rome, Italy • 10th December 2013

Scope of the event

European efforts in the treatment of the development of fuel cells, thanks to the combined efforts of leading institutes, universities and technology companies. This has led to a considerable number of demonstrators at different stages of development, showing the potential of the technology. The first steps of development are becoming a reality and performance and lifetime are showing a considerable improvement of the technology.

Meanwhile, the commercial production of fuel cells is still at the early stages of development. In order to ensure a long-term and sustainable development of the technology, it is necessary to ensure that the technology is ready to be commercialized and to be able to compete with other technologies. This workshop is intended to provide a platform for the exchange of information and experiences, which will help to improve the technology, by making it more reliable and cost-effective, and to ensure that the technology is ready to be commercialized and to be able to compete with other technologies.

Significant achievements in terms of the understanding of the technology have been brought about. Thanks to the execution of technical trials, experiments, testing, etc., making possible the development of the “hydrogenated” and “methanol” and have been developed and operated in a wide range of applications. To overcome the scientific challenges between current and next-generation fuel cells, a joint approach is absolutely vital. It is the goal of each workshop to plan and organize their activities before and during the workshop.

The workshop aims to facilitate the process of information exchange with the objective of harmonization and alignment of activities, infrastructures and programmes of the European Union and EERA, to the creation of technical trials and test cells cooperation. The workshop is also beneficial to the mapping and upgrade of European infrastructures on fuel cells and hydrogen. Leading scientists will be invited to present the latest state-of-the-art experimental and numerical results on fuel cells to which other scientists in their respective countries are invited to actively take part in the discussions and a lively debate will be ensured.

Confirmed speakers

Representatives from CEA (France), Forschungszentrum Jülich (Germany), German Aerospace Establishment (DLR), University of Bologna (Italy) and other leading European research institutes.

What does it cost?

Participants in the workshop are invited to bring their own lunch. Registration is free of charge. The number of places is strictly limited.



Travel information for attendees:

ENEA Logistics and hotels

Map of ENEA headquarters

Main Contact

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Approaches Workshop



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Rome, december 11-13, 2013

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European Fuel Cell Technology & Applications

Piero Lunghi Conference December 11-13, 2013

"Piero Lunghi Conference" (EFC13) will be celebrating its **5th edition** with a renewed but still renowned scientific programme.

EFC13 is a meeting place of fuel cell experts, so we strongly invite you also to submit your "bad ideas" in the application of the technology, as we know, quoting Bohr, that "An expert is a man who has made all the mistakes which can be made".

To support the dissemination activities of national and international projects (e.g. FCH-JU), a specific session will be introduced to allow the presentation of project progress and compare results.

We look forward to your participation in the 2013 "Piero Lunghi Conference & Exhibition"!

SIDE EVENT
INTERNATIONAL WORKSHOP
10th
December 2013
Integrating numerical and experimental approaches for the design of next generation fuel cells

SIDE EVENT
DISSEMINATION OF EUROPEAN PROJECTS
11-13
December 2013
Poster Session
12th
December 2013
Project Cocktail

SIDE EVENT
ITALIAN WORKSHOP
13th
December 2013
Hydrogen and Fuel Cell: What opportunities for Italy?

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SOCIAL DINNER
11th
December 2013

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INTERNATIONAL
JOURNAL OF
HYDROGEN ENERGY

A flyer on the workshop has been realized and forwarded by email to the wide hydrogen and fuel cell community:



The flyer features a blue and white geometric background. At the top left is the EERA logo (European Energy Research Alliance) with a map of Europe. At the top right is the H₂FC logo (H₂FC European Infrastructure is an Integrating Activity funded by the European Commission under FP7 Capacities Programme, Grant agreement No. FP7-284522). The main title is 'Workshop 2013' in large white font, followed by the subtitle 'INTEGRATING NUMERICAL AND EXPERIMENTAL APPROACHES FOR THE DESIGN OF NEXT GENERATION FUEL CELLS' in smaller white font. Below this, the location and date are listed: 'ENEA Rome Headquarters' and 'Rome, Italy • 10th December 2013'. The 'Scope of the event' section discusses the development of fuel cells and the need for a joint approach between experimentalists and modellers. The 'Confirmed speakers' section lists experts from CEA, Forschungszentrum Jülich, German Aerospace Center, VTT, and University of Genoa. The 'What does it cost?' section states that participation is free of charge but registration is mandatory. At the bottom center is the EFC13 logo (European Fuel Cell) with the website www.efc13.eu.

EERA
European Energy Research Alliance

H₂FC
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Workshop 2013

INTEGRATING NUMERICAL AND EXPERIMENTAL APPROACHES FOR THE DESIGN OF NEXT GENERATION FUEL CELLS

ENEA Rome Headquarters
Rome, Italy • 10th December 2013

Scope of the event

Europe is at the forefront of the development of fuel cells, thanks to the combined efforts of leading institutes, universities and forward-looking entrepreneurs. This has led to a rapid increase in the demonstration and deployment of fuel cell systems of all sizes and application areas. The first stage of development is becoming a reality and policymakers and investors are working towards industrial take-up of the technology. Meanwhile, the momentum gathered in the last years cannot disregard the needs for continuous innovation, in order to ensure lasting excellence and competitiveness. It is already crucial to look ahead and prepare for the next generation of fuel cell applications which must drastically improve the technology, by radically improving performance, reliability and cost-effectiveness, in order to inaugurate **an era where fuel cells will share the energy market equally and easily with competing technologies.**

Significant achievements in terms of the understanding of the technology have been brought about, thanks to the evolution of diagnostic tools, experimental techniques and modelling capabilities, but still the worlds of the **'experimentalists'** and **'modellers'** are too often disjointed and operate not fully aware of each other. **To overcome the scientific challenges between current and next-generation fuel cells, a joint approach is absolutely vital**, where the experts of each 'world' plan and operate their activities beforehand, in parallel, and in synergy.

This workshop aims to facilitate this process, which is fully in line with the efforts towards **harmonisation and alignment of capacities, infrastructures and programmes of the European Union and EERA**, for the creation of critical mass and world-class expertise. The workshop is also beneficial to the **mapping and upgrade of European infrastructures on fuel cells and hydrogen**. Leading scientists will be invited to present the utmost state-of-the-art in experimental and numerical methods and give their views on the possibilities for their integration. **Participants are invited to actively take part in the discussions and a lively debate will be ensured.**

Confirmed speakers

Top experts from CEA (France), Forschungszentrum Jülich (Germany), German Aerospace Center, VTT (Finland), University of Genoa (Italy) and other leading European research institutions.

What does it cost?

Participation to the workshop is free of charge, but registration is mandatory. Register at <http://h2fc.eu/approachesworkshop>
The number of attendants is strictly limited.

EFC13 European Fuel Cell
www.efc13.eu

Any further detail on the event, together with the final programme, the list of speakers, their presentations and participants will be included in the deliverable D5.7 "Schedule and Report on Thematic Workshops – update" due in month 36.

1.3 Final remarks

As for the first workshop described here above, the other two will focus on the bottlenecks highlighted within task N3.1 and detailed in the deliverable D4.1 "Scientific Bottlenecks for Commercialization of H₂ & FC Technologies.

The **second workshop** will be held presumably on 18th March 2014 at Parque Tecnológico de San Sebastián (Tecnalia), in Donostia-San Sebastián - Gipuzkoa (Spain) . The event will be performed just the day before the third H₂FC assembly which will be hosted by Tecnalia.

The workshop will focus on the development and improvement of materials for electrolysers, PEMFC, SOFC, for H storage.

The organization of the event is under performance.

The **third workshop** will be investigated during next project meetings but it's clear that will focus on hydrogen production and storage and safety issues.

It will be also jointly decided if it will be worth to arrange also other meetings focusing on crucial identified bottlenecks.