



EUROPEAN COMMISSION  
DIRECTORATE-GENERAL JRC  
JOINT RESEARCH CENTRE  
Institute for Energy and Transport

# 3<sup>rd</sup> INTERNATIONAL WORKSHOP ON DEGRADATION ISSUES OF FUEL CELLS and ELECTROLYSERS FIRST ANNOUNCEMENT

Joint Research Centre

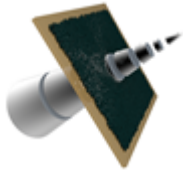
Dates: 30 SEPTEMBER - 2 OCTOBER 2015  
Location: Greece



UNIVERSITY OF  
BIRMINGHAM



# The Workshop is supported by the following FCH-JU Projects.



**IMPACT**



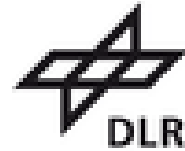
**IMPALA**



**Second Act**

## OTHER SUPPORTING ORGANISATIONS

Joint Research Centre





## SCOPE OF THE WORKSHOP

This international workshop aims at:

- Understanding fundamental degradation mechanisms, as well as identifying measures to increase fuel cell lifetime, robustness and reliability.
- Identifying test procedures, characterization tools & test criteria to address degradation from the fuel cell component the MEA (membrane electrode assembly) to the system level both applicable for fuel cell and electrolysis
- Providing a model based approach to describe degradation phenomena
- Identifying future R&D (research & development) activities for further understanding, mitigating and reducing degradation phenomena
- Identifying methodologies for evaluation of degradation and harmonisation of test procedures.

The workshop will be comprised of plenary and parallel sessions with oral presentations, which will include state of the art reviews on degradation issues on fuel cells such as Polymer Electrolyte Fuel Cell (PEFC); Solid Oxide Fuel Cell (SOFC) and in electrolysis mode, Polymer Electrolyte Membrane Water Electrolysis Cell (PEMWE) and Solid Oxide Electrolysis Cell (SOEC). Oral presentations at the workshop are by invitation only from the committee. A selection of international experts will chair and guide the sessions. Additionally, a poster exhibition will be organised offering the opportunity to the participants, to present their research work on degradation issues. A panel discussion session will close the workshop, and will suggest future directions in fuel cell degradation research.

### WHO SHOULD ATTEND

The workshop is targeted at Developers, Researchers, Business Managers in academia and industry and graduate students.

### VENUE

The venue of the Workshop will be in Greece. Details will be announced at a later stage.





## SCIENTIFIC PROGRAM

	Wednesday 30 September 2015		Thursday 1 October 2015			Friday 2 October 2015		
08:30	Morning Sessions Plenary		Morning Sessions Parallel			Morning Sessions Parallel		
	International Overview		Parallel Session 1 PEFC	Parallel Session 2 SOFC	Parallel Session 3 PEMWECElectrolysis	Parallel Session 1 PEFC	Parallel Session 2 SOFC	Parallel Session 3 High Temperature Electrolysis
			Approaches limiting cell components degradation Membrane	Approaches limiting cell components degradation	Mechanisms limiting PEMWECElectrolysis durability	Effects of Contaminants	System durability	Fundamental mechanisms limiting High Temperature Durability
10:45	Coffee break		Coffee break			Coffee break		
11:00	Parallel Session 1 PEFC	Parallel Session 2 SOFC	Catalyst Degradation	Approaches limiting cell components degradation	Degradation of PEMWECElectrolysis cells and stacks	Modelling Approaches for Degradation	Accelerated testing	Fundamental mechanisms limiting High Temperature Durability
	Fundamental mechanisms limiting PEFC Durability	Fundamental mechanisms limiting SOFC Durability						
12:30	Lunch		Lunch			Lunch		
14:00	Afternoon Parallel Sessions		Afternoon Parallel Sessions			Afternoon Plenary Session		
	Parallel Session 1 PEFC	Parallel Session 2 SOFC	Parallel Session 1 PEFC	Parallel Session 2 SOFC	Parallel Session 3 Alkaline Electrolysis	Plenary Discussions		
	Fundamental mechanisms limiting PEFC Durability	Fundamental mechanisms limiting SOFC durability	Degradation at cell and stack level at load cycling	Degradation at cell and stack level	Degradation mechanisms for Alkaline electrolysis			
16:00	Coffee break		Coffee break			End of Workshop		
16:15	Fundamental mechanisms limiting PEFC Durability	Fundamental mechanisms limiting SOFC durability	Endurance Testing Procedures	Endurance Testing	Degradation at cell and stack level			
18:00	End of Day 1		End of Day 2					





## WORKSHOP PROCEEDINGS

All oral and poster presentations will be published as the Workshop Proceedings.

## DEADLINES

**ABSTRACTS** for POSTER PRESENTATIONS must be submitted via e-mail by **31st July 2015** to:

PEFC to: [ludwig.joerissen@zsw-bw.de](mailto:ludwig.joerissen@zsw-bw.de)

SOFC to: [Robert-steinberger-wilckens@bham.ac.uk](mailto:Robert-steinberger-wilckens@bham.ac.uk) ; [A.El-kharouf@bham.ac.uk](mailto:A.El-kharouf@bham.ac.uk)

Low Temperature Electrolysis to: [nvd@itm-power.com](mailto:nvd@itm-power.com) ; [arico@itae.cnr.it](mailto:arico@itae.cnr.it)

High Temperature Electrolysis to: [neoph@ichet.forth.gr](mailto:neoph@ichet.forth.gr)

Always copy to: [georgios.tsotridis@ec.europa.eu](mailto:georgios.tsotridis@ec.europa.eu)

[Thomas.malkow@ec.europa.eu](mailto:Thomas.malkow@ec.europa.eu)

[tanya.arabadzhieva@ec.europa.eu](mailto:tanya.arabadzhieva@ec.europa.eu)

## PARTICIPATION TO THE WORKSHOP

Interested persons should complete and submit the attached Pre-registration form and send it by e-mail to:

[tanya.arabadzhieva@ec.europa.eu](mailto:tanya.arabadzhieva@ec.europa.eu) and [Thomas.malkow@ec.europa.eu](mailto:Thomas.malkow@ec.europa.eu)

## ORGANISING SCIENTIFIC COMMITTEE

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ICHET, Greece

**Ludwig Jörissen**

ZSW, Germany

**Sylvie Escribano**

CEA, France

**Nick van Dijk**

ITM Power, UK



## *Pre*-REGISTRATION FORM

# 3<sup>rd</sup> INTERNATIONAL WORKSHOP ON DEGRADATION ISSUES IN FUEL CELLS & ELECTROLYSERS

Please e-mail this registration form to  
[tanya.arabadzhieva@ec.europa.eu](mailto:tanya.arabadzhieva@ec.europa.eu) and [Thomas.malkow@ec.europa.eu](mailto:Thomas.malkow@ec.europa.eu)

Name of participant \_\_\_\_\_

Affiliation \_\_\_\_\_

E-mail contact \_\_\_\_\_

Telephone contact \_\_\_\_\_

Do you intend to present a poster? Yes  No