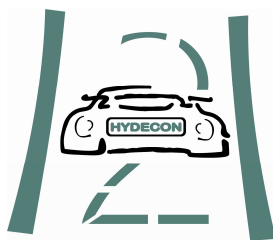


Hydrogen Research at the Greek - Bulgarian Border Region

Thessaloniki, 17 October 2012

Auditorium "Vergina", CERTH, 6th klm Harilaou - Thermi Rd



WITHIN THE FRAMEWORK OF THE HYDECON PROJECT:
Hydrogen economy cooperation network for
research - public awareness - business
opportunities across Greek - Bulgarian borders



European Territorial Cooperation Programme
Greece-Bulgaria 2007-2013

INVESTING IN OUR FUTURE

Co-funded by the European Union (ERDF)
and National Funds of Greece and Bulgaria



Organizing Committee

Nalbandian Lori, chair

Evdou Antigoni

Zaspalis Vassilios

Laboratory of Inorganic Materials (LIM)

Chemical Process and Energy Resources Institute (CPERI)

Center for Research and Technology Hellas (CERTH)

- 9:00 – 9:45 **Registration**
9:45 - 10:00 **Workshop Opening**

Session 1 Fuel Cells

10:00 – 10:30 **Fuel Cells – the Heart of Hydrogen Technologies**

Mario Mitov

Department of Chemistry, South-West University,
Blagoevgrad, Bulgaria

10:30 – 10:45 **Co-based materials supported on Ni-foam as Anodes for Direct Borohydride Fuel Cells**

Georgi Hristov, Mario Mitov

Department of Chemistry, South - West University,
Blagoevgrad, Bulgaria

10:45 – 11:00 **PEM reversible water electrolysis - fuel cell systems**

Stella Balomenou, Kalliopi-Maria Papazisi, Dimitrios Tsipakides

Chemical Process & Energy Resources Institute, Center for
Research and Technology-Hellas, CPERI / CERTH, 6th km
Charilaou - Thermi Rd., GR-57001 Thessaloniki, Greece

11:00 – 11:15 **Power generation in a bio-oil fed SOFC using Cu-CeO₂ as anode**

N. Kaklidis¹, V. Besikiotis², C. Athanasiou^{3,4}, A.A. Al-Musa⁵, G.E. Marnellos^{1,4}

¹Dept. of Mechanical Engineering, University of Western Macedonia, Kozani, Greece, ²Dept. of Chemistry, University of Oslo, FERMIØ, Oslo, Norway, ³Dept. of Environmental Engineering, Democritus University of Thrace, Xanthi, Greece, ⁴Chemical Process Engineering Research Institute, Centre for Research & Technology Hellas, Thermi, Thessaloniki, Greece, ⁵King Abdulaziz City for Science & Technology, Energy Research Institute, Riyadh, Saudi Arabia

11:15 – 11:30 **Innovative Yeast-based Biofuel Cell**
Yolina Hubenova
Department of Biochemistry and Microbiology, Plovdiv
University, Bulgaria

11:30 – 12:00 Coffee break

Session 2 Fuel Cell Scooter – Student Projects

- 12:00 – 12:30 **The making of ... a Hydrogen Scooter**
Nikos Yianoulakis, Andreas Vassileiou
Clean Energy Solutions, ELFON LTD, Athens, Greece
- 12:30 – 12:40 **Hydrogen Fuel Cell Vehicles: Hydrogen is everywhere; why not in our cars?**
Marianna Papadimitriou – Timoleon Siempis
Students of Anatolia College, Thessaloniki
- 12:40 – 12:50 **Energy, Environment and Use of Hydrogen**
Fotini Bousini – Aikaterini Fylaktou
Students of Ekpaideftiria Fryganioti, Thessaloniki
- 12:50 – 13:00 **Hydrogen: The fuel of the 21st century**
Stavros Trakas – Manolis Spitalas
Students of 1st Experimental Lyceum, Thessaloniki
- 13:00 – 13:10 **A Zero Emission Future**
Manos Perdikakis – Giannis Saravelos – George Petkakis
Students of Anatolia College, Thessaloniki

13:10 – 13:20 **Fuel Cells Vehicle Propulsion as a Part of Sustainable Development**
Ioannis Poravos – Alexandros Paschalis
Students of Secondary Technical School of Neapoli, Thessaloniki

13:20 – 13:30 **Early Hydrogen Community in Greece: Vision for a clean future**
Kalpakis Christos
Student of Chemical Engineering, Aristotle University Thessaloniki

13:30 – 15:00 Lunch break

Session 3 Hydrogen Production

15:00 – 15:15 **Development and Operation of an Innovative Energy Management Strategy for a Hydrolytic Solar Hydrogen Autonomous System**

Chrysovalantou Ziogou¹, Dimitris Ipsakis¹, Panos Seferlis^{1,2}, Stella Bezergianni¹, Simira Papadopoulou^{1,3}, Spyros Voutetakis¹

¹Chemical Process Engineering Research Institute (C.P.E.R.I.), Centre for Research and Technology Hellas (CE.R.T.H.), P.O. Box 60361, 57001, Thessaloniki, Greece, ² Department of Mechanical Engineering, Aristotle University of Thessaloniki, P.O. Box 484, 54124 Thessaloniki, Greece, ³Department of Automation, Alexander Technological Educational Institute of Thessaloniki, P.O. Box 141, 54700, Greece

- 15:15 – 15:30 **New Ni-based Nanocomposites as Cathodes for Microbial Electrolysis Cell**
Elitsa Chorbadzhiyska¹, Mario Mitov¹, Yolina Hubenova²
¹Department of Chemistry, South-West University, Blagoevgrad, Bulgaria
²Department of Biochemistry and Microbiology, Plovdiv University, Bulgaria
- 15:30 – 15:45 **Carbon-Neutral Solar Syngas Generation by H₂O and CO₂ Splitting Thermochemical Cycles**
Lorentzou S.¹, Karagiannakis G.¹, Pagkoura C.^{1,2}, Konstandopoulos A.G.^{1,3}
¹Aerosol and Particle Technology Laboratory (APTL), Chemical Process & Energy Resources Institute, Center for Research and Technology-Hellas (CERTH/CPERI), P.O. Box 60361, 57001, Thessaloniki, Greece, ²Department of Mechanical Engineering, University of W. Macedonia, 50100, Kozani, Greece, ³Department of Chemical Engineering, Aristotle University, PO. Box 1517, 54006, Thessaloniki, Greece
- 15:45 – 16:00 **Mixed Oxides for Hydrogen Production: Overview of Research Activities at the Laboratory of Inorganic Materials**
Vassilios Zaspalis^{1,2}, Antigoni Evdou¹, Lori Nalbandian¹
¹Laboratory of Inorganic Materials (LIM), Chemical Process & Energy Resources Institute, Center for Research and Technology - Hellas (CPERI / CERTH), P.O. Box 60361, 57001, Thessaloniki, Greece, ²Department of Chemical Engineering, Aristotle University, PO. Box 1517, 54006, Thessaloniki, Greece

16:00 – 16:15 **Upgrading of the Acid Hydrolysis Residues with pyrolysis (thermal and catalytic) and steam gasification process.**

C.M. Michailof, K.G. Kalogiannis, S.D. Stefanidis and A.A. Lappas

Laboratory of Environmental Fuels and Hydrocarbons, Chemical Process & Energy Resources Institute, Center for Research and Technology-Hellas, CPERI / CERTH, 6th km Charilaou - Thermi Rd., GR-57001 Thessaloniki, Greece

16:15 – 16:30 **Hydrogen production via low temperature steam reforming in the presence of Ni and Rh catalysts**

S. Aggeli¹, G. Monteleone², A. Giaconia², A. Lemonidou¹

¹Dept Chemical Engineering, Aristotle University Thessaloniki, University Campus 54124, Thessaloniki, Greece, ²ENEA, Rome, Italy

16:30 – 17:00 Coffee break – Posters – Open discussion

THE HYDECON NETWORK



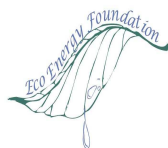
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MUNICIPALITY OF THERMI



SOUTH WEST UNIVERSITY "NEOFIT RILSKI"



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