

WHTC 2005

World Hydrogen Technologies Convention (WHTC)

Wednesday, 5th Oct 2005

11:30 – 12:00 “Sustainable Development: Scenarios and Strategies for meeting the world's energy demand with hydrogen”
Mr. Arno A. Evers, Arno A. Evers FAIR-PR, Germany

Programme Overview (Day 1)

08:00 - 09:00 Registration
09:00 – 09:05 Introductory Remark
Mr. David Tee Liang, Organizing Committee Chairman
09:05 – 09:15 Welcome Speech
Prof. Nejat Veziroglu, President, IAHE
09:15 – 09:30 Convention Opening Speech
Guest-of-Honour: Dr. Yaacob Ibrahim, Minister for Environment and Water Resources, Singapore
9:30 – 10:00 Tea Break

Plenary Session:

Chair: A/Prof. Chan Siew Hwa

10:00 – 10:30 “Fuel Cells enabling the Mobility of the Future - DaimlerChrysler's Worldwide Fuel Cell Activities –“
Dr.-Ing. Klaus Bonhoff (DC)
(we have assigned the paper as WHTC2005_PL 1.pdf)
10:30 – 11:00 “Hydrogen & Energy: Company's Perspective
Dr. Wu Shen Kong, President, BP Singapore Pte Limited
(we have assigned the paper as WHTC2005_PL 2.pdf)
11:00 – 11:30 “Hydrogen Economy Overview”
Dr. Jay Keller, Hydrogen Programme Manager, Sandia National Laboratories, USA
(we have assigned the paper as WHTC2005_PL 3.pdf)
11:30 – 12:00 “SOFC for distributed energy generation and numerical simulators for its optimum design”
Prof. Kenjiro Suzuki, Shibaura Institute of Technology, Japan
12:00 – 13:00 Lunch
13:00 – 13:40 Poster and Exhibition Viewing

Parallel Sessions

Session I A FUEL CELLS (ROOM 311)

Chair: Prof. Sørensen Bent and A/Prof. Chan Siew Hwa

13:40 – 14:00 “A Review of PEM Fuel Cells”
JIA Junbo (Singapore)
14:00 – 14:20 “Key Issues in the preparation of DMFC electrocatalysts”
Lo Man Yin (Taiwan)
14:20 – 14:40 “Understanding fuel cells on a quantum physics level”
Sørensen Bent (Denmark)
14:40 – 15:00 “Nanocomposite Nafion-silica membranes for direct methanol fuel cells”
Joe da Costa (Australia)
15:00 – 15:30 Tea Break

Session I B HYDROGEN PRODUCTION (ROOM 310)

Chair: Dr. Liu Shaomin; Prof. Joongmyeon Bae

- 13:40 – 14:00 "Hydrogen production from the gasification of lignin with Nickel Catalysts in Supercritical Water"
Furusawa Takeshi (Japan)
- 14:00 – 14:20 "Hydrogen Production by Decomposition of Cellulose over Ni Catalysts Supported on Zeolites"
Inaba Megumu (Japan)
- 14:20 – 14:40 "Modeling and optimization of autothermal methane reforming with porous medium approach"
Lee Shinku (Korea)
- 14:40 – 15:00 "Hydrogen production in membrane reactors"
Joe da Costa (Australia)
- 15:00 – 15:30 Tea Break

Session I C HYDROGEN FUELED TRANSPORTATION (ROOM 309)

Chair: Dr. James Highfield and Dr. Massimo Santarelli

- 13:40 – 14:00 "Hydrogen Enriched Air Induction in a diesel engine system for air pollution reduction"
Natarajan Saranavan (India)
- 14:00 – 14:20 "Hydrogen Fueled Hybrid Electric Transit Buses: In-Service Experience"
Paul B Scott (USA)
- 14:20 – 14:40 "A Village Laboratory to investigate a hydrogen energy system: outlook on the automotive system"
Massimo Santarelli (Italy)
- 14:40 – 15:00 "Pios Fuel Cell Motorcycle - Concept of a safe, clean and silent motorcycle for Asia"
Weigl Joerg (Malaysia)
- 15:00 – 15:30 Tea Break

**Session I D HYDROGEN ENABLING TECHNOLOGY
HYDROGEN TRANSPORTATION & DISTRIBUTION TECHNOLOGIES (ROOM 308)**

Chair: Mr. William Lee and Dr. Raffaella Gerboni

- 13:40 – 14:00 "The review of high pressure gas safety law in japan for hydrogen supply stations"
Komori Masahiro (Japan)
- 14:00 – 14:20 "Development of dense cermet membranes for hydrogen separation"
Balachandran Uthamalingam (USA)
- 14:20 – 14:40 "Present transport schemes for hydrogen and other energy vectors: a review"
Raffaella Gerboni (Italy)
- 14:40 – 15:00 "An Affordable Hydrogen Infrastructure System"
Barney Rush (USA)
- 15:00 – 15:20 "Large Power Transport from Renewable Sources using Liquid Hydrogen and Superconductors Technologies"
Trevisani Luca (Italy)
- 15:20 – 15:30 Tea Break

Session 2 A FUEL CELLS (ROOM 311)

Chair: A/Prof. Ned Djilali and Ast/Prof. Wang Xin

- 15:30 – 15:50 “Computational Analysis of a Micro-Structured PEMFC”
Ned Djilali (Canada)
- 15:50 – 16:10 “Improvements in the properties of the PEMs by using divinylbenzene in the grafting of styrene into crosslinked PTFE membranes”
Li Jingye (Japan)
- 16:10 – 16:30 “The Study of the Effect of Water Flooding and Gas Stoichiometry Rate in Cathode Channel on Performance in a Transparent Fuel Cell”
Weng Fang-Bor (Taiwan)
- 16:30 – 16:50 “Preparation and Characterization of A New Composite Carbon Plate for Proton Exchange Membrane Fuel Cell Application”
Han Ming (Singapore)
- 16:50 – 17:10 “Experimental analysis of the cathode flow stoichiometry on the electrical performance of a PEMFC stack”
Massimo Santarelli (Italy)
- 17:10 – 18:00 Poster and Exhibition Viewing

Session 2 B HYDROGEN PRODUCTION (ROOM 310)

Chair: Prof. Kofi Bota and A/Prof. Wang Jingyuan

- 15:30 – 15:50 “Influence of Gaseous End-products Inhibition and Nutrient Limitations on the Growth and Hydrogen Production by Hydrogen-producing Fermentative Bacterial B49”
Wang Xiangjing (China)
- 15:50 – 16:10 “An Integration System for producing Hydrogen from Biomass”
Wang Zhicheng (USA)
- 16:10 – 16:30 “Direct hydrogen production from the SR process of biomasses”
Rei Bin M.H. (Taiwan)
- 16:30 – 16:50 “Biochemical Mechanism of Fermentative Hydrogen Production by Bacteria”
Li Yongfeng (China)
- 16:50 – 18:00 Poster and Exhibition Viewing

Session 2 C HYDROGEN STORAGE (ROOM 309)

Chair: Dr. Chen Ping

- 15:30 – 15:50 “Effect of Mn content on hydriding/dehydriding properties of Ti-V based BCC-phase alloy”
Liu Xiaopeng (China)
- 15:50 – 16:10 “Study of two Metal Hydrides for Hydrogen Storage using low level exhausted heat sources”
Yang Yang (Japan)
- 16:10 – 16:30 “Hydrogen Embrittlement Properties of Stainless Steels in High Pressure Gaseous Hydrogen Environment Evaluated by SSRT”
Omura Tomohiko (Japan)
- 16:30 – 16:50 “Influence of Pressure on Hydrogen Absorption by Lithium Nitride”
Luo Jizhong (Singapore)
- 16:50 – 17:10 “Water Resistant Hydrogen Storage Materials Comprising Encapsulated Metal Hydrides”
Nishimiya Nobuyuki (Japan)
- 17:10 – 18:00 Poster and Exhibition Viewing

Session 2 D HYDROGEN – SUSTAINABILITY & ECONOMIC VIABILITY (ROOM 308)

Chair: Dr Tomas Tronstad and A/Prof. Ho Hiang Kwee

- 15:30 – 15:50 “Effect In Search of a sustainable Hydrogen Economy: How a large-scale Transition to Hydrogen may affect the Primary Energy Demand and Greenhouse Gas Emissions”
Jens Hetland (Norway)
- 15:50 – 16:10 “Estimation of benefits in environmental externalities of FCV deployment policy”
Itaoka Kenshi (Japan)
- 16:10 – 16:30 “Economic Aspects and Environmental Benefits of Maritime Fuel Cells”
Tomas Tronstad (Italy)
- 16:30 – 16:50 “Implementing a Hydrogen Business”
Clarke Darlene (Canada)
- 16:50 – 17:10 “Experimental and Life Cycle Analyses of Hydrogen Production from Waste Aluminum”
Hiraki Takehito (Japan)
- 17:10 – 18:00 Poster and Exhibition Viewing

Day 2**Plenary Session:**

Chair: Mr. David Tee Liang

- 09:00 – 09:30 “Collaborative HIA R&D: Gold Standard for International H₂ Cooperation”
Mr. Nick Beck, Chairman, IEA Hydrogen Program Executive Committee
- 09:30 – 10:00 “Hydrogen and Fuel Cells in the Netherlands”
Dr. Henk Barten, Millieu (NOVEM) BV, The Netherlands
- 10:00 – 10:30 “Fuel Cell R & D in Taiwan”
Dr. S.H. Chan, President, Yuan Ze University, Taiwan
- 10:30 – 11:00 Tea Break
- 11:00 – 11:30 “Germany’s Approach to Hydrogen and Fuel Cell Technologies - National, European and International Networks”
Dr. Neef Hanns-Joachim, Head, Energy Technology Collaboration Division, IEA
- 11:30 – 12:00 “Development of Metal-N-H Systems for Hydrogen Storage”
Dr. Chen Ping, National University of Singapore, Singapore
- 12:00 – 13:00 Lunch
- 13:00 – 13:40 Poster and Exhibition Viewing

Parallel Sessions**Session 3 A FUEL CELLS(ROOM 311)**

Chair: Dr. Duerr Matthias and Dr. Wong Fook Sin

- 13:40 – 14:00 “Studies on The Design of Air-Breathing Miniature PEMFC Stack”
Lai Wei-Hsiang Lewis (Taiwan)
- 14:00 – 14:20 “Synthesis and Characterization of Platinum Nanoparticles Protected by PDDA for Polymer Electrolyte Fuel Cells”
Liu Zengcai (Singapore)
- 14:20 – 14:40 “Developments in Polymer Electrolyte Membrane (PEM) Based Electrolytic Hydrogen Generation Technology”
Badwal Sukvinder (Australia)
- 14:40 – 15:00 “Experimental determination and simulation of the dynamic properties of an alkaline fuel cell stack used for a domestic scale stationary power generator”
Duerr Matthias (UK)
- 15:00 – 15:30 Tea Break

Session 3 B HYDROGEN PRODUCTION (ROOM 310)

Chair: Dr. Jorge Norbeto Beltramini and Dr. Wang Rong

- 13:40 – 14:00 “3-in-1 Hydrogen generator with a catalytic membrane reactor”
Rei Bin M.H. (Taiwan)
- 14:00 – 14:20 “Hydrogen Generation from liquid phase catalytic reforming of sugar solutions using metal-supported catalysts”
Jorge Norbeto Beltramini (Australia)
- 14:20 – 14:40 “Thermo-Catalytic Cracking of Hydrocarbons”
Mauthner Klaus (Germany)
- 14:40 – 15:00 “HyRadix: Reliable Production Technology for the Hydrogen Economy”
Mark Watkins (USA)
- 15:00 – 15:30 Tea Break

Session 3 C OTHER HYDROGEN UTILIZATION TECHNOLOGIES (ROOM 309)

Chair: Mr. David Tee Liang

- 13:40 – 14:00 “Electrochemical investigation on addition of nanoscale CoO to the positive electrodes for Ni/MH rechargeable batteries”
Wu jianbo (China)
- 14:00 – 14:20 “An Overview of Fuel Cell Systems for Critical Backup Power Applications”
Pocard Nicolas (USA)
- 14:20 – 14:40 “Hydrogen and Electrical Energy from Organic Waste Treatment”
Gair Sinclair (UK)
- 14:40 – 15:00 “Interaction between NaNH₂ and LiAlH₄ for Hydrogen generation at room temperature”
Xiong Zhitao (Singapore)
- 15:00 – 15:30 Tea Break

Session 3 D ADVANCING THE HYDROGEN ECONOMY (ROOM 308)

Chair: Dr. Philip J. Vergragt

- 13:40 – 14:00 “Leveraging European and Asian knowhow”
Dieter Brächtken (Germany)
- 14:00 – 14:20 “Purity Security”
David Martin (Canada)
- 14:20 – 14:40 “ANSTO Neutron and X-ray Facilities for Environmental and Hydrogen Research”
Ned Blagojevic (Australia)
- 14:40 – 15:00 Towards a National Policy Dialogue on Hydrogen in the USA
Philip J. Vergragt
- 15:00 – 15:30 Tea Break

Session 4 A FUEL CELLS (ROOM 311)

Chair: Dr. Andrew Spowage

- 15:30 – 15:50 “Development of LSCF-GDC Composite Cathodes for Low Temperature Solid Oxide Fuel Cells with Thin Film GDC Electrolyte”
Leng Yongjun (Singapore)
- 15:50 – 16:10 “Effect of Pretreatments on the Anode Structure of Solid Oxide Fuel Cells”
Guo Bing-Jun (Taiwan)
- 16:10 – 16:30 “Intermediate-Temperature SOFC with Anode-Supported LSGM Electrolyte”
Liu Qinglin (Singapore)
- 16:30 – 16:50 “Novel Structured Mixed Ionic and Electronic Conducting Cathodes of Solid Oxide Fuel Cells”
Wang Wei (Singapore)
- 16:50 – 17:10 “Evaluation of Fe-Cr alloys as interconnect for solid oxide fuel cell”

- Zhen Yongda (Singapore)
 17:10 – 17:30 “Rolls-Royce Fuel Cell Systems - Power Systems for the Future”
 Nigel Hart (UK)
 17:30 – 18:00 Poster and Exhibition Viewing

Session 4 B HYDROGEN PRODUCTION (ROOM 310)

Chair: A/Prof. Chang Jo-Shu

- 15:30 – 15:50 “Continuous Bio-hydrogen Production Using Activated Carbon as Solid Carriers from Molasses Fermentation”
 Tang Jing (China)
 15:50 – 16:10 “Anaerobic bio-hydrogen production: effect of HRT”
 Guo Wanqian (China)
 16:10 – 16:30 “Fermentative Hydrogen Production: A Biochemical Engineering Perspective”
 Chang Jo-Shu (Taiwan)
 16:30 – 16:50 “Physical Chemistry Mechanism of Fermentative Hydrogen Production by Bacteria”
 Li Yongfeng (China)
 16:50 – 18:00 Poster and Exhibition Viewing

Session 4 C HYDROGEN STORAGE (ROOM 309)

Chair: A/Prof. MNA Hawlader

- 15:30 – 15:50 “Hydrogen adsorption/desorption over $TiCl_4$ -Li-N-H complexes”
 Luo Jizhong (Singapore)
 15:50 – 16:10 “Application of Ball Milling Method to Synthesize Multi-Component Hydrogen Storage Materials Based on Lithium”
 Farid Mulana (Japan)
 16:10 – 16:30 “Evaluation of Hydrogen Storage Canister using Metal Hydride for Fuel Cell”
 Fujita Yasuhiro (Japan)
 16:30 – 16:50 “Fatigue Properties of Stainless Steels in High Pressure Gaseous Hydrogen Environment Evaluated by Cyclic Pressurization Test”
 Miyahara Mitsuo (Japan)
 16:50 – 17:10 “Microstructures and electrochemical performances of $La_2Mg(Ni_{0.85}Co_{0.15})_9M_x$ (M=B, Cr, Cu; $x = 0, 0.1$) electrode alloys prepared by casting and rapid quenching”
 Zhang Yanghuan (China)
 17:10 – 18:00 Poster and Exhibition Viewing

Session 4 D HYDROGEN – SUSTAINABILITY & ECONOMIC VIABILITY (ROOM 308)

Chair: Dr Elisabet Hagen and Dr. Tuti Lim

- 15:30 – 15:50 “Life Cycle comparison of Fuel Cells in backup power supply”
 Nga Me Hin, Mike (USA)
 15:50 – 16:10 “Study on Hydrogen Gas Production from Surplus Hydro Power and its Utilization in Vehicles in Nepal”
 Pradhan Shreekar (Nepal)
 16:10 – 16:30 “Plausible Co-production Schemes for Hydrogen and Electric Power from decarbonised Fossil Fuels combined with safe Storage of the CO_2 ”
 Jens Hetland (Norway)
 16:30 – 16:50 “An economy-wide analysis for hydrogen economy in Taiwan”
 Lee Duu Hwa (Taiwan)
 16:50 – 17:10 “Hydrogen and Fuel Cell Systems for the Optimisation of a Grid-Connected Oscillating Water Column Wave Generator”
 Duerr Matthias (UK)
 17:10 – 18:00 Poster and Exhibition Viewing
 18:30 – 22:00 Reception Cocktail & Dinner at Conrad Hotel Ballroom

Day 3

Plenary Session:

Chair: Mr. Nick Beck

- 09:00 – 09:30 “Passion, Purpose and Partnerships”
Gabriel De Scheemaker, Royal Dutch Shell, General Manager, Hydrogen, Asia Pacific
(SH: please help me to fill the blank here, title unknown yet,
however we have assigned the paper as WHTC2005_PL 10.pdf)
- 09:30 – 10:00 “Functionalisation of nanoparticles as electrolytes in fuel cells”
Dr. Joe Da Costa, Associate Director, The University of Queensland, Australia
- 10:00 – 10:30 “Global initiatives on Hydrogen Technologies.”
Dr. Bart Van Ouytsel, President H2 Generator Business, Hydrogenics
(SH: please help me to fill the blank here, both title and author unknown yet,
however we have assigned the paper as WHTC2005_PL 12.pdf)
- 10:30 – 11:00 Tea Break
- 11:00 – 11:30 “State of the art of Hydrogen Refuelling Stations”
Dr. Aurélien LEON, Air Liquide, France
- 11:30 – 12:00 “Sustainable Development: Scenarios and Strategies for meeting the world's energy demand with hydrogen”
Mr. Arno A. Evers, Arno A. Evers FAIR-PR, Germany
- 12:00 – 13:00 Lunch
- 13:00 – 13:40 Poster and Exhibition Viewing

Parallel Sessions

Session 5 A FUEL CELLS (ROOM 311)

Chair: Dr. Hwang Azai

- 13:40 – 14:00 “Heat transfer in a porous electrode of fuel cells”
Hwang Azai (Taiwan)
- 14:00 – 14:20 “Studies on the Air-Breathing Direct Methanol Fuel Cell Stacks”
Ned Djilali (Canada)
- 14:20 – 14:40 “Synthesis and Characterization of Novel Sulfonated Polyimides for DMFC”
Xie Xiao Fen (China)
- 14:40 – 15:00 “PEM Fuel Cell Modeling at NRC-IFCI”
Liu Zhong-Sheng Simon (Canada)
- 15:00 – 15:30 Tea Break

Session 5 B HYDROGEN PRODUCTION (ROOM 310)

Chair: Dr. Lemort Florent and Dr. Wang Rong

- 13:40 – 14:00 “A Continuous Fluidized Bed Process for the UT-3 Hydrogen Production Cycle. Thermodynamic and Technological Assessment”
Lemort Florent (France)
- 14:00 – 14:20 “Combustion synthesis of Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ}; perovskite-type oxygen permeable materials”
Liu Ming (Singapore)
- 14:20 – 14:40 “Hydrogen or Synthesis Gas Production via the Partial Oxidation of Methane over Supported Nickel-Cobalt Catalysts”
Koh Chin Wei, Alaric (Singapore)
- 14:40 – 15:00 “New Methane Steam Reformer Using Latent Heat Storage of High Temperature Waste Heat”
Maruoka Nobuhiro (Japan)
- 15:00 – 15:30 Tea Break

Session 5 C HYDROGEN PRODUCTION (ROOM 309)

Chair: Dr. Yan Rong

13:40 – 14:00 “Production of Hydrogen and Methane from Wastewater Sludge using Anaerobic Fermentation”

Lee D J (Taiwan)

14:00 – 14:20 “Effects of Various Pretreatment Methods on Biohydrogen Production from Sewage Sludge”

Xiao Benyi (China)

14:20 – 14:40 “Biological Hydrogen Production of the genus Clostridium:Metabolic Study and Mathematical Model Simulation”

Whang Liang-Ming (Taiwan)

14:40 – 15:00 “Biohydrogen Production from Molasses Wastewater”

Lin Chiu-Yue (Taiwan)

15:00 – 15:30 Tea Break

Session 5 D INTEGRATED POWER SYSTEM AND MODELING (ROOM 308)

Chair: A/Prof. Chan Siew Hwa

13:40 – 14:00 “Thermodynamics of SOFC Hybrid System - Parameters Selection and Optimisation”

Andrzej Miller (Poland)

14:00 – 14:20 “Comparison of the behaviour of the CHP-100 SOFC Field Unit fed by natural gas or hydrogen through a computer experimental analysis”

Massimo Santarelli (Italy)

14:20 – 14:40 “Experimental Evaluation of a Diesel Genset Using Hydrogen, Compressed Natural Gas (CNG) and Hydrogen-CNG Blend”

L M Das (India)

14:40 – 15:30 Tea Break

Session 6 A FUEL CELLS (ROOM 311)

Chair: A/Prof. Jiang San Ping

15:30 – 15:50 “Characteristics of Microporous Layer and Their Effects on the Performance of a PEM Fuel Cell”

Tseng Chung-jen (Taiwan)

15:50 – 16:10 “MnO₂-Pt/C composite electrodes for restraining voltage reversal effect of polymer electrolyte membrane fuel cells”

Wei Zidong (Taiwan)

16:10 – 18:00 Poster and Exhibition Viewing

Session 6 B HYDROGEN PRODUCTION (ROOM 310)

Chair: A/Prof. Lin Chiu-Yue and Dr. Yan Rong

15:30 – 15:50 “Hydrogen from Palm Oil Wastes Pyrolysis”

Yan Rong (Singapore)

15:50 – 16:10 “Biological Hydrogen production from Starch and Peptone in an Anaerobic Hydrogen Fermentation Process”

Whang Liang-Ming (Taiwan)

16:10 – 16:30 “Ecological Mechanism of Fermentative Hydrogen Production by Bacteria”

Li Yongfeng (China)

16:30 – 16:50 “Biohydrogen production in an anaerobic fluidized bed reactor”

Zhang Zhenpeng (Singapore)

16:50 – 18:00 Poster and Exhibition Viewing

Session 6 C HYDROGEN PRODUCTION (ROOM 309)

Chair: Dr. Chen Luwei

- 15:30 – 15:50 “Hydrogen Now: A Breakthrough Technology”
Ricky Gujral (USA)
- 15:50 – 16:10 “Study of Full Release of Hydrogen from Sodium Borohydride Solutions”
Xia Zetao (Singapore)
- 16:10 – 16:30 “Mixed conducting ceramic membranes for hydrogen production by water dissociation”
Balachandran Uthamalingam (USA)
- 16:30 – 16:50 “Effect of particle size on the photo generation of hydrogen”
Viswanath Ramprasad (India)
- 16:50 – 17:10 “A Study of Hydrogen Production by Coupled Catalytic-Partial-Oxidation and Steam-Methane-Reforming at Elevated Pressure and Temperature”
Chen Luwei (Singapore)
- 17:10 – 17:30 “A Novel Electrolytic Cell for Water Electrolysis in Hydrogen Generation”
Viswanath Ramprasad (India)
- 17:30 – 17:50 “Water electrolysis on carbon electrodes enhanced by HTMAB”
Wei Zidong (Taiwan)
- 17:50 – 18:00 Poster and Exhibition Viewing

Session 6 D INTEGRATED POWER SYSTEM AND MODELING (ROOM 308)

Chair: Prof. Andrzej Miller and A/Prof. Ho Hiang Kwee

- 15:30 – 15:50 “Off-design Analysis of SOFC Hybrid System”
Andrzej Miller (Poland)
- 15:50 – 16:10 “On the road performance simulation of hydrogen and hybrid cars”
Sørensen Bent (Denmark)
- 16:10 – 16:30 “Integration of a Regenerative Hydrogen Based Energy System”
Ned Djilali (Canada)
- 16:30 – 18:00 Poster and Exhibition Viewing

POSTER PRESENTATIONS

“Fractal Geometry Methodology for the Automatic Generation of Bio-like Flow Field of PEM Fuel Cells”
Lee Yu -Ming (Taiwan)

“Drastic Synergy Effect of Graphite Silica and Titanium Dioxide on Photocatalytic Hydrogen Production from Water-Methanol Mixtures”
IKEDA Miyuki (Japan)

“Biohydrogen production with a draft tube fluidized bed reactor (DTFBR) containing anaerobic sludge immobilized by ethylene-vinyl acetate copolymer”
Wu Shu-Yii (Taiwan)

“Application of Biohydrogen Fermentation Technology on Treatment of Industrial Wastewater”
Bai Ming-Der (Taiwan)

“Study on Methanol Steam Reforming Micro Reactor using Anodized Aluminum Catalyst for Micro Fuel Cell”
Tashiro Satomi (Japan)

“Non-equilibrium Steam Reforming of Ethanol using CO₂ Absorption Ceramics”
Yuhei Suzuki (Japan)

“Development and Demonstration of Highly-Efficient Hydrogen Production from Natural Gas”
Shirasaki Yoshinori (Japan)

“A novel design of compact endothermic catalytic steam reformer for the production of pure hydrogen for fuel cells”

Tomasi Andrea (Italy)

“Demonstrative Study on the Production Technology of Hydrogen Energy Originated from Biogas”

Shudo Yukoh (Japan)

“Single-Walled Carbon Nanotube Only Electrodes for Electrochemical Hydrogen Storage”

Guo Zaiping (Australia)

“Composites for Hydrogen Storage Synthesized by Controlled Reactive Mechanical Ball Milling (CRMBM) of Carbon Allotropes and Magnesium in Hydrogen”

Guo Zaiping (Australia)

“Synthesis of carbon nanotubes by pyrolysis of CH₄ using LaNi₅ as catalyst and their hydrogen storage studies”

Yu Mingsheng (Taiwan)

“The photochargeability of SrTiO₃/ Ni/ hydrogen storage alloy electrode in KOH solution”

Wang Gaitian (China)

“Demonstrative Study on Storage Technology of Hydrogen Energy in form of Organic Hydride”

Ohkubo Takashi (Japan)

“Tensile Property of Austenitic Stainless Steels Exposed to High Pressure Gaseous Hydrogen”

Hideki Nakagawa (Japan)

“Fabrication of PEFC Membrane Based on Crosslinked Perfluorinated Polymer-alloys by EB-Grafting”

Akihiro Oshima (Japan)