

## ICH2P-2012 Program Overview

Sunday June 24, 2012	Monday June 25, 2012			Tuesday June 26, 2012			Wednesday June 27, 2012		
	8:00 Registration			8:00 Registration			8:00 Registration		
	8:45-9:00 Auditorium "Diamond Ballroom" Opening Remarks								
	9:00-9:40 Auditorium "Diamond Ballroom" Plenary Lecture I			9:00-9:40 Auditorium "Diamond Ballroom" Plenary Lecture II			9:00-9:40 Auditorium "Diamond Ballroom" Plenary Lecture III		
	9:40-10:00 Coffee Break			9:40-10:00 Coffee Break			9:40-10:00 Coffee Break		
	10:00-11:20 Technical Sessions			10:00-11:30 Technical Sessions			10:00-11:20 Technical Sessions		
	Room I Conventional hydrogen production (CHP)	Room II Hydrogen infrastructure (HIN) / General (GEN)	Room III Hydrogen production by electrolysis (HPE) / Fuel cells (FCE)	Room I Thermochemical hydrogen production (THP)	Room II Conventional hydrogen production (CHP)	Room III Fuel cells (FCE)	Room I Hydrogen production by reforming (HPR)	Room II Hydrogen production by electrolysis (HPE) / Fuel cells (FCE)	Room III Biological hydrogen production (BHP)
	11:20-11:30 Break			11:30-11:40 Break			11:20-11:30 Break		
	11:30-12:50 Technical Sessions			11:40-13:00 Technical Sessions			11:30-12:40 Technical Sessions		
	Room I Photochemical hydrogen production (PHP)	Room II Hydrogen storage (HST)	Room III Fuel cells (FCE)	Room I Biological hydrogen production (BHP)	Room II Hydrogen separation (HSE) / Miscellaneous (MIS)	Room III Fuel cells (FCE)	Room I Thermochemical hydrogen production (THP)	Room II Photochemical hydrogen production (PHP)	Room III Hydrogen storage (HST)
	12:50-14:30 Lunch Break			13:00-14:30 Lunch Break			12:40-12:50 Auditorium Closing Remarks		
16:00-19:00 Registration	14:30-16:00 Technical Sessions			14:30-16:00 Technical Sessions			12:50-14:00 Lunch Break, End of Conference		
	Room I Biological hydrogen production (BHP)	Room II Hydrogen production by reforming (HPR)	Room III Thermochemical hydrogen production (THP)	Room I General (GEN)	Room II Photochemical hydrogen production (PHP)	Room III Hydrogen production by reforming (HPR)	14:00 -18:30  Excursion	13:30 -16:00  Industry Alliance Workshop for Nuclear Hydrogen	
	16:00-16:20 Coffee Break			16:00-16:10 Coffee Break					
	16:20-18:00 Technical Sessions			16:10-17:20 Technical Sessions					
	Room I Biological hydrogen production (BHP)	Room II Hydrogen production by reforming (HPR)	Room III Thermochemical hydrogen production (THP)	Room I Hydrogen infrastructure (HIN) / Hydrogen in vehicles (HIV)	Room II Photochemical hydrogen production (PHP)	Room III Hydrogen storage (HST)			
18:00 Welcome Reception				17:20-19:00 Poster Session					
				19:00 Conference Dinner Speech given by					

[Oral Sessions]

## Monday, 25 June 2012

- 8:00**            **Registration Desk**  
Registration
- 8:45**            **Auditorium "Diamond Ballroom"**  
Opening Ceremony
- 9:00**            **[Plenary lecture] Session Chair: Jong Won Kim**  
**Auditorium "Diamond Ballroom"**  
**"Innovative Energy Solutions with Integrated Hydrogen Production Systems"**  
**Prof. Ibrahim Dincer, Founding chair of ICH2P, Canada**

**9:40**            **Coffee Break**

**10:00 - 11:20**            **Session Chair: Dong Joo Seo (KIER, Korea)**  
**Auditorium "Room I"**  
**Conventional hydrogen production (CHP)**

**10:00**            **045CHP**            Noncatalytic supercritical water gasification of various feedstocks for high-yield hydrogen production  
*Ratna Frida Susanti, Laras Wuri Dianningrum, Jaehoon Kim (Korea)*

**10:20**            **135CHP**            Sorption-enhanced water gas shift reaction using multi-section column for high-purity hydrogen production  
*Hyun Min Jang, Woo Ram Kang, Ki Bong Lee (Korea)*

**10:40**            **158CHP**            Effects of alkali metals on gasification efficiency during artificial waste gasification process  
*Tzu-Huan Peng, Chiou-Liang Lin (Taiwan)*

**11:00**            **300CHP**            Production of a hydrogen-rich and low-tar producer gas via air gasification of sewage sludge using a two-stage gasifier and additives  
*Tae-Young Mun, Min-Hwan Cho, Joo-Sik Kim (Korea)*

**11:20**            **Break**

[Oral Sessions]

**Monday, 25 June 2012 (cont'd)**

<b>10:00 - 11:20</b>		<b>Session Chair: Seong Kon Lee (KIER, Korea)</b> <b>Auditorium "Room II"</b> <b>Hydrogen infrastructure (HIN) / General (GEN)</b>
<b>10:00</b>	<b>016HIN</b>	Hydrogen infrastructure in South Africa: road map and specific needs of our developing country <i>Dmitri Bessarabov, Frik van Niekerk, Frikkie van der Merwe, Manie Vosloo, Brian North, Mkhulu Mathe (South Africa)</i>
<b>10:20</b>	<b>429HIN</b>	Large-scale hydrogen storage for photovoltaic power plants: design and simulation using real-life data <i>Gabriele Zini (Italy)</i>
<b>10:40</b>	<b>453HIN</b>	BOZCAADA Island wind-solar hydrogen demonstration project <i>GulbaharTabakoglu, Nicolas Lymberopoulos, Federico Villatico, Osman Atanur, Sinasi Altinel (Turkey)</i>
<b>11:00</b>	<b>336GEN</b>	National energy technology competitiveness with the fuzzy integrated analytic hierarchy process: A case of the hydrogen production and storage sectors <i>Seongkon Lee, Gento Mogi, Behgol Bagheri, Motoyuki Arai, Zhuolin Li, Sangkon Lee, K.Shui, K.N Hui, Youngjin Ha, Jongwook Kim (Korea)</i>
<b>11:20</b>	<b>Break</b>	
<b>10:00 - 11:20</b>		<b>Session Chair: Rak-Hyun Song (KIER, Korea)</b> <b>Auditorium "Room III"</b> <b>Hydrogen production by electrolysis (HPE) / Fuel cells (FCE)</b>
<b>10:00</b>	<b>177FCE</b>	Performance Degradation and Delamination of O <sub>2</sub> Electrodes for Solid Oxide Regenerative Fuel Cells (SORFCs) <i>Junghee Kim, Ho-Il Ji, Hari Prasad Dasari, Kyung Joong Yoon, Jong-Ho Lee, Byung-Kook Kim (Korea)</i>
<b>10:20</b>	<b>115HPE</b>	Water splitting for hydrogen production using a high surface area RuO <sub>2</sub> electrocatalyst synthesized in supercritical water <i>Hyo Sang Jeon, Antonius Dimas Chandra Permana, Jaehoon Kim, Byoung Koun Min (Korea)</i>
<b>10:40</b>	<b>133HPE</b>	Process schemes and scenarios of solar hydrogen production via high temperature electrolysis <i>Christian Sattler, Martin Roeb, Nathalie Monnerie, Anis Houaijia, Verónica Mesa, Cristina Lucero, Rocío Palomino (Germany)</i>
<b>11:00</b>	<b>311HPE</b>	Corrosion behaviour of steel interconnects and coating materials in solid oxide electrolysis cell(SOEC) <i>Ji Woo Kim, Cyril Rado, Aude Brevet, Seul Cham Kim, Yong Seok Choi, Karine Couturier, Florence Lefebvre-Joud, Kyu Hwan Oh, Ulrich F Vogt, Andreas Züttel (Switzerland)</i>
<b>11:20</b>	<b>Break</b>	

[Oral Sessions]

**Monday, 25 June 2012 (cont'd)**

<b>11:30 - 12:50</b>		<b>Session Chair: Can Li (DICP, China)</b>
		<b>Auditorium "Room I"</b>
		<b>Photochemical hydrogen production (PHP)</b>
<b>11:30</b>	<b>602PHP (invited)</b>	Hydrogen production activities at Indian Institute of Chemical Technology <i>V. DurgaKumari, K. Venkateswarlu, M. Subrahmanyam, J. Sung Lee, K. M. Parida, B. Srinivas, K. Lalitha, G. Sadanandam, N. Sreelatha, P. Anil Kumar Reddy (India)</i>
<b>11:50</b>	<b>092PHP</b>	Band gap engineering in semiconductors to enhanced visible-light absorption for photocatalyst <i>Jawad Nisar (Sweden)</i>
<b>12:10</b>	<b>159PHP</b>	Solar-light induced photocatalytic hydrogen production over TiO <sub>2</sub> -xN <sub>x</sub> /SrTiO <sub>3</sub> nanocomposite <i>Bing-Shun Huang, Ming-Yen Wey (Taiwan)</i>
<b>12:30</b>	<b>204PHP</b>	Mesoporous TiO <sub>2</sub> -xN <sub>x</sub> -nano Au composite: pseudo 3D material with visible light photocatalytic activity for H <sub>2</sub> generation <i>Kumarsrinivasan Sivaranjani, Chinnakonda S. Gopinath (India)</i>
<b>12:50</b>		<b>Lunch Break</b>
<b>11:30 - 12:50</b>		<b>Session Chair: Tae-Whan Hong (CJNU), Young Whan Cho (KIST,Korea)</b>
		<b>Auditorium "Room II"</b>
		<b>Hydrogen storage (HST)</b>
<b>11:30</b>	<b>256HST</b>	Effect of different carbon-based nanostructure materials on the de/rehydrogenation characteristics of nanocrystalline MgH <sub>2</sub> <i>Rohit R Shahi, M.A. Shaz, O.N. Srivastava (India)</i>
<b>11:50</b>	<b>269HST</b>	Three-dimensional modeling and simulation of hydrogen desorption in metal hydride hydrogen storage vessels <i>Haneul Yoo, Sunghyun Park, Kyeongmin Oh, Hyunchul Ju (Korea)</i>
<b>12:10</b>	<b>131HST</b>	Material life cycle assessment (MLCA) and evaluations of hydrogenation property on MgH <sub>x</sub> -BZY composites by reactive mechanical alloying (RMA) <i>Na-Ri Lee, Soo-Sun Lee, Kyeong-Il Kim, Tae-Whan Hong (Korea)</i>
<b>12:30</b>	<b>248HST</b>	Direct-decomposition system of the solid-state NaBH <sub>4</sub> for performance improvement of the fuel-cell UAV <i>Chung Jun Lee, Taegy Kim (Korea)</i>
<b>12:50</b>		<b>Lunch Break</b>

[Oral Sessions]

**Monday, 25 June 2012 (cont'd)**

<b>11:30 - 12:50</b>		<b>Session Chair: Kook Young Ann (KIMM), Yong Gun Shul (Yonsei Univ.)</b> <b>Auditorium "Room III"</b> <b>Fuel cells (FCE)</b>
<b>11:30</b>	<b>190FCE</b>	Design and fabrication of a disc type direct methanol fuel cell module with lightweight current collectors <i>Yean-Der Kuan, Shi-Min Lee, Min-Feng Sung (Taiwan)</i>
<b>11:50</b>	<b>230FCE</b>	Preparation and characterization of Pt/C double catalyst layer electrodes by electrophoresis deposition method for PEMFC <i>Ganpurev Adilbish, Jin-Woo Kim, Yeon-Tae Yu (Korea)</i>
<b>12:10</b>	<b>261FCE</b>	Effect of clamping pressure for PEM fuel cell stacks on fuel cell vehicle efficiency <i>Jung Do Suh (Korea)</i>
<b>12:30</b>	<b>277FCE</b>	Performance Analysis of Different Configurations of a Planar SOFC CHP System with External Reformer <i>Kanghun Lee, Sangseok Yu, Sangmin Lee, Youngduk Lee, S. G. Kang, Kookyoung Ann (Korea)</i>
<b>12:50</b>	<b>Lunch Break</b>	
<b>14:30 - 15:50</b>		<b>Session Chair: Sang-Hyoun Kim (DAEGU Univ., Korea)</b> <b>Auditorium "Room I"</b> <b>Biological hydrogen production (BHP)</b>
<b>14:30</b>	<b>028BHP</b>	Influence of source and pretreatment method of seed sludge on the bio-hydrogen production in an up-flow anaerobic fixed-bed reactor <i>Eduardo Dellosso Penteado, Isabel Kimiko Sakamoto, Marcelo Zaiat (Brazil)</i>
<b>14:50</b>	<b>063BHP</b>	Hydrogen generation from office paper by Clostridium <i>Livia Silva Botta, Regiane Priscila Ratti, Carolina Zampol Lazaro, Isabel Kimiko Sakamoto, Maria Bernadete Amâncio Varesche (Brazil)</i>
<b>15:10</b>	<b>074BHP</b>	Developing a unique microbial hydrolysis process for converting lignocellulosic waste to reducing sugars for hydrogen production <i>Wei Qi, Jing-Yuan Wang (Singapore)</i>
<b>15:30</b>	<b>253BHP</b>	Optimization of pretreatment conditions for biohydrogen production from red algal biomass <i>Jeong-Hoon Park, Hyo-Chang Cheon, Jeong-Jun Yoon, Hee-Deung Park, Sang-Hyoun Kim (Korea)</i>
<b>15:50</b>	<b>Coffee Break</b>	

## [Oral Sessions]

**Monday, 25 June 2012 (cont'd)**

<b>14:30 - 16:00</b>		<b>Session Chair: Honggon Kim (KIST, Korea)</b>
		<b>Auditorium "Room II"</b>
		<b>Hydrogen production by reforming (HPR)</b>
<b>14:30</b>	<b>487HPR</b> <b>(invited)</b>	Recent advances in hydrogen production from methane and glycerol <i>Tae Yong Kim, Sung Min Kim, Wonsu Lee, Seong Ihl Woo (Korea)</i>
<b>15:00</b>	<b>029HPR</b>	H <sub>2</sub> production by methanol steam reforming over copper impregnated anodized aluminum oxide (AAO) <i>M. Jhansi L. Kishore, Seo Ill Gyu, Hideo Daimon, Dong Hyun Kim (Korea)</i>
<b>15:20</b>	<b>054HPR</b>	Design, analysis, and performance evaluation of SCR reactor for syngas production in GTL process <i>Dae-il Park, Taegy Kim (Korea)</i>
<b>15:40</b>	<b>076HPR</b>	Performance evaluation of membrane on catalyst module for hydrogen production from natural gas <i>Takao Kume, Yoichi Ikeda, Takaya Iseki, Hisataka Yakabe, Hiroyuki Tanaka, Hideaki Hikosaka, Yasuhiro Takagi, Masaya Ito (Japan)</i>
<b>16:00</b>		<b>Coffee Break</b>
<b>14:30 - 16:00</b>		<b>Session Chair: Shripad T. Revankar (Purdue Univ., USA)</b>
		<b>Auditorium "Room III"</b>
		<b>Thermochemical hydrogen production (THP)</b>
<b>14:30</b>	<b>049THP</b> <b>(keynote)</b>	Overview and challenges for hydrogen production using thermochemical water-splitting cycles <i>Shinji Kubo (Japan)</i>
<b>15:00</b>	<b>034THP</b>	Start-up dynamic simulation of a Sulfur-Iodine process coupled to a very high temperature gas-cooled nuclear reactor <i>Jiwoon Chang, Youngjoon Shin, Cheong Youn, Kiyoun Lee, Yongwan Kim (Korea)</i>
<b>15:20</b>	<b>036THP</b>	Development of Process Heat Exchanger (PHE) for Nuclear Hydrogen Production System <i>Jae-Won Park, Hyung-Jin Kim, Sung-Deok Hong, Ying-wan Kim (Korea)</i>
<b>15:40</b>	<b>134THP</b>	Hydrogen production via sulphur based thermochemical cycles: development and assessment of key components of the process <i>Martin Roeb, Dennis Thomey, Christian Sattler, Gatien Fleury, R.W.K. Allen, Christos Agrafiotis, Peter Hähner, Alberto Giaconia, Aldo Steinfeld, Ignacio Canadas, Marc Ferrato (Germany)</i>
<b>16:00</b>		<b>Coffee Break</b>

[Oral Sessions]

**Monday, 25 June 2012 (cont'd)**

<b>16:20 - 17:40</b>		<b>Session Chair: Alissara Reungsang (KhonKaen Univ., Thailand)</b>
		<b>Auditorium "Room I "</b>
		<b>Biological hydrogen production (BHP)</b>
<b>16:20</b>	<b>126BHP</b>	Factor affecting simultaneous hydrogen and ethanol production from glycerol by newly isolated bacterium <i>Enterobacter sp.</i> KKU-S1 <i>Sureewan Sittijunda (Thailand)</i>
<b>16:40</b>	<b>161BHP</b>	Thermophilic fermentative hydrogen production from xylan by <i>Thermoanaerobacterium thermosaccharolyticum</i> KKU-DE1 isolated from elephant dung <i>Arunsri Fangkum, Alissara Reungsang (Thailand)</i>
<b>17:00</b>	<b>193BHP</b>	Using <i>Bacillus thermoamylovorans</i> and <i>Clostridium butyricum</i> stimulating anaerobic digested sludge convert cellulose into hydrogen <i>Chang Lung Han, Jiunn Jyi Lay (Taiwan)</i>
<b>17:20</b>	<b>211BHP</b>	Effect of organic loading on biohydrogen production from food waste by <i>Clostridium butyricum</i> TISTR 1032 <i>Suwimon – Kanchanasuta (Thailand)</i>
<b>16:20 - 18:00</b>		<b>Session Chair: Kwang Bok Yi (CNU, Korea)</b>
		<b>Auditorium "Room II"</b>
		<b>Hydrogen production by reforming (HPR)</b>
<b>16:20</b>	<b>157HPR</b>	Removal of coke during steam reforming of ethanol over La-CoO <sub>x</sub> catalyst <i>Josh Y.Z. Chiou, Chia-Chan Lee, Jia-Lin Bi, Kuan-Fu Ho, Chia-ChiehShen, Chen-Bin Wang (Taiwan)</i>
<b>16:40</b>	<b>172HPR</b>	Sorption enhanced hydrogen production using one-body Ni-calcium aluminate complex as catalytic sorbent <i>Jong-Nam Kim, Chang Hyun Ko, Kwang Bok Yi (Korea)</i>
<b>17:00</b>	<b>301HPR</b>	Improvement of coke resistance of nano structured bimetallic catalyst in syngas production over autothermal reforming of methane by promoter addition <i>Geetha Bhavani, A.Geetha Bhavani, Won Yong Kim, Jae Yul Kim, Jae Sung Lee (Korea)</i>
<b>17:20</b>	<b>302HPR</b>	Synthesis of nano nickel particles on alumina by surfactant-assisted modified polyol method <i>Tuba Gurkaynak Altincekic (Turkey)</i>
<b>17:40</b>	<b>315HPR</b>	Transport phenomena in a nanocatalytic solar thermal steam-methanol reformer <i>Ming-Tsang Lee, Nico Hotz, Ralph Greif, Costas P. Grigoropoulos (Taiwan)</i>

[Oral Sessions]

## Monday, 25 June 2012 (cont'd)

16:20 - 17:50

Session Chair: Sumer Sahin (ATILIM Univ., Turkey)

Auditorium "Room III"

Thermochemical hydrogen production (THP)

- |       |                     |  |
|-------|---------------------|--|
| 16:20 | 171THP<br>(invited) | R&D on the integrated lab-scale Iodine Sulfur process in China<br><i>Ping Zhang (China)</i>  |
| 16:50 | 272THP              | Nanostructured TiO <sub>2</sub> as electrocatalyt supports for hydrogen production<br><i>John Walter Weidner (United States)</i>   |
| 17:10 | 221THP              | Sulfuric acid decomposition on Pt/SiC-coated-alumina catalysts for SI cycle hydrogen production<br><i>Seung Young Lee, Heon Jung, Honggon Kim, Changsoo Kim, Won Joo Kim, Yong Gon Shul, Kwang-Deog Jung (Korea)</i> |
| 17:30 | 274THP              | Conversion limit of a multiphase chemically reacting flow in a water splitting process of hydrolysis<br><i>Kevin Pope, Zhaolin L. Wang, Greg F. Naterer, Edward Secnik (Canada)</i>                                  |



[Oral Sessions]

## Tuesday, 26 June 2012

**8:00 Registration Desk**

Registration

**9:00 [Plenary lecture] Session Chair: Jong Won Kim**

**Auditorium "Diamond Ballroom"**

**"BioHydrogen for Electric Power Grid- Control of Entropy"**

**Prof. Jun Miyake\* and Kazumi Hakamada, Osaka University, Japan**

**9:40 Coffee Break**

**10:00 - 11:30 Session Chair: Youngjoon Shin (KAERI, Korea)**

**Auditorium "Room I "**

**Thermochemical hydrogen production (THP)**

**10:00 175THP** Transient analysis of coupled high temperature nuclear reactor to a thermochemical hydrogen plant  
**(invited)**  
*Shripad T. Revankar, Nicholas R. Brown (Korea)*

**10:30 432THP** Thermo-chemical Copper-Chlorine cycle from a perspective of low yield in temperature limiting reactions  
*Gabriel D Marin (Canada)*

**10:50 447THP** Non-equilibrium  $\text{CuCl}_2$  crystallization process in the Cu-Cl hydrogen production cycle  
*Zhaolin Wang, Yongxi Xiong, V. N. Daggupati, E. Secnik, Greg F Naterer (Canada)*

**11:10 455THP** Recycling of un-reacted reagents in a Cu-Cl thermochemical plant integrated with a nuclear reactor  
*Calin Zamfirescu (Canada)*

**11:30 Break**

[Oral Sessions]

**Tuesday, 26 June 2012 (cont'd)**

<b>10:00 - 11:20</b>		<b>Session Chair: Hyung-Taek Kim (Ajou Univ., Korea)</b> <b>Auditorium "Room II"</b> <b>Conventional hydrogen production (CHP)</b>
<b>10:00</b>	<b>328CHP</b>	Simulation and technical evaluation of hydrogen (syngas) production from heavy oil gasification for power generation <i>Mousa Meratizaman, Masoud Gholinejad, Ali Akbari, Majid Amidpour (Iran)</i>
<b>10:20</b>	<b>415CHP</b>	New technology of associated petroleum gas catalytic conversion into methane-hydrogen gas mixtures. Economic benefits for power plants feeding applications <i>Marina Vernikovskaya, Pavel Snytnikov, Valery Kirillov (Russia)</i>
<b>10:40</b>	<b>462CHP</b>	Pure hydrogen production as coproduct of hydrocarbon materials utilization <i>Gennadiy Petrovich Glazunov (Ukraine)</i>
<b>11:00</b>	<b>494CHP</b>	Hydrogen production during air gasification of modified MSW under agglomeration inhibition by Al- and Ca-based materials in fluidized bed <i>Jia-Hong Kuo, Chiou-Liang Lin, Ming-Yen Wey (Taiwan)</i>
<b>11:20</b>	<b>Break</b>	
<b>10:00 - 11:20</b>		<b>Session Chair: Gu-Gon Park (KIER, Korea)</b> <b>Auditorium "Room III"</b> <b>Fuel cells (FCE)</b>
<b>10:00</b>	<b>290FCE</b>	Durability of the highly graphitized meso-porous carbon as a catalyst support for PEFCs <i>Sohee Hwang, Gu-Gon Park, Sung-Dae Yim, Seok-Hee Park, Hansung Kim, Chang-Soo Kim, Tae-Hyun Yang (Korea)</i>
<b>10:20</b>	<b>295FCE</b>	Novel fabrication of highly durable catalyst supports by reduction of TiO <sub>2</sub> for PEM Fuel Cells <i>Didem C Dogan, Gu-Gon Park, Sung-Dae Yim, Tae-Hyun Yang (Korea)</i>
<b>10:40</b>	<b>321FCE</b>	The study on the dynamic response of PEMFC stack with Pt/C-RuO <sub>2</sub> •xH <sub>2</sub> O electrode <i>Xu Hongfeng (China)</i>
<b>11:00</b>	<b>373FCE</b>	Performance analysis on SOFC-HCCI engine hybrid system <i>Sun Ho Park, Young Duk Lee, Sang Gyu Kang, Kook Young Ahn (Korea)</i>
<b>11:20</b>	<b>Break</b>	

[Oral Sessions]

**Tuesday, 26 June 2012 (cont'd)**

<b>11:40 - 13:00</b>		<b>Session Chair: Dong-Hoon Kim (KIER, Korea)</b> <b>Auditorium "Room I"</b> <b>Biological hydrogen production (BHP)</b>
<b>11:40</b>	<b>213BHP</b>	Rhodospirillum rubrum [FeFe]-hydrogenase requires a specific ferredoxin-like protein for H <sub>2</sub> evolution <i>Eui-Jin Kim, Xiaomeng Tong, Mi-Sun Kim, Jeong K. Lee (Korea)</i>
<b>12:00</b>	<b>214BHP</b>	Hydrogen production in acidogenic fixed bed reactors fed with cane vinasse–influence of support material <i>Antônio Djalma Ferraz, Marcelo Zaiat (Brazil)</i>
<b>12:20</b>	<b>231BHP</b>	Photo-heterotrophic hydrogen production by a microalga from acetate- and butyrate- enriched wastewater <i>Jae-Hoon Hwang, Hyun-Chul Kim, Jaeyoung Choi, Byong-Hun Jeon (Korea)</i>
<b>12:40</b>	<b>252BHP</b>	Bioenergy recovery from food waste fermentation <i>Chananchida Nathao (Thailand)</i>
<b>13:00</b>		<b>Lunch Break</b>
<b>11:40 - 13:00</b>		<b>Session Chair: Jung Hoon Park (KIER, Korea)</b> <b>Auditorium "Room II"</b> <b>Hydrogen separation (HSE) / Miscellaneous (MIS)</b>
<b>11:40</b>	<b>099HSE</b>	Hydrogen permeation properties of V <sub>89.8</sub> Cr <sub>10</sub> Y <sub>0.2</sub> alloy membrane using WGS reaction gases <i>Sung Il Jeon, Jung Hoon Park, Yong Taek Lee (Korea)</i>
<b>12:00</b>	<b>181HSE</b>	Dual phase Ti-based bulk metallic glasses as solid permeable membranes for the separation and purification of hydrogen <i>Tristan Geiller, Min-Hyun Kim, Jin-Yoo Suh, Eric Fleury (Korea)</i>
<b>12:20</b>	<b>191HSE</b>	Effect of Co on the hydrogen permeation properties of Ni <sub>45-x</sub> Co <sub>x</sub> Nb <sub>30</sub> Zr <sub>25</sub> (x = 0, 7.5, 15 and 22.5 at.%) amorphous alloys <i>Min-Hyun Kim, Young-Im Wang, Tristan Geiller, Jin-Yoo Suh, Eric Fleury (Korea)</i>
<b>12:40</b>	<b>428MIS</b>	Density functional theory study on adsorption of Pt nanoparticle on graphene <i>Ken-Huang Lin, Cheng-Hua Sun, Shin-PonJu, Sean C. Smith (Taiwan)</i>
<b>13:00</b>		<b>Lunch Break</b>

[Oral Sessions]

**Tuesday, 26 June 2012 (cont'd)**

<b>11:40 - 13:00</b>		<b>Session Chair: Chang Soo Kim (KIER, Korea)</b> <b>Auditorium "Room III"</b> <b>Fuel cells (FCE)</b>
<b>11:40</b>	<b>385FCE</b>	Hydrogen production of two-step temperature stream reformer integrated with PBI membrane fuel cells to optimize thermal management <i>Fangbor Weng, Chih-Kai Cheng, Kuan-Chia Chen, Ay Su (Taiwan)</i>
<b>12:00</b>	<b>389FCE</b>	The morphology control of the platinum supported on ordered mesoporous carbon for direct methanol fuel cell <i>Daejong You (Korea)</i>
<b>12:20</b>	<b>413FCE</b>	Design and characterisation of novel anion exchange membranes with incorporated ionic liquids cations for alkaline fuel cells <i>Cunpu Li, Xiaofeng Xie, Changsheng Deng (China)</i>
<b>12:40</b>	<b>420FCE</b>	Development of a high efficiency membrane and electrode assembly for direct methanol fuel cell <i>Joon-Hee Kim (Korea)</i>
<b>13:00</b>		<b>Lunch Break</b>
<b>14:30 - 15:50</b>		<b>Session Chair: Ibrahim Dincer (UOIT, Canada)</b> <b>Auditorium "Room I"</b> <b>General (GEN)</b>
<b>14:30</b>	<b>210GEN</b>	Our discovery of antimatter confirmed that hydrogen is the proper fuel for decreasing the global warming <i>Mohamed Abdelgalil Abdalla Elkholy (Egypt)</i>
<b>14:50</b>	<b>281GEN</b>	Use of solar PV/T integrated with binary power plant and electrolyzer or SMR for hydrogen production: a comparative study <i>Tahir Abdul Hussain Ratlamwala, Ibrahim Dincer, Mohamed Adly Gadalla (Canada)</i>
<b>15:10</b>	<b>372GEN</b>	Reduction of air pollution in urban areas through the adaptation of hydrogen as a fuel <i>Muhammad Nawaz Akhtar (Pakistan)</i>
<b>15:30</b>	<b>436GEN</b>	A review study on hydrogen production from organic materials <i>Uğur Çakir (Turkey)</i>
<b>15:50</b>		<b>Coffee Break</b>

[Oral Sessions]

**Tuesday, 26 June 2012 (cont'd)**

14:30 - 16:00

**Session Chair: A. Kudo (Tokyo Univ. of Science, Japan)**

**Auditorium "Room II"**

**Photochemical hydrogen production (PHP)**

14:30

**630PHP**  
**(keynote)**

Photocatalytic hydrogen production utilizing solar energy  
*Can Li (China)*

15:00

**267PHP**

Fabrication of N-doped GaInZn mixed oxide for photocatalytic hydrogen production under visible light  
*Satyabadi Martha, Dr. Kulamani Parida (India)*

15:20

**333PHP**

Hydrogen production from a light-driven photoelectrochemical cell  
*Yan-Rong He, Fang-Fang Yan, Shi-Jie Yuan, Han-Qing Yu, Guo-Ping Sheng (China)*

15:40

**011PHP**

Oxygen evolving reactor overpotentials and ion diffusion in photo-catalytic and electro-catalytic hydrogen production  
*Ehsan Baniasadi, Ibrahim Dincer, Greg F Naterer (Canada)*

16:00

**Coffee Break**

14:30 - 15:50

**Session Chair: Dong Hyun Lee (SKKU, Korea)**

**Auditorium "Room III"**

**Hydrogen production by reforming (HPR)**

14:30

**318HPR**

Hydrogen production in microreactors for application in fuel cell systems: current status and challenges  
*Martin O'Connell, Jochen Schuerer, B Spasova, Martin Wichert, Gunther Kolb (Germany)*

14:50

**348HPR**

Hydrogen production by catalytic decomposition of selected hydrocarbons and H<sub>2</sub>O dissociation over CeZrO<sub>2</sub> and Ni/CeZrO<sub>2</sub>  
*AgataŁamacz, Andrzej Krztoń (Poland)*

15:10

**351HPR**

Improved catalytic performance of Ni catalysts for steam reforming of methane in micro-channel reactor  
*Bozhao Chu, Xuli Zhai, Binhang Yan, Yi Cheng (China)*

15:30

**359HPR**

Solid mass flux in a chemical-looping process for hydrogen production in a multistage circulating moving bed reactor  
*Yoon Seok Hong, Kyoung Soo Kang, Chu Sik Park, Sang Done Kim, Jong Wook Bae, Jae Wook Nam, Dong Hyun Lee (Korea)*

15:50

**Coffee Break**

[Oral Sessions]

## Tuesday, 26 June 2012 (cont'd)

16:10 - 17:20

**Session Chair: Moon Sun Chung (KIER, Korea )**

**Auditorium "Room I"**

**Hydrogen infrastructure (HIN) / Hydrogen in vehicles (HIV)**

**16:10 690HIN  
(invited)**

Nuclear based hydrogen production, coupled with incineration of nuclear waste transuranium products,  
*Sümer Şahin (Turkey)*

**16:40 095HIV**

A study on stability and combustion characteristics of synthetic gas/air premixed flames in an impingement jet combustion field  
*Kijoong Kang, Cheol-hong Hwang, Kee-man Lee (Korea)*

**17:00 461HIV**

Time-averaged heat transfer in a direct-injection hydrogen-fueled engine  
*Khalaf I. Hamada, M.M. Rahman, Rosli A. Bakar, M A. Abdullah, A. Rashid A. Aziz (Malaysia)*

16:10 - 17:20

**Session Chair: Sang Ook Kang (Korea Univ., Korea)**

**Auditorium "Room II"**

**Photochemical hydrogen production (PHP)**

**16:10 640PHP  
(keynote)**

Photocatalytic and photoelectrochemical hydrogen production from water  
*Akihiko Kudo (Japan)*

**16:40 670PHP**

Photocatalytic solar hydrogen and solar chemical production  
*Jin-Ook Baeg (Korea)*

**17:00 680PHP**

Scale-up photoanodes and their photoelectrochemical water splitting  
*Won Jae Lee, Guen Ho Go, Pravin S. Shinde (Korea)*

[Oral Sessions]

## Tuesday, 26 June 2012 (cont'd)

16:10 - 17:10

Session Chair: Suk-Woo Nam (KIST, Korea)

Auditorium "Room III"

Hydrogen storage (HST)

16:10

491HST

Kinetics of boron hydrolysis by steam

*Bara Wahbeh, Samuel Tell, Tareq Abu Hamed, Roni Kasher (Israel)*

16:30

151HST

Thermochemical production of sodium borohydride from sodium metaborate in a scaled-up reactor

*Kwangsup Eom, Eunae Cho, Minjoong Kim, Sekwon Oh, Suk-Woo Nam, Hyuksang Kwon (Korea)*

16:50

465HST

Catalytic effect of different sizes of CeO<sub>2</sub> nano particles on decomposition and hydrogen sorption kinetics of magnesium hydride

*Rajesh Kumar Singh, Shadashivam, G. I. Sheeja, O. N. Srivastava (India)*

17:20~19:00

Poster area

Poster Session

19:00

Conference Dinner

[Oral Sessions]

## Wednesday, 27 June 2012

**8:00**                    **Registration Desk**

Registration

**9:00**                    **[Plenary lecture] Session Chair: Jong Won Kim**

**Auditorium "Diamond Ballroom"**

**"Fuel Cell Vehicles: A Pathway to New Possibilities"**

**Dr. Byung Ki Ahn, General Manager, Fuel Cell Vehicle Team 1, Hyundai-Kia Motors, Korea**

**9:40**                    **Coffee Break**

**10:00 - 11:20**                    **Session Chair: Taeck Hong Lee (Hoseo Univ., Korea)**

**Auditorium "Room I"**

**Hydrogen production by reforming (HPR)**

**10:00**                    **412HPR**                    Catalytic reforming of associated petroleum gas into methane-hydrogen gas mixtures for power plant feeding applications

*Pavel Snytnikov, Mariya Zyryanova, Yuriy Amosov, Vladimir Belyaev, Viktor Kireenkov, Nikolay Kuzin, Valery Kirillov, Vladimir Sobyenin (Russia)*

**10:20**                    **454HPR**                    Bio-hydrogen via aqueous phase reforming of sugar alcohols

*A.V. Kirilin, A.V. Tokareva, D.Yu. Murzina, J.-P. Mikkolaa (Sweden)*

**10:40**                    **469HPR**                    SSITKA experiments on methane steam reforming reactor for hydrogen production

*Mihai Varlam, Mihai Culcer, Mircea Raceanu, Elena Carcadea, Ioan Stefanescu, George Darie, Horia Necula (Romania)*

**11:00**                    **476HPR**                    Alumina-supported Ni catalysts prepared by successive impregnation method for steam reforming of methane to syngas

*Ali Bouahouache, Mounia Belacel, Sihem Benadji, C. Rabia, Nassima Salhi (Algeria)*

**11:20**                    **Break**



## [Oral Sessions]

**Wednesday, 27 June 2012 (cont'd)**

<b>10:00 - 11:20</b>		<b>Session Chair: Sung Pil Yoon (KIST, Korea)</b> <b>Auditorium "Room II"</b> <b>Hydrogen production by electrolysis (HPE) /Fuel cells (FCE)</b>
<b>10:00</b>	<b>450FCE</b>	Effects of the co-sintering the anode and cathode plates of solid oxide type fuel cells on performance of system <i>Uğur Çakir, Safa Koç, Abdullah Mat, Selahattin Çelik (Turkey)</i>
<b>10:20</b>	<b>026HPE</b>	Design of a stand-alone renewable energy hydrogen production system for distributed, small-scale applications in South Africa <i>Gerhard Human, George Van Schoor, K.R. Uren, W.C. Venter, A.J. Grobler, J. Haultzhausen, S.P.O. Oelofse, F. Van Der Merwe, D. Bessarabov (South Africa)</i>
<b>10:40</b>	<b>471FCE</b>	Computational analysis of the influence of flow field pattern on polymer electrolyte membrane fuel cell performance <i>Elena Carcadea, Mihai Varlam, Ioan Stefanescu, Vasile Tanislav, Laurentiu Patularu, Dorin Schitea (Romania)</i>
<b>11:00</b>	<b>477FCE</b>	Multiphysics modeling and testing of a flowing electrolyte-direct methanol fuel cell <i>David Ouellette, C. Ozgur Colpan, Edgar Matida, Cynthia A. Cruickshank, Alan Fung, Feridun Hamdullahpur (Canada)</i>
<b>11:20</b>	<b>Break</b>	
<b>10:00 - 11:00</b>		<b>Session Chair: Mi-Sun Kim (KIER, Korea)</b> <b>Auditorium "Room III"</b> <b>Biological hydrogen production (BHP)</b>
<b>10:00</b>	<b>276BHP</b>	Thermophilic biohydrogen production using UASB reactor: performance during long-term operation <i>Adriana Ferreira Maluf Braga, Marcelo Zaiat (Brazil)</i>
<b>10:20</b>	<b>374BHP</b>	Continuous photo-fermentative H <sub>2</sub> production from lactate and lactate-rich acidified food waste <i>Dong-Hoon Kim, Jaehwan Cha, Hanna Son, Mi-Sun Kim (Korea)</i>
<b>10:40</b>	<b>383BHP</b>	Molecular monitoring of <i>Clostridium thermopalmarium</i> in a continuous hydrogen production from alkaline-pretreated bagasse under thermophilic condition using real-time PCR <i>Prapaipid Chairattananokorn, Sirapan Sukontasing, Patthra Pengthamkeerati, Jantima Teeka, Tsuyoshi Imai (Thailand)</i>
<b>11:00</b>	<b>Break</b>	

## [Oral Sessions]

**Wednesday, 27 June 2012 (cont'd)**

11:30 - 12:30

**Session Chair: Ki Kwang Bae (KIER, Korea)****Auditorium "Room I"****Thermochemical hydrogen production (THP)**

11:30 459THP

An overview of safety issues of nuclear hydrogen production  
*Ibrahim Khamis (Austria)*

11:50 609THP

Hydrogen production with carbon dioxide recycling for synfuel production with nuclear energy  
*Z. Wang, G. F. Naterer (Canada)*

12:10 123THP

Continuous Bunsen reaction and simultaneous separation using a counter-current flow reactor for Sulfur-Iodine hydrogen production process  
*Hyo Sub Kim, Sang Jin Han, Young Ho Kim, Chu Sik Park, Ki Kwang Bae, Jong Gyu Lee (Korea)*

11:30 - 12:40

**Session Chair: Durga Kumari (IICT, India)****Auditorium "Room II"****Photochemical hydrogen production (PHP)**11:30 650PHP  
(invited)Hydrophilicity control of visible-light hydrogen evolution and dynamics of charge-separated state in Dye/TiO<sub>2</sub>/Pt hybrid system  
*Won-Sik Han, Kyoung-Ryang Wee, Chyongjin Pac, Sang Ook Kang (Korea)*

12:00 234PHP

Synthesis of long TiO<sub>2</sub>nanorod (~16μm) arrays on FTO glass for solar hydrogen production  
*Lochin Yusupov (Korea)*

12:20 326PHP

Techno-economic evaluation of solar Hydrogen production station in Iran  
*Mousa Meratizaman, Sepideh Gheibi, Mahdieh Rajabi, Maryam Zare, Majid Amidpour (Iran)*

[Oral Sessions]

## Wednesday, 27 June 2012 (cont'd)

11:30 - 12:30

Session Chair: In-Hwan Oh (KIST, Korea)

Auditorium "Room III"

Hydrogen storage (HST)

11:30 431HST

New catalytic materials for direct borohydride fuel cells and hydrogen-on demand generators

*Mario Mitov, Georgi Hristov, Rashko Rashkov, Yolina Hubenova (Bulgaria)*

11:50 136HST

Enhancement of hydrogen adsorption capacity in chemically modified graphite oxide with tunable interlayer distances and different oxygen functionalities

*Seul-Yi Lee, Soo-Jin Park (Korea)*

12:10 425HST

Numerical analysis of thermal flow inside liquid hydrogen storage for efficient recirculation of liquid hydrogen

*Soon-Cheol Kweon, Seo-Young Kim, In-Hwan Oh (Korea)*

12:40

Auditorium

Closing Remarks

12:50

Lunch Break,

End of Conference

14:00

Excursion

[Poster Sessions]

**Tuesday, 26 June 2012**

17:20~19:00

Poster area

Poster session

**Biological Hydrogen Production (BHP)**

- 043BHP** Metabolic flux network analysis of fermentative hydrogen production: using *Clostridium tyrobutyricum* as an example  
*Liang-Ming Langmuir Whang (Taiwan)*
- 052BHP** CO addition enhanced photobiological H<sub>2</sub> production by unicellular N<sub>2</sub>-fixing cyanobacterial strains from Korean coasts  
*Jong-Woo Park, Kwang-Nam Han, Bora Jang, Wonho Yih (Korea)*
- 078BHP** Effect of acid, heat and combined acid-heat pretreatments on hydrogen production from activated sludge by anaerobic mixed cultures  
*Thitirut Assawamongkholisiri, Alissara Reungsang (Thailand)*
- 117BHP** Optimization of biohydrogen production by *Rhodobacter sphaeroides* NCIMB 8253 using statistical based experimental designs  
*Nor Zawanah Abdul Hamid, Jamaliah Md Jahim, Nurina Anuar and Mohd Sahaid Khalil (Malaysia)*
- 156BHP** Effect of Substrate Level and Initial pH on Biohydrogen Production by *Enterobacter cloacae* KBH3  
*Irina Harun, Jamaliah Jahim, Nurina Anuar (Malaysia)*
- 160BHP** Comparative mesophilic and thermophilic hydrogen production from chicken manure by anaerobic self-fermentation: effect of substrate concentration  
*Pensri Plangklang, Alissara Reungsang, Thitirut Assawamongkholisiri, Arunsri Fangkum (Thailand)*
- 192BHP** Effect of ethanol on the increase of H<sub>2</sub> production of *Rhodobacter sphaeroides* under photoheterotrophic conditions  
*Eui-Jin Kim, Hyae-Jeong Hwang, Mi-Sun Kim, Jeong K. Lee (Korea)*
- 199BHP** Continuous two-stage hydrogen and methane fermentation from palm oil mill effluent (pome) at different organic loading rate  
*MariatulFadzillahMansor, Jamaliah Md. Jahim, RakmiAbd. Rahman, SahilahAbd. Mutalib (Malaysia)*
- 201BHP** Effects of operational parameters on an ASBR for hydrogen production  
*Chia Hung Chou, Jiunn-Jyi Lay, Chang Lung Han, KuoShuh Fan (Taiwan)*
- 254BHP** Photoautotrophic hydrogen production in nitrogen deprived *Chlamydomonas* Cells  
*Min Eui Hong, Sang Jun Sim (Korea)*
- 266BHP** Optimization of Dark Fermentative Hydrogen Production with Combined (acid+ultrasonic) Pretreatment from Microalgal Biomass  
*Yeo-Myeong Yun, Kyung-Won Jung, Dong-Hoon Kim, You-Kwan Oh, Hang-Sik Shin (Korea)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 270BHP** Specific organic load influence on biological hydrogen production  
*Mélida del Pilar Anzola Rojas, Marcelo Zaiat (Brazil)*
- 303BHP** Effects of temperature on fermentative hydrogen production from corn stover hydrolysate with river sediments and methanogenic granules  
*Kun Zhang, Nan-Qi Ren, Ai-Jie Wang (China)*
- 411BHP** Photofermentation metabolites as a sacrificial agent in photocatalytic splitting of water  
*Marcin Włodarczyk, Roman Zagrodnik, Marek Łaniecki (Poland)*
- 424BHP** Effect of headspace gas composition of reactor on biohydrogen production by *Thermococcus nurninus* NA1 with formate  
*Jeong-Geol Na, Ok-Sun Kim, Hae Jin Kim, Mi-Sun Kim (Korea)*
- 448BHP** Photoproduction of hydrogen by alginate immobilized *Rhodobacter capsulatus* KU002 under sulphate and phosphate limitations  
*Ramchander Merugu, M.P. Pratap Rudra, S. Girisham, S.M.Reddy (India)*
- 466BHP** Analysis and cloning of hydrogenase maturation genes of *Hydrogenovibrio marinus*, an aerobic H<sub>2</sub>-oxidizing marine bacterium  
*Byung Hoon Jo, Hyung Joon Cha (Korea)*
- 479BHP** Hydrogen production by dark fermentation from sewage sludge in a semi-batch reactor  
*Christine Dumas, Rabah Gahoual, Stéphane Vuilleumier, Barbara Ernst (France)*
- 489BHP** Genome-wide transcriptome analysis of hydrogen production in synechocystis: towards the identification of new players  
*Christophe Leplat, Raphaël Champeimont, Panatda Saenkham, Corinne Cassier-Chauvat, Jean-Christophe Aude, Franck Chauvat (France)*
- 518BHP** Aspect ratio effect of bioreactor on fermentative hydrogen production with immobilized sludge cell  
*Shu-Yii Wu, Chen-Yeon Chu, Wei-Zhi Yeh (Taiwan)*

17:20~19:00

Poster area

Poster session

**Conventional Hydrogen Production (CHP)**

- 087CHP** In situ IR/MS study of hydrogen production from a water-gas shift reaction with pulse over NiO-ZnO catalysts  
*Chih-Wei Tang, Steven S.C. Chuang (Taiwan)*
- 091CHP** Pt/ZrO<sub>2</sub> catalyst for a single-stage water-gas shift reaction: Ti addition effect  
*Kyung-Ran Hwang, Son-Ki Ihm, Jong-Soo Park (Korea)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 109CHP** High purity hydrogen and carbon production from methane direct cracking using a mixed conducting ceramic membrane  
*Jin-Ho Kim, Yong-Mook Kang, Ki-Jae Kim, Kwang-Taek Hwang (Korea)*
- 116CHP** Hydrogen production via ash free coal gasification  
*Jiho Yoo, Jaekwon Kim, S Jin, Hokyung Choi, Jeonghwan Lim, Youngjun Rhim, Donghyuk Chun, Sangdo Kim, Sihyun Lee (Korea)*
- 140CHP** Sorption Enhanced Water Gas Shift Reaction Using One-Body Hybrid Solid  
*Hyun Min Jang, Seok Min Hong, Hee Jin Jang, Ki Bong Lee (Korea)*
- 155CHP** A study on the metal oxide supported coppercatalysts for the low-temperature water gas shift reaction  
*Sang Yoon Kim, Hyun Chan Lee, M. Jhansi L. Kishore, Dong Hyun Kim (Korea)*
- 184CHP** Kinetic analysis of catalytic coal gasification process in fixed bed condition for simulating aspen plus  
*Dong-Ha Jang, Young-Shin Jeon, Hyung-Taek Kim, Chan Lee (Korea)*
- 208CHP** Performance assessment of hydrogen production from a solar-assisted biomass gasification system  
*Yildiz Kalinci, Arif Hepbasli, Ibrahim Dincer (Turkey)*
- 216CHP** Development of micro-channel reactor for water gas shift reaction  
*Sung-Wook Lee, Chun-Boo Lee, Kyung-Ran Hwang, Shin-Kun Ryi, Jong-Soo Park, Sung Hyun Kim (Korea)*
- 400CHP** Atmospheric pressure microwave plasma device for hydrogen production  
*Mariusz Jasiński, Dariusz Czyłkowski, Bartosz Hrycak, Mirosław Dors, Jerzy Mizeraczyk (Poland)*

**17:20~19:00**

**Poster area**

**Poster session**

**Fuel Cells (FCE)**

- 023FCE** Improved durability of Pt/CNT catalysts by the low temperature self-catalyzed reduction for the PEM fuel cells  
*Seung Hyun Hur, Tae Kyu Lee, JuHae Jung, Jun Bom Kim (Korea)*
- 094FCE** Catalytic properties of  $\text{La}_{0.1}\text{Sr}_{0.9}\text{Co}_{0.8}\text{Fe}_{0.2}\text{O}_{3-\delta}$  as IT-SOFC cathode  
*Moonbong Choi, Kang-Taek Lee, Hee-Sung Yoon, Eric D. Wachsman, Sun-Ju Song (Korea)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 096FCE** High performance of oxygen reduction reaction on carbon-supported PtNi hollow nanoparticle prepared by a template-less one-step method  
*Pil Kim, Yuntaek Lim, Sung Jong Bae, Kee Suk Nahm (Korea)*
- 118FCE** Experimental validation of a one-dimensional direct methanol fuel cell model under high methanol feed concentrations  
*Johan Ko, Kyungmun Kang, Whangi Kim, Taehwan Hong, Dongmin Kim, Hyunchul Ju (Korea)*
- 149FCE** Synthesis of Highly Sulfonated Poly(Arylene Biphenylsulfone Ether)Block Copolymers via Post-Sulfonation for Polymer Electrolyte Membrane Fuel Cell  
*Kyu Ha Lee, AeRhan Kim, Kee Suk Nahm, Cheol-Ju Kim, Dong Jin Yoo (Korea)*
- 152FCE** Synthesis and Characterization of Partially Fluorinated Sulfonated Poly(Arylene Biphenylsulfone Ketone) Block Copolymers Containing 6F-BPA and Perfluorobiphenylene Units  
*Ji Young Chu, AeRhan Kim, Kee Suk Nahm, Hong-Ki Lee, Dong Jin Yoo (Korea)*
- 165FCE** Effect of Fe doping on YST as anode in solid oxide fuel cell  
*Ha Ni Im, Moon-Bong Choi, Sang-Yun Jeon, Sun Ju Song (Korea)*
- 212FCE** Synthesis and Electrical Properties of Proton Conducting  $M^{2+}$  doped ( $M = Ca, Sr, \text{ or } Ba$ ) Cerium Pyrophosphate Electrolytes for Intermediate Temperature Fuel Cell  
*Bhupendra Singh, Ha-Ni Im, Jun-Young Park, Sun-Ju Song (Korea)*
- 218FCE** Development of High Performance  $BaCe_{0.85}Y_{0.15}O_{3-\delta}$  Proton Conducting Electrolyte PCFC  
*Ki-Chae Lee, Ha-Ni Im, Dae-Kwang Lim, Sun-Ju Song (Korea)*
- 223FCE** Effect of Iodine-Coated Bipolar Plate in Proton Exchange Membrane(PEM) Fuel Cell Performances  
*Tae-Eon Kim, Yong-Gun Shul, Jin Chul Bae, Kwang Yeon Cho (Korea)*
- 228FCE** Preparation of Pt-Ru/C composite electrode with double catalyst layer by electrophoresis deposition method for DMFC  
*Jinwoo Kim (Korea)*
- 229FCE** Study on the activity and active site of nitrogen doped carbon nanotubes  
*Altansukh Dorjgotov, Yukwon Jeon, Yong-gun Shul, Jinhee Ok, Seong-Ho Yoon, Joo-il Park (Korea)*
- 238FCE** Enhanced Durability of  $La_2Sn_2O_7$ -doped Ni/GDC anode materials for Intermediate Temperature Solid Oxide Fuel Cells  
*Myunggeun Park, Jin Goo Lee, Sang-Hoon Hyun, Yong Gun Shul (Korea)*

[Poster Sessions]

## Tuesday, 26 June 2012 (cont'd)

- 250FCE** Composite Membrane for Polymer Exchange Membrane Fuel Cell (PEMFC) application  
*So-Me Juon, Heesoo Na, Yukwon Jeon, Yong-Gun Shul (Korea)*
- 361FCE** TiN nanoparticles supported on CNT and graphene composite for Oxygen Reduction Reaction  
*Duck Hyun Youn, Ganghong Bae, Suenghoon Han, Jae Sung Lee (Korea)*
- 364FCE** Reduction procedure effect on the electrochemical properties of conductive carbon black supported Pt-Pd electrocatalysts  
*Jae Young Park, Soo-Jin Park, Yongju Jung, Seok Kim (Korea)*
- 366FCE** Preparation and electroactivity of polymer-functionalized graphene-supported platinum nanoparticles catalysts  
*Jae Young Park, Seok Kim (Korea)*
- 368FCE** Bimetallic Tungsten Carbide as Anode Support Material for PEMFC  
*Suenghoon Han, Duck Hyun Youn, Gang Hong Bae, Jae Sung Lee (Korea)*
- 370FCE** Optimization of GDLS for high-performance PEMFCs employing stainless steel bipolar plates  
*Kwangsup Eom, Eunae Cho, Jonghyun Jang, Hyoung-Juhn Kim, Tae-Hoon Lim, Bo Ki Hong, Jong Hyun Lee (Korea)*
- 390FCE** Optimization of physical properties of gaskets for PEM fuel cells  
*Jeongsik Ko, Jung Seok Yi, TaeWon Song, Ji-Rae Kim (Korea)*
- 396FCE** Preparation and properties of phosphoric acid doped sulfonated poly(tetra phenyl phthalazine ether sulfone) copolymer for high temperature proton exchange membrane application  
*Dong Wan Seo, Young Don Lim, Soon Ho Lee, Hyun Chul Lee, Md. Monirul Islam, Seong Young Choi, Whan Gi Kim (Korea)*
- 397FCE** Synthesis and characterization of sulfonated cardo based poly(arylene ether sulfone) multiblock copolymers for proton exchange membrane  
*Md. Monirul Islam, Ho-Hyoun Jang, Young-Don Lim, Dong-Wan Seo, Md. Awlad Hossain, Whan-Gi Kim (Korea)*
- 398FCE** Proton conducting hybrid membrane electrolytes based on sulfonated poly(ether sulfone)s and metallophthalocyanine contained poly(ether sulfone)  
*Young-Don Lim, Dong-Wan Seo, Soon-Ho Lee, Tai-Whan Hong, Hyun-Chul Ju, Dong-Min Kim, Whan-Gi Kim (Korea)*



[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 403FCE** Exergoeconomic Evaluation of SOFC Power Generation System  
*Young Duk Lee, Sung Ho Park, George Tsatsaronis, Kook Young Ahn (Korea)*
- 416FCE** The cobalt-based electrocatalysts on carbon paper by sputtering for polymer electrolyte membrane fuel cells  
*Ki-Seong Lee, Whangi Kim, Dongmin Kim (Korea)*
- 418FCE** The electrical properties of sputtered GDC thin films on sapphire for solid oxide fuel cell  
*Ki-Seong Lee, Soo-Man Sim, Hyun-Doek Baek, Dong-Min Kim (Korea)*
- 445FCE** Investigation of manufacturing method parameter for tubular solid oxide fuel cell  
*Uğur Çakir, Safa Koç, Abdullah Mat (Turkey)*
- 457FCE** Quasi-three dimensional dynamic modeling of proton exchange membrane fuel cell with considering two-phase transport  
*Sanggyu Kang, Sungho Park, Kook Young Ahn (Korea)*
- 460FCE** Operational optimization of fuel and air utilizations for residential power generators using PEMFC to improve system power efficiency  
*Minjin Kim (Korea)*
- 470FCE** Polarization mechanism in Ni-YSZ/YSZ/LSM solid oxide cells by parametric impedance analysis  
*Eui-Chol Shin, Pyung-An Ahn, Hyun-Ho Seo, Jung-Mo Jo, Ji-Haeng Yu, Sang-Kuk Woo, Jong-Sook Lee (Korea)*

**17:20~19:00** **Poster area**  
**Poster session**  
**General (GEN)**

- 337GEN** Korean energy R&D performance analysis integrated with the Fuzzy AHP and TOPSIS approach: In case of national hydrogen energy technology development programs  
*Seongkon Lee, Gento Mogi, Behgol Bagheri, Motoyuki Arai, Zhuolin Li, Sangkon Lee, K.Shui, K.N Hui, Youngjin Ha, Jongwook Kim (Korea)*
- 345GEN** A study on the establishment of the second national long-term energy technology development plan: In case of Korea  
*Seongkon Lee, Gento Mogi, Zhuolin Li, Sangkon Lee, Youngjin Ha, Jongwook Kim (Korea)*
- 437GEN** Potential of the turkey on producing hydrogen using solar energy  
*Uğur Çakir (Turkey)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

**17:20~19:00**

**Poster area**

**Poster session**

**Hydrogen Infrastructure (HIN) / Hydrogen in Vehicles (HIV)**

**275HIN**

Investigation of storage options for renewable hydrogen

*Hakan Caliskan, Ibrahim Dincer, Arif Hepbasli (Turkey)*

**443HIN**

Subsystem characterization for decentralised hydrogen production

*Stephan Nestl, Manfred Wegleiter, Viktor Hacker (Austria)*

**334HIV**

Effect of mixture strength and injection timing on combustion characteristics of a direct injection hydrogen-fueled engine

*Khalaf I. Hamada, M.M. Rahman, Rosli A. Bakar, M A. Abdullah, A. Rashid A. Aziz (Malaysia)*

**17:20~19:00**

**Poster area**

**Poster session**

**Hydrogen Production by Electrolysis (HPE)**

**022HPE**

Hydrogen by electrolysis gateway to launch hydrogen automobile and prolong end of crude oil era

*Swanand Anant Gogate (India)*

**130HPE**

Hydrogen production from water splitting reaction based on re-doped ceria-zirconia solid-solutions

*D. Hari Prasad, Kiyong Ahn, Sun Young Park, Ho-Il Ji, Kyungjoong Yoon, Byung-Kook Kim, Hae-June Je, Hae-Weon Lee, Jong-Ho Lee (Korea)*

**143HPE**

Hydrogen production Using Solid Oxide Cells

*Sundong Kim, Doowon Seo, Insub Han, Jihaeng Yu, Seyoung Kim, Sangkuk Woo (Korea)*

**249HPE**

Investigation of SOECs with (La,Sr)MnO<sub>3</sub> and (La,Sr)<sub>x</sub>(Co,Fe)<sub>3</sub>O<sub>3</sub> Oxygen Electrodes

*Ho-Il Ji, Kyung Joong Yoon, Hae-Weon Lee, Jong-Ho Lee, Byung-Kook Kim (Korea)*

**308HPE**

Coal-aided electrolytic production of hydrogen

*Jiho Yoo, Injae Lee, Jeonghwan Lim, Hokyung Choi, Youngjun Rhim, Donghyuk Chun, Sangdo Kim, Sihyun Lee (Korea)*

**319HPE**

Research and development of electrode - diaphragm - electrode assembly for alkaline hydrogen generator

*S.I. Nefedkin, A.S. Bogomolova, N.G. Sedelnikov, I.V. Kiselev, O.V. Kholichev, S.F. Beskorovayniy (Russia)*

**394HPE**

Electrochemical Characteristics of IrXRu<sub>1-x</sub>O<sub>2</sub>/Ti Anode for Alkaline Water Electrolysis

*Injun Jang, Imgon Hwang, Yongsug Tak (Korea)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 468HPE** Role of mixed conduction in ceramics electrode for high temperature electrolysis cell  
*Pyung-An Ahn, Eui-Chol Shin, Hyun-Ho Seo, Ji-Haeng Yu, Sang-Kuk Woo, Jong-Sook Lee (Korea)*
- 539HPE** Development and characterization of covalently cross-linked SPEEK/Cs-TPA/CeO<sub>2</sub> composite membrane and membrane electrode assembly for water electrolysis  
*Min-Ah Song, Sung-In Ha, Dea-Young Park, Cheol-HwiRyu, An-Soo Kang, Sang-Bong Moon, Jang-Hoon Chung (Korea)*
- 595HPE** Hydrogen production by water electrolysis Part 3: Effects of the electrodes materials nature on the solar water electrolysis performances  
*Romdhane Ben Slama (Tunisia)*
- 660HPE** Properties of anion exchange membrane and electrode in the alkaline water electrolysis  
*Doo-Soon Yim, Cheol-HweRhyu, Jae-Chul Kim, Gab-Jin Hwang (Korea)*
- 17:20~19:00** **Poster area**  
**Poster session**  
**Hydrogen Production by Reforming (HPR)**
- 019HPR** Hydrogen production by decomposition and steam reforming of ethanol over Cu<sub>49</sub>Zn<sub>21</sub>Al<sub>18</sub>Zr<sub>12</sub> and Pt/CeZrO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> catalysts  
*Changwei Ji, Xiaoxu Dai (China)*
- 044HPR** Steam reforming of biogas over highly stable Ni/Ce<sub>0.65</sub>Zr<sub>0.25</sub>Tb<sub>0.1</sub>O<sub>2</sub>  
*Dasari Harshini, Chang won Yoon, Suk Woo Nam, Tae-Hoon Lim (Korea)*
- 056HPR** Syngas production by steam reforming of methanol, ethanol, n-heptane and iso-octane over copper-based catalysts  
*Changwei Ji, Xiaoxu Dai (China)*
- 106HPR** Methane reforming for solid oxide fuel cell using excess enthalpy flame  
*Pil Hyong Lee, Sang Soon Hwang (Korea)*
- 124HPR** Hydrogen production using Ni catalyst supported on carbonized biomass resources  
*Heeyeon Kim (Korea)*
- 164HPR** Plasma-catalytic methanol steam reforming for hydrogen production  
*Dae Hoon Lee, Taegy Kim (Korea)*
- 180HPR** Catalytic performance and coking behavior of platinum- promoted cobalt-based catalysts for ethanol steam reforming  
*Josh Y.Z. Chiou, Chin-Ling Lee, Chuin-Tih Yeh, Chen-Bin Wang (Taiwan)*
- 219HPR** Hydrogen generation with waste heat of motorcycle engine  
*Lu Liang Chun (Taiwan)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 225HPR** Autothermal Reforming for Diesel using perovskite catalysts  
*Yukwon Jeon, Yong-Gun Shul, Gicheon Lee, Hyun Khil Shin, Joo-Il Park (Korea)*
- 294HPR** Catalytic performance of mixed oxide-supported nickel catalysts for methane steam reforming  
*So Yun Lee, Hee Chul Woo (Korea)*
- 341HPR** hydrogen production by partial oxidation of ethanol over Pt/CNTs catalysts  
*Chiao-Yi Deng, Shwu-Jer Chiu, Yen-Ju Lin, Jhih-Hao Lyu (Taiwan)*
- 382HPR** Carbon Deposition on Ni/ZrO<sub>2</sub>-CeO<sub>2</sub> catalyst during steam reforming of acetic acid  
*Hu Rongrong, Yan Changfeng, Zheng Xiaoxiao, Zhou Zhouyu (China)*
- 391HPR** Sorption enhanced hydrocarbons reforming to fuel cell grade hydrogen  
*Aleksey Grigorievich Okunev (Russia)*
- 405HPR** Mathematical simulation of hydrogen production via methanol-steam reforming using heat-coupled and membrane-assisted reactors  
*Rei-Yu Chein, Yen-Cho Chen, Yu-Shiang Lin, J. N. Chung (Taiwan)*
- 446HPR** Hydrogen Production by Ethanol Steam Reforming over NaCo/ZnO Catalysts  
*Ji-Su Moon, Yong-Kul Lee (Korea)*

**17:20~19:00** **Poster area**  
**Poster session**  
**Hydrogen Separation (HSE)**

- 069HSE** A novel bi-functional membrane for simultaneous chemical reaction and hydrogen separation  
*Kyung-Ran Hwang, Sung-Wook Lee, Shin-Kun Ryi, Jong-Soo Park (Korea)*
- 112HSE** Ceria modification of porous nickel support in Pd-based hydrogen selective composite membrane  
*Shin-Kun Ryi, Jong-Soo Park, Dong-Won Kim (Korea)*
- 154HSE** Pre-combustion CO<sub>2</sub> capture using the hydrogen membrane in water-gas shift reaction  
*Sung Il Jeon, Jung Hoon Park, Yong Taek Lee (Korea)*
- 163HSE** Effect of H<sub>2</sub>S on the thermodynamic stability of dual functional Pd-GDC cermet membrane  
*Sang-Yun Jeon, Moon-Bong Choi, Ha-Ni Im, Sun-Ju Song (Korea)*
- 194HSE** The effect of addition of yttrium on the hydrogen permeability of vanadium metallic membranes for the separation and purification of hydrogen  
*Hongseok Chin, Ju-Young Oh, Jae-Hyeok Shim, Wooyoung Lee, Eric Fleury (Korea)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

**198HSE** The property of CO<sub>2</sub> capture need Pd-based deposited on ZrO<sub>2</sub> modified porous nickel support  
*Chun-Boo Lee, Shin-Kun Ryi, Kyung-Ran Hwang, Sung-Wook Lee, Seung-Hoon Choi, Jong-Soo Park, Sung-Hyun Kim (Korea)*

**237HSE** Hydrogen permeation properties of V-10Ni membranes containing rare earth metals  
*Ju-Young Oh, Hong-Seok Chin, Woo-Young Yoon, Eric Fleury (Korea)*

**376HSE** Characterization of Ni-BaCe<sub>0.8</sub>M<sub>0.2</sub>O<sub>3-δ</sub> (M= Y, Yb, Er, Sm) cermet membranes for hydrogen separation  
*Woo Ram Kang, Ki Bong Lee (Korea)*

**17:20~19:00** **Poster area**  
**Poster session**  
**Hydrogen Storage (HST)**

**021HST** Hydrogen production by the hydrolysis of magnesium-based hydrides  
*Liquan Li (China)*

**048HST** Theoretical study on porphyrin based covalent organic polyhedra as a hydrogen storage  
*Daejin Kim, Dong Hyun Jung, Hyein Guk, Kihang Choi, Seung-Hoon Choi (Korea)*

**070HST** Effect of metal doping on the hydrogen storage properties in hollow glass microsphere  
*Heondo Jeong (Korea)*

**080HST** Assessment of Environmental Impacts and CO<sub>2</sub> Emissions for MgH<sub>x</sub>-Graphene Composites by Hydrogen Induced Mechanical Alloying (HIMA)  
*Soo-Sun Lee, Na-Ri Lee, Kyeong-Il Kim, Tae-Whan Hong (Korea)*

**110HST** Effect of heat treatment on microstructure and hydrogen storage properties of mass-produced Ti<sub>0.85</sub>Zr<sub>0.13</sub>(Fex-V)<sub>0.56</sub>Mn<sub>1.47</sub>Ni<sub>0.05</sub> alloy  
*Jin-Ho Kim, Kwang-Taek Hwang, Byoung-Goan Kim, Yong-Mook Kang (Korea)*

**167HST** Charge and Discharge Properties of the Hydrogen of La<sub>0.1</sub>Sr<sub>0.9</sub>Co<sub>1-y</sub>Fe<sub>y</sub>O<sub>3-δ</sub> (y=0, 0.2, 1) Electrodes in Alkaline Electrolyte Solution  
*Dae-Kwang Lim, H.-N. Im, Chan-Jin Park, C.-N. Park, Sun-Ju Song (Korea)*

**169HST** Improvement of hydrogen sorption measurement using a sieverts apparatus with consideration of thermal transpiration  
*Won Chul Cho, Ki Kwang Bae, Change Hee Kim, Kyoung Soo Kang, Chu Sik Park, Seong Uk Jeong (Korea)*

**222HST** Design of Al-Cu alloys for fast on board hydrogen production from hydrolysis in alkaline water  
*MinJoong Kim (Korea)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 241HST** A structured Fe-B catalyst prepared by capacitive deionization for hydrogen generation from NaBH<sub>4</sub>  
*Trinh Ngoc Tuan, Youngmi Yi, Jae Kwang Lee, Jaeyoung Lee (Korea)*
- 260HST** A numerical investigation of hydrogen desorption phenomena in zirconium cobalt based hydrogen storage beds  
*Haneul Yoo, Arae Jo, Geonhui Gwak, Hyunchul Ju (Korea)*
- 299HST** Effect of Ni/Mg<sub>2</sub>Ni on hydrogen storage properties of Mg-Co alloy  
*Sheng-Long Lee, Rong-Ruey Jeng (Taiwan)*
- 313HST** Effect of Chemical Activation on Zeolite-casted Microporous Carbon for Hydrogen Storage Capacity  
*Seul-Yi Lee, Soo-Jin Park (Korea)*
- 342HST** Synthesis, characterization and hydrogen absorption / desorption behaviors of La(Ni<sub>0.80</sub>Fe<sub>0.20</sub>-xMNx)<sub>5</sub> alloys  
*Sunil Kumar Pandey, Jai Singh, T. P. Yadav, O. N. Srivastava (India)*
- 355HST** Cyclic redox characteristics of Cu/Fe/YSZ mixed oxides for hydrogen storage and release  
*Hyo Sub Kim, Hong Soon Kim, Chu Sik Park, Young Ho Kim (Korea)*
- 409HST** Improvement in hydrogen storage characteristics of nanoquasicrystal-glass composites of Zr<sub>69.5</sub>Al<sub>7.5</sub>Cu<sub>12</sub>Ni<sub>11</sub> alloy with addition of Ti  
*Devinder Singh, Rohit R Shahi, R.S. Tiwari, O.N. Srivastava (India)*
- 426HST** Dynamical behaviors of Pt clusters on different single wall carbon nanotubes  
*Yao-Chun Wang, Shin-Pon Ju, Chen-Yin Tai (Taiwan)*

**17:20~19:00** **Poster area**  
**Poster session**  
**Miscellaneous (MIS)**

- 296MIS** Effect of Pt loading method on dispersion of 1wt%Pt/γ-Al<sub>2</sub>O<sub>3</sub> catalyst for preferential CO oxidation  
*Ki Hyeok Kim, Kee Yonug Koo, Un Ho Jung, Hyun Seog Roh, Wang Lai Yoon (Korea)*

**17:20~19:00** **Poster area**  
**Poster session**  
**Photochemical Hydrogen Production (PHP)**

- 239PHP** CDS sensitized single crystalline TiO<sub>2</sub> nanorods and polycrystalline nanotubes for solar hydrogen generation  
*Ulugbek Shaislamov, Ji Yeong Kim and Bee Lyong Yang (Korea)*
- 247PHP** Water Splitting Performance of CdS/CdSe Quantum Dot on TiO<sub>2</sub> Nanotube Photoanodes  
*Ji Yeong Kim (Korea)*

[Poster Sessions]

**Tuesday, 26 June 2012 (cont'd)**

- 350PHP** Fabrication of p-n junction photoanode for photoelectrochemical cell  
*Eun Sun Kim, Jae Sung Lee (Korea)*
- 401PHP** TiO<sub>2</sub> dispersion effect on the photocatalytic partial oxidation of dodecane for deNOx application  
*Jae Yul Kim, Jae Sung Lee (Korea)*
- 406PHP** Preparation of CdS nanorods with improved photocatalytic activities for hydrogen production and degradation of methylene blue solution  
*Bo Zhang, Weifeng Yao, Cunping Huang, Qunjie Xu, Qiang Wu (China)*
- 407PHP** Enhancing photocatalytic hydrogen evolution efficiency via modified photoetching Pt/CdS photocatalysts  
*Weifeng Yao (China)*
- 408PHP** Effect of a new Cr<sub>2</sub>O<sub>3</sub> based cocatalyst on the photocatalytic activity of cadmium sulfide for hydrogen production  
*Weifeng Yao (China)*
- 430PHP** Photocatalytic and Photoelectrochemical characteristics of M-doped BiVO<sub>4</sub> (M=Mo, W) for Water Oxidation under Visible Light  
*Hyun Joon Kang, Kanak P. S. Parmar, Jum Suk Jang, Jae Sung Lee (Korea)*
- 434PHP** Graphene and Carbon Nanotube Composite for Efficient Water Splitting  
*Jae Young Kim (Korea)*
- 467PHP** The State of Hydrogen Production through Water Photolysis  
*Temesgen Garoma, Suha Alnaser (United States)*
- 472PHP** Photoelectrochemical Performance of various ZnO single crystalline photoanodes  
*Chang-Gyun Park, Jung-Mo Jo, Eui-Chol Shin, Seon-Hwa Lee, Byung-Teak Lee, Jong-Sook Lee (Korea)*
- 524PHP** CdS/TiO<sub>2</sub> nanotube arrays photoelectrode for the enhancement of photoelectrochemical performance  
*Chi Liang Chena, Chin-Jung Linb, Chung-Li Dongc, Li-Cheng Kaod, Ya-Hsuan Lioud (Taiwan)*

**17:20~19:00**

**Poster area**

**Poster session**

**Thermochemical Hydrogen Production (THP)**

- 033THP** A cooling system for the secondary helium loop in VHTR-based SI hydrogen production facilities  
*Youngjoon Shin, Jiwoon Chang, Taehoon Lee, Kiyoung Lee, Yongwan Kim (Korea)*
- 046THP** Sulfur dioxide separation with ionic liquid absorbents applicable to SI and Hybrid Sulfur process to split water for Hydrogen production  
*Chang Soo Kim, Ki Yong Lee, Honggon Kim, Kwang-Deog Jung (Korea)*

[Poster Sessions]

## Tuesday, 26 June 2012 (cont'd)

- 062THP** Nitrile-functionalized amines as highly efficient SO<sub>2</sub> absorbents  
*Jeesun Lee, Sung Yun Hong, Hoon Sik Kim, Minserk Cheong, Kwang-Deog Jung, Je Seung Lee (Korea)*
- 064THP** First-principles calculations of the thermodynamic suitability of oxides for solar thermochemical hydrogen production: The example of nonstoichiometric ceria  
*Ann Deml, Jianhua Tong, William Chueh, Charles Musgrave, Ryan O'Hayre (United States)*
- 142THP** Preliminary experiments on the HI decomposition section of the Sulfur-Iodine thermochemical cycle for hydrogen production  
*Kyoung-Soo Kang, Chang-Hee Kim, Won-Chol Cho, Seong-Uk Jeong, Chu-Sik Park, Ki-Kwang Bae (Korea)*
- 206THP** Experimental study on the Flow Boiling Phenomena of a High Temperature Sulfuric Acid Visualization Loop  
*Dong-Un Seo (Korea)*
- 284THP** Quenching Method for Heat Recovery from Molten CuCl Droplets in the Cu-Cl Cycle  
*Samane Ghandehariun, Greg Naterer, Marc Rosen, Zhaolin Wang (Canada)*
- 298THP** Comparative Performance Assessment of Hybrid Cu-Cl and Mg-Cl cycles and SMR  
*Mustafa Tolga Balta, Ibrahim Dincer, Arif Hepbasli (Turkey)*
- 379THP** Nuclear hydrogen production: validation of thermodynamic model and simulation for sulfuric acid concentration process of SI thermochemical cycle  
*Jaedeuk Park, Jae Hyun Cho, Kwang-Deog Jung, Il Moon (Korea)*
- 386THP** A study on the sulfur dioxide and water electrolyzer for the production of hydrogen and sulfuric acid  
*Chang Hee Kim, Sung Wook Jung, Won Chul Cho, Kyung Soo Kang, Chu Sik Park, Ki Kwang Bae (Korea)*