

**INHA Workshop Program  
Pre-ZMPC 2009**

**Program**

**July 30**

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- 16.00-17.00 Registration
- 17.00-17.15 OPENINGS
- 17.15-18.00 **Gion Calzaferri**  
**Manipulation of energy transfer processes within the channels of L-zeolite**
- 18.00-18.45 **Abdelhamid Sayari**  
**Catalysis and separation over pore-expanded mesoporous silica**
- 19.00-22.00 Welcome Party (Buffet)

**July 31**

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- 8.00-8.30 Registration
- 8.30-8.45 OPENINGS
- 8.45-9.25 *Chairs:*  
**Hiromi Yamashita**  
**Applications of Single-site Photocatalyst Designed on Nanoporous Materials**
- 9.25-10.05 **Matthias Thommes**  
**Progress and Challenges in the Structural Characterization of Advanced Nanoporous Materials by Physical Adsorption**
- 10.05-10.45 **Shang-Bin Liu**  
**Amine-modified Mesoporous Silica for CO<sub>2</sub> Capture**
- 10.45-11.10 Refreshment (+Poster Session)

*Chairs:*

- 11.10 -11.50 **Shinji Inagaki**  
**Optical applications of periodic mesoporous organosilicas**
- 11.50-12.30 **Jiri Cejka**  
**Recent advances in catalysis over mesoporous molecular sieves**
- 12.30-13.30 LUNCH (Sky Lounge @ Inha Univ.)
- 13.30-15.00 POSTER SESSION

### SHORT ORAL PRESENTATIONS

*Chair:*

- 15.00-15.15 **K. Frolich**  
**Stability of Carbonyl Complexes in Cu+K+-FER Zeolite**
- 15.15-15.30 **Shunsuke Tanaka**  
**Ordered Mesoporous Aluminosilicates Assembled from Dissolved LTA Precursors**
- 15.30-15.45 **Salam J.J. Titinchi**  
**Synthesis and Catalytic Activity of Cu(II), Fe(III) and Bi(III) Complexes of Schiff Base 2-[(E)-[(3-mercapto-4H-1,2,4-triazol-4-yl)imino] methyl] phenol (MTIMP)**
- 15.45-16.00 **Tseng-Chang Tsai**  
**Hexane Isomerization over Hierarchical Pt/MFI Zeolite**
- 16.00-16.15 **Eko Adi Prasetyanto**  
**Melamine tri-silsesquioxane bridged periodic mesoporous organosilica as an efficient metal free catalyst for CO<sub>2</sub> activation**
- 16.15-16.45 Refreshment (+Poster Session)
- 16.45-17.00 **Pablo Beato**  
**ZSM-5 for the conversion of methanol-to-hydrocarbons**
- 17.00-17.15 **G. Giordano**  
**Bimetallic Zeolite Catalyst for CO<sub>2</sub> Reforming of Methane**

- 17.15-17.30 **Wha-Seung Ahn**  
**Carbon dioxide capture using nanoporous materials**
- 17.30-17.45 **Yunpu Zhai**  
**One-Pot Synthesis of Magnetically Separable Ordered Mesoporous Carbons**
- 17.45-18.00 **Krishna Mohan Jinka**  
**Microwave Synthesized Mesoporous Vanadium-MFI Catalyst for Epoxydation of Styrene using Molecular Oxygen**
- 18.00-18.15 **Young Kyu Hwang**  
**Selective sulfoxidation of aryl sulfides by coordinatively unsaturated metal centers in chromium carboxylate MIL-101**
- 18.30-22.00 BANQUET – Korean Barbeque !!!!

## **August 1**

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- Chairs:*
- 8.45-9.25 **Ajayan Vinu**  
**Nanoporous Carbon Based Materials and their Electrocatalytic Applications**
- 9.25-10.05 **Philip Llewellyn**  
**Using gas adsorption and complementary in situ methods to characterize potential catalysts**
- 10.05-10.20 Refreshment
- Chairs:*
- 10.20-11.00 **Sang-Eon Park**  
**Metal-free Catalytic Application of N-Containing Organofunctionalized Mesoporous Materials**
- 11.00-11.40 **Mietek Jaroniec**  
**Development of microporosity in soft-templated mesoporous carbons and their potential applications**

- 11.40-12.30 **Victor Lin**  
**Multifunctional Mesoporous Oxide, Carbon, and Polymer  
Nanoparticles for Biotechnological and Biofuel Applications**
- 12.30-14.00 LUNCH
- 14.00 SOCIAL PROGRAM (OPTIONAL)  
(Great New Bridge to Incheon Airport and Visit the Island of 1st Light  
House of Korea)

# List of Abstracts

## Invited Lecture

I-001

### **Manipulation of energy transfer processes within the channels of L-zeolite**

Gion Calzaferri (University of Bern, Bern, Switzerland)

I - 002

### **Catalysis and Separation over Pore-Expanded Silica**

Abdelahmid Sayari (University of Ottawa, Ottawa, Canada)

I - 003

### **Applications of Single-site Photocatalysts Designed on Nanoporous Materials**

Hiromi Yamashita, Kohsuke Mori, Takashi Kamegawa, Sayoko Shironita (Osaka University, Osaka, Japan)

I - 004

### **Progress and Challenges in the Structural Characterization of Advanced Nanoporous Materials by Physical Adsorption**

Matthias Thommes (Quantachrome Corporation, Boynton Beach, FL, USA)

I-005

### **Highly Stable Amine-modified Mesoporous Silica Materials for Efficient CO<sub>2</sub> Capture**

Shou-Heng Liu, Chia-Hua Wu, Huang-Kuei Lee, and Shang-Bin Liu (National Kaohsiung University of Applied Sciences; Academia Sinica; Chinese Culture University, Taiwan)

I-006

### **Synthesis and Optical Applications of Periodic Mesoporous Organosilicas**

Shinji Inagaki (Toyota Central R&D labs., Inc.; CREST/Japan Science and Technology Agency, Japan)

I-007

### **Recent Advances in Catalysis over Mesoporous Molecular Sieves**

Rosa M. Martín-Aranda and Jiří Čejka (Facultad de Ciencias, UNED, Spain; J. Heyrovský Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Czech Republic)

I-008

**Fabrication and Electrocatalytic Application of Novel Nanoporous Materials**

Ajayan Vinu (NIMS, Tsukuba, Japan)

I-009

**Using gas adsorption and complementary in situ methods to characterize potential catalyst materials**

Philip Llewellyn (Laboratoire Chimie Provence, Marseille, France)

I-010

**Metal-free Catalytic Application of N-Containing Organofunctionalized Mesoporous Materials**

Sang-Eon Park (Inha University, Incheon, Korea)

I-011

**Development of microporosity in soft-templated mesoporous carbons and their potential applications**

Mietek Jaroniec (Kent State University, Kent, Ohio, USA)

I-012

**Multifunctional Mesoporous Oxide, Carbon, and Polymer Nanoparticles for Biotechnological Applications**

Victor S.-Y. Lin (Iowa State University, Iowa, U.S.A.)

## **Oral Presentation**

O-01/P-018

**Stability of Carbonyl Complexes in Cu<sup>+</sup>K<sup>+</sup>-FER Zeolite**

Petr Nachtigall, Karel Frolich, Roman Bulanek (Institute of Organic Chemistry and Biochemistry, Prague, Czech Republic; University of Pardubice, Pardubice, Czech Republic)

O-02/P-006

**Ordered Mesoporous Aluminosilicates Assembled from Dissolved LTA Precursors**

Shunsuke Tanaka, Hiroaki Okada, Norihito Nakatani, and Yoshikazu Miyake (Kansai University, Osaka, Japan)

O-03/P-012

**Synthesis and Catalytic Activity of Cu(II), Fe(III) and Bi(III) Complexes of Schiff Base 2-[(E)-[(3-mercapto-4H-1,2,4-triazol-4-yl)imino]methyl]phenol (MTIMP) Encapsulated in Zeolite-Y**

Hanna S. Abbo and Salam J.J. Titinchi (South African Institute for Advanced Materials Chemistry; University of the Western Cape, Cape Town, South Africa)

O-04/P-017

**Hexane Isomerization over Hierarchical Pt/MFI Zeolite**

Pei-Hsiun Chao, Shang-Tien Tsai, Shu-Lang Chang, Ikai Wang and Tseng-Chang Tsai (National University of Kaohsiung, Kaohsiung, Taiwan; National Tsing-Hua University, Hsinchu, Taiwan)

O-05/P-021

**Asymmetric organo catalysis in confined space provided by l-proline functionalized mesoporous silica with plugs in the pore**

Eko Adi Prasetyanto, Sung-Min Jeong and Sang-Eon Park (Inha University, Incheon, Korea)

O-06/P-026

**ZSM-5 for the conversion of methanol-to-hydrocarbons**

Pablo Beato and Ton V. W. Janssens (Haldor Topsøe A/S, Denmark)

O-07/P-035

**Bimetallic Zeolite Catalyst for CO<sub>2</sub> Reforming of Methane**

P. Frontera, A. Aloise, A. Macario, P.L. Antonucci, F. Crea, G. Giordano, J. B. Nagy (Mediterranea University, Reggio Calabria; University of Calabria, Rende, Italy)

O-08

**Carbon dioxide capture using nanoporous materials**

Wha-Seung Ahn (Inha University, Incheon, Korea)

O-09/P-014

**One-Pot Synthesis of Magnetically Separable Ordered Mesoporous Carbons**

Yunpu Zhai, Bo Tu and Dongyuan Zhao (Fudan University, Shanghai, P. R. China)

O-10/P-008

**Microwave Synthesized Mesoporous Vanadium-MFI Catalysts for Epoxidation of Styrene using Molecular Oxygen**

Krishna Mohan Jinka, Sang-Eon Park, Raksh Vir Jasra (Central Salt and Marine Chemicals Research Institute, Gujarat, India; Inha University, Incheon, South Korea; R & D Centre, Vadodara Manufacturing Division, Reliance Industries Ltd., Vadodara, India)

O-11/P-025

**Selective sulfoxidation of aryl sulfides by coordinatively unsaturated metal centers in chromium carboxylate MIL-101**

Young Kyu Hwang, Do-Young Hong, Jinheung Kim, and Jong-San Chang (Korea Research Institute of Chemical Technology, Daejeon, Korea; Ewha Womans University, Seoul Korea)

## Poster Presentation

P-001

**Catalytic Properties of Al-HMS-N Materials in the Tertiary Butylation of Phenol**

K. Bachari, N. Tahir, A. Saadi, D. Halliche, O. Cherifi (Centre de recherche scientifique et technique en analyses physico-chimiques (C.R.AP.C) Algiers, Algeria; U.S.T.H.B., Bab Ezzouar, Algeria)

P-002

**Ion Exchange Properties of Analcime-bearing Rocks of the Timan Region (Komi Republic, Russian Federation)**

Olga Kotova, and Shushkov Dmitry (Academy of Sciences, Syktyvkar, Russian Federation)

P-003

**Diagenetic analcime in tuffs of Karaj Formation, central Alborz, Iran**

Kamaladdin Bazargani-Guilani, Mohammad Parchekani (University of Tehran, Tehran, Iran)

P-004

**A review on the natural zeolites of the Central Iran**

Kamaladdin Bazargani- Guilani, Mohammad Sadegh Rabbani (University of Tehran, Tehran, Iran)

P-005

**A Comparative Study of Isopentane and Cyclopentane Aromatization over GaZSM-5: Activity and Reaction Path Way**

Nipat Peamaroon and Tawan Sooknoi (King Mongkut's Institute of Technology, Bangkok, Thailand)

P-006

**Ordered Mesoporous Aluminosilicates Assembled from Dissolved LTA Precursors**

Shunsuke Tanaka, Hiroaki Okada, Norihito Nakatani, and Yoshikazu Miyake (Kansai University, Osaka, Japan)

P-007

**Benzene Assisted Growth of Assembly of ZnO Nanosheets**

P. K. Samanta, S. K. Patra and P. Roy Chaudhuri (Ghatal R. S. Mahavidyalaya, West Bengal; Indian Institute of Technology, Kharagpur, India)

P-008

**Microwave Synthesized Mesoporous Vanadium-MFI Catalysts for Epoxidation of Styrene using Molecular Oxygen**

Krishna Mohan Jinka, Sang-Eon Park, Raksh Vir Jasra (Central Salt and Marine Chemicals Research Institute, Gujarat, India; Inha University, Incheon, South Korea; R & D Centre, Vadodara Manufacturing Division, Reliance Industries Ltd., Vadodara, India)

P-009

**A novel LDH-hosted sulphonato-salen-nickel(II) complex catalyst for the selective oxidation of tetralin using dioxygen**

Samiran Bhattacharjee, Kwang-Eun Jeong, Soon-Yong Jeong, and Wha-Seung Ahn (Inha University, Incheon, Korea; KRICT, Daejeon, Korea)

P-010

**Influence of catalyst binders on the acidity and catalytic performance of HZSM-5 zeolites for methanol-to-propylene (MTP) process: single and binary binder system**

Ki-Yong Lee, Han-Kyu Lee and Son-Ki Ihm (KAIST, Daejeon, Korea)

P-011

**Synthesis of Mesoporous TiO<sub>2</sub>-SiO<sub>2</sub> Composites Monolith**

R. Y. Zhang, D. Y. Zhao (Fudan University, Shanghai, P. R. China)

P-012

**Synthesis and Catalytic Activity of Cu(II), Fe(III) and Bi(III) Complexes of Schiff Base 2- $\{$ (E)- $\{$ (3-mercapto-4H-1,2,4-triazol-4-yl)imino $\}$ methyl $\}$ phenol (MTIMP) Encapsulated in Zeolite-Y**

Hanna S. Abbo and Salam J.J. Titinchi (South African Institute for Advanced Materials Chemistry; University of the Western Cape, Cape Town, South Africa)

P-013

**Synthesis of Core/Shell Colloidal Magnetic Zeolite Microspheres for the Immobilization of Trypsin**

Yonghui Deng, Chunhui Deng, Dawei Qi, Chong Liu, Jia Liu, Xiangmin Zhang, and Dongyuan Zhao (Fudan University, Shanghai, P. R. China)

P-014

**One-Pot Synthesis of Magnetically Separable Ordered Mesoporous Carbons**

Yunpu Zhai, Bo Tu and Dongyuan Zhao (Fudan University, Shanghai, P. R. China)

P-015

**An Aqueous Route to Synthesize Onion-like Vesicles with Silica-Polymer/Carbon Compositions**

Dong Gu, Zhangxiong Wu, Dan Feng, Yin Fang, Yonghui Deng, Bo Tu and Dongyuan Zhao (Fudan University, Shanghai, P. R. China)

P-016

**Synthesis and Property of Mesoporous Carbon and Silica-Carbon Thin Films**

Dan Feng, Lingyan Song, Dong Gu, Bryan D. Vogt and Dongyuan Zhao (Fudan University, Shanghai, P. R. China; Arizona State University, Tempe, Arizona)

P-017

**Hexane Isomerization over Hierarchical Pt/MFI Zeolite**

Pei-Hsiun Chao, Shang-Tien Tsai, Shu-Lang Chang, Ikai Wang and Tseng-Chang Tsai (National University of Kaohsiung, Kaohsiung, Taiwan; National Tsing-Hua University, Hsinchu, Taiwan)

P-018

**Stability of Carbonyl Complexes in Cu<sup>+</sup>K<sup>+</sup>-FER Zeolite**

Petr Nachtigall, Karel Frolich, Roman Bulanek (Institute of Organic Chemistry and Biochemistry, Prague, Czech Republic; University of Pardubice, Pardubice, Czech Republic)

P-019

**SBA-15 Immobilized Ruthenium Catalysts for Olefin Metathesis**

David Bek, Hynek Balcar, Naděžda Žilková, Jiří Čejka (Heyrovský Institute of Physical Chemistry, Academy of Science of the Czech Republic, Prague, Czech Republic)

P-020

**Isomerization of eugenol under ultrasound activation catalized by alkali modified mesoporous NbMCM-41**

V.Calvino-Casilda, E. Perez-Mayoral, I. Sobczak, M. Ziolk and R.M. Martín-Aranda (Universidad Nacional de Educación a Distancia, Madrid, Spain; Adam Mickiewicz University, Poznań, Poland)

P-021

**Asymmetric organo catalysis in confined space provided by l-proline functionalized mesoporous silica with plugs in the pore**

Eko Adi Prasetyanto, Sung-Min Jeong and Sang-Eon Park (Inha University, Incheon, Korea)

P-022

**Carbon Dioxide Activation over Nitrogen containing Organo-Functionalised Mesoporous Silica**

Mohd. Bismillah Ansari, Eko Adi Prasetyanto and Sang-Eon Park (Inha University, Incheon, Korea)

P-023

**Direct Synthesis of Plugged SBA-15 type Mesoporous Silica using Alcoholamines**

Byung-Hoon Min, Eko Adi Prasetyanto, Eun-Young Jeong, Sung-Min Jeong, Matthias Thommes and Sang-Eon Park (Inha University, Incheon, Korea; Quantachrome Corporation, Boynton Beach, FL, USA)

P-024

**The Effect of Chain Length and Zeolite Catalysts over Friedel-Crafts**

Hailian Jin, Josef Vlk, Martina Bejblova, Sang-Eon Park, Jiri Cejka (Inha University, Incheon, Korea; Heyrovský Institute of Physical Chemistry, Academy of Science of the Czech Republic, Prague, Czech Republic)

P-025

**Selective sulfoxidation of aryl sulfides by coordinatively unsaturated metal centers in chromium carboxylate MIL-101**

Young Kyu Hwang, Do-Young Hong, Jinheung Kim, and Jong-San Chang (Korea Research Institute of Chemical Technology, Daejeon, Korea; Ewha Womans University, Seoul Korea)

P-026

**ZSM-5 for the conversion of methanol-to-hydrocarbons**

Pablo Beato and Ton V. W. Janssens (Haldor Topsøe A/S, Denmark)

P-027

**Conversion of Vegetable Oils into Hydrocarbons over CoMo/MCM-41 catalysts**

David Kubicka, Martina Bejblova, Josef Vlk, Jiri Cejka (Research Institute of Inorganic Chemistry, Litvínov, Czech Republic; Heyrovský Institute of Physical Chemistry, Academy of Science of the Czech Republic, Prague, Czech Republic)

P-028

**In situ generation of dienophile for Diels-Alder reaction catalyzed by zeolite-Y**

G. Nagaiah, A. Chakradhara, and G. Venkatesham (Osmania University, Hyderabad, India; Inha University, Incheon, Korea)

P-029

**Formation of a Mold-Like Mesostructure on the Surface of Platelets of Hydrothermally Treated Surfactant/Layered Silicate Intercalation Compounds**

Shimon Osada, Yoshiyuki Kuroda, Nobuyuki Takahashi, and Kazuyuki Kuroda (Waseda University, Tokyo, Japan)

P-030

**Preparation of silica-based hollow nanoparticles by using a thermo-responsive diblock copolymer containing a cationic block**

Y. Aoyama, C. Urata, K. Kuroda (Waseda University, Tokyo, Japan)

P-031

**Surface observation of mesoporous silica films with unidirectional aligned mesochannels controlled by a cleaved mica surface**

Yosuke Kanno, Takashi Suzuki, Yuji Morioka and Kazuyuki Kuroda (Waseda University, Tokyo, Japan)

P-032

**Preparation and characterization of nanowires of Pt, Ag, and Au by vapor infiltration of a reducing agent using mesoporous silica**

Doi Yoji, Takai Azusa, Yamauchi Yusuke, Kuroda Kazuyuki (Waseda University, Tokyo, Japan; NIMS, Ibaraki, Japan)

P-033

**Preparation of silica-based nanomaterials from a vinylalkoxysilylated-derivative with a double-four-membered siloxane ring**

Yoshiaki Hagiwara, Atsushi Shimojima, and Kazuyuki Kuroda (Waseda University, Tokyo, Japan; The University of Tokyo, Tokyo, Japan)

P-034

**Adsorption application of biosolid adsorbent for air and wastewater pollution control**

Zeng, Li-Xuan, Chiang Hung-Lung (China Medical University, Taichung, Taiwan)

P-035

**Bimetallic Zeolite Catalyst for CO<sub>2</sub> Reforming of Methane**

P. Frontera, A. Aloise, A. Macario, P.L. Antonucci, F. Crea, G. Giordano, J. B. Nagy (Mediterranea University, Reggio Calabria; University of Calabria, Rende, Italy)

P-036

**Facile Synthesis of Magnetic Nanoparticles Containing Mesoporous Carbon**

Sung Soo Park, Dongyuan Zhao, and Chang-Sik Ha (Pusan National University, Busan, Korea; Fudan University, Shanghai, P. R. China)

P-037

**Synthesis and Characterization of Polyimide/Silica Hollow Spheres Composite Films**

Sang-Joon Lee, Sung Soo Park, and Chang-Sik Ha (Pusan National University, Busan, Korea)

P-038

**Adsorption of Amino Acid in Periodic Mesoporous Organosilica (PMO)**

JeongHun Shin, Sung Soo Park, Chang-Sik Ha (Pusan National University, Busan, Korea)

P-039

**Efficient ligand- and copper-free Sonogashira coupling reaction with Pd@MOF-5 as the catalyst**

Shuixia Gao, Nan Zhao, Mouhai Shu, and Shunai Che (Shanghai Jiao Tong University, Shanghai, P. R. China)

P-040

**Handedness Inversion in Chiral Mesoporous Silica**

Junjie Xie, Huibin Qiu and Shunai Che (Shanghai Jiao Tong University, Shanghai, P. R. China)