

PI: SYNTHESIS AND SELF-ASSEMBLY OF THIN FILMS

- PI-1 Investigation of the Nature of Adsorption of Porphyrin SAMs on TiO₂ and SiO₂ Surfaces**
Manuela S. Killiana, J.-F. Gnichwitzb, A. Hirschb, P. Schmukia and J. Kunzea
University of Erlangen-Nuremberg, Germany
- PI-2 Highly Stable Organic Monolayer for Reacting Si with Further Functionalities**
Sreenivasa Reddy Punireddi¹, Ossama Assad¹, Thomas Stelzner², Andreas Berger^{2,3}, Silke Christiansen^{2,3} and Hossam Haick¹
¹Technion Israel Institute of Technology, Israel, ²Institute of Photonic Technology, Germany, and ³Max-Planck-Institute of Microstructure Physics, Germany
- PI-3 Mechanisms Responsible for the Change in the Equilibrium Component Composition and Spatial Reorientation of the Molecular Components of Polymethine Dye Layers by Photo and Thermal Excitation**
Yuri M. Voronin, Elena N. Kaliteevskaya, Valentina P. Krutyakova, Tatyana K. Razumova and Anton A. Starovoytov
St. Petersburg State University of Information Technologies, Mechanics and Optics, Russia
- PI-4 Bacteriorhodopsin Thin Films Based on Langmuir-Blodgett Technique**
Vengadesh Periasamy
University of Malaya, Malaysia
- PI-5 Synthesis and Characterization of Self-Assembled Monolayers of N-[3-(Trimethoxysilyl)propyl]diethylenetriamine on Silica Particles**
Candace Chiu Ping Chan and Peter J. Majewski
University of South Australia, Australia
- PI-6 Preparation of Well-Controlled, Well-Ordered Titania Nanostructures Based on Block Copolymer Self-Assembly**
Seung-kyu Lee, Jin Wook Lee and Seung Hyun Kim
Inha University, Korea
- PI-7 Rapid Formation of Thick and Transparent Anodic TiO₂ Nanotubular Films from Sputtered Ti**
Haidong Zheng, Abu Sadek, David Yao, Michael Breedon and Kourosh Kalantar-Zadeh
RMIT University, Australia
- PI-8 High Temperature Anodized WO₃ Films**
Kourosh Kalantar-Zadeh, Abu Z. Sadek, Haidong Zheng, Michael Breedon, Suresh Bhargava, Kay Latham and Wojtek Wlodarski
RMIT University, Australia
- PI-9 The Growth of Zinc Oxide Thin Films by Aerosol Assisted Chemical Vapor Deposition**
Mathew R. Waugh and Ivan P. Parkin
University College London, UK
- PI-10 Synthesis of Nanoparticles Magnesium Doped Zinc Oxide for Waveguide Application**
Affa Rozana Abdul Rashid, H. Abdullah, N. P. Ariyanto, E. Abang Annuar and S. Shaari
Universiti Kebangsaan Malaysia, Malaysia
- PI-11 A Novel Approach to the Deposition of Nano and Sub-Micro Structured Thin Film Semiconductors**
Nillohit Mukherjee¹, Sanjib Kumar Bhar² and Anup Mondal¹
¹Bengal Engineering and Science University, India, and ²Vivekananda College, India
- PI-12 High Temperature Oxidation of Nano-Multilayered ZrAlSiN Thin Films in Air**
Sang-Hwan Bak, Jae-Ho Lee, Ju-Eun Kim, Chen Li, Thuan Dinh Nguyen and Dong-Bok Lee
Sungkyunkwan University, Korea
- PI-13 Microstructural and Antibacterial Properties of TaN/Cu Nanocomposite Thin Films Prepared by Pulsed DC Magnetron Sputtering**
T. Elangovan¹, P. Kuppasami, R.P. George², C. Sudha, E. Mohandas and D. Mangalaraj¹
¹Bharathiar University, India, and ²Indira Gandhi Centre for Atomic Research, India
- PI-14 Controlled Multilayer Molecular Assembly of Gold Nanoparticle-Polymer Composite Films Through Combination of Covalent and Electrostatic Binding**
Raju Kumar Gupta and M. P. Srinivasan
National University of Singapore, Singapore
- PI-15 Time Evolution Growth of Ag Nanolayers on Differently Passivated Si(001)**
Jayanta Kr. Bal and Satyajit Hazra
Saha Institute of Nuclear Physics, India
- PI-16 Effect of Saccharin Additive on the Microstructure of the Electrodeposited Fe**
Vahid Afshari and Changiz Dehghanian
University of Tehran, Iran
- PI-17 Investigation of Wear Behavior of Self-Assembled Monolayer Coatings on AFM Probes**
Cheng-Hsien Chen, Hao-Chih Liu and Wen-Dung Hsu
National Cheng Kung University, Taiwan

P2: SYNTHESIS AND SELF-ASSEMBLY OF NANOCRYSTALS/NANOPARTICLES

- P2-1 Production of Silver Nanoparticles by Environmentally Safe Chemical Method and Antimicrobial Effect**
Maryam Jokar, Russly Abd. Rahman, Nor Azowa Bt Ibrahim, Luqman Chuah Abdullah and Tan Chin Ping
Universiti Putra Malaysia, Malaysia
- P2-2 Preparation of Silica Core Silver Nanoshells by Laser Ablation Method**
Parvaneh Jafarkhani¹, Siamak Dadras¹, Mohammad Javad Torkamany¹, Jamshid Sabbaghzadeh¹ and Ata Koochian²
¹Laser Science and Technology National Laboratory, Iran, and ²Tehran University, Iran
- P2-3 Surface Plasmon Resonance Study of (Neutral, Negative, and Positive) Vesicle Rupture by Silver Nanoparticle**
Sun Hee Jee and Younghun Kim
Kwangwoon University, Seoul, Korea
- P2-4 Controlled Assembling Behaviors of Gold Colloids in the Absence and Presence of Template**
Ziyi Zhong, Hongting Lee and Jizhong Luo
Institute of Chemical and Engineering Sciences, Singapore
- P2-5 Shape Control of Copper Nanoparticles via Electrodeposition**
Wen-Yin Ko, Wei-Hung Chen and Kaun-Jiuh Lin
National Chung-Hsing University, Taiwan
- P2-6 Size and Shape Control of Water-Soluble Magnetic Cobalt Nanoparticle Synthesis**
Le T. Lu¹, Ian Robinson¹, Le D. Tung¹, Bien Tan¹, James Long², Andrew I. Cooper¹, David G. Fernig¹ and Nguyen T. K. Thanh^{1,3}
¹University of Liverpool, UK, ²Iota NanoSolutions Ltd, UK, and ³The Davy-Faraday Research Laboratory, The Royal Institution of Great Britain, UK
- P2-7 Single-Step Synthesis of Superparamagnetic Magnetite Nanoparticles for Biomedical Applications**
Dipak Maity, Jun Ding and Jun-Min Xue
National University of Singapore, Singapore
- P2-8 Enhancement of Thermal Conductivity of Water by Dispersing Monodisperse Magnetite Nanoparticles**
Yong J. Suh, Dae S. Kil and Hyo S. Lee
Korea Institute of Geoscience and Mineral Resources, Korea
- P2-9 Ultrasonic Synthesis of Fe₃O₄/SiO₂/Ag Particles and Its Application in Surface Enhanced Raman Scattering**
Baoliang Lv, Hong Tian and Yao Xu
State Key Laboratory of Coal Conversion, Institute of Coal Chemistry, Chinese Academy of Sciences, China
- P2-10 Electrochemical Synthesis of Needle Shaped Porous ZnO Nanostructures**
Bikash Kumar Jena and B. S. Acharya
Institute of Minerals and Materials Technology, India
- P2-11 Synthesis and Characterization of Nano Zinc Oxide Prepared by a Combustion Method**
Norlida Kamarulzaman¹, R. Rusdi¹, N. Kamarudin¹, L.W. Zainudin¹, N.A. Abd Rahman² and N. S. Mohamed²
¹Universiti Teknologi Mara, Malaysia, and ²University of Malaya, Malaysia
- P2-12 Facile Self-Assembly Synthesis of Alumina Nanofibers via Dry-Gel Conversion Route**
Shoucang Shen¹, Wai Kiong Ng¹, Leonard Chia¹ and Reginald B. H. Tan^{1,2}
¹Institute of Chemical and Engineering Sciences, Singapore, and ²National University of Singapore, Singapore
- P2-13 Effect of Stirring Time on the Synthesis of Ultrafine α -Al₂O₃ Powder by a Simple Sol-Gel Process**
Fatemeh Mirjalili¹, Hasmaliza Mohamad², Luqman Chuah¹, Roya Aghababazadeh³, Fokhrul Razi Ahmadun¹ and Dayang Biak¹
¹University Putra Malaysia, Malaysia, ²Universiti Sains Malaysia, Malaysia, and ³Institute for Colorants, Paint and Coatings, Iran
- P2-14 Preparation of Magnesium Aluminate Spinel Nanoparticles with Microwave-Assisted Solid State Reaction and Conventional Heating**
Leila Torkian¹, Mostafa M. Amini² and Zohreh Bahrami³
¹Islamic Azad University South Branch, Iran, ²Shahid Beheshti University, Iran, and ³Tarbiat Moallem University, Iran
- P2-15 Silica Coating of Nanoparticles by Sonogel Process**
Quan Chen¹, Chris Boothroyd², Gim Hong Tan¹, Nelvi Sutanto², Andrew McIntosh Soutar¹ and Xian Ting Zeng¹
¹Singapore Institute of Manufacturing Technology, Singapore, and ²Institute of Materials Research and Engineering, Singapore
- P2-16 Synthesis of Lead Dioxide Nanoparticles by Cyclic Voltammetry in the Presence of Sodium Dodecyl Sulfate**
Hassan Karami and Soror Saffari
Payam-e-Noor University, Iran
- P2-17 A Study on Optical Properties of *In Situ* Synthesized Amino Functionalized Nanosilica Particles**
Mohammad Jafarzadeh, Ismail Abdul Rahman and Coswald Stephen Sipaut
Universiti Sains Malaysia, Malaysia
- P2-18 Characteristics of Nano-LiNiO₂ Powders Substituted with Cobalt**
Roshidah Rusdi¹, Norlida Kamarulzaman¹, Azilah Abd Rahman², Hashlina Rusdi² and Norashikin Kamarudin¹
¹Universiti Teknologi Mara, Malaysia, and ²University of Malaya, Malaysia
- P2-19 Europium Doped CdS Nanorods**
N. K. Verma and Zinki Jindal
Thapar University, India

P2-20 Zinc Sulfide Manganese: Manganese Nanocrystals for 3D Photonic Crystals
Noor Azie Azura Mohd Arif, Mohammad Syuhaimi Ab-Rahman and Sahbudin Shaari
Universiti Kebangsaan Malaysia, Malaysia

MONDAY, AUGUST 3, 2009, 5:30PM TO 6:45PM
POSTER SESSION II

P3: FUNCTIONALIZATION AND SIZE-DEPENDENT PROPERTIES OF NANOCRYSTALS, QUANTUM DOTS AND NANOWIRES

- P3-1 New Versatile Molecules for Capping and Polymerization of Water Soluble Nanoparticles**
D. Jańczewski¹, N. Tomczak¹, M.Y. Han¹ and G.J. Vancso^{1,2}
¹Institute of Materials Research and Engineering, Singapore, and ²University of Twente, The Netherlands
- P3-2 Reversible Phase Transfer of CdSe/ZnS Quantum Dots Between Organic and Aqueous Solutions**
Nikodem Tomczak¹, Denis Dorokhin², Ming Yong Han¹, Aldrik Velders², David N. Reinhoudt² and G. Julius Vancso²
¹Institute of Materials Research and Engineering, Singapore, and ²University of Twente, The Netherlands
- P3-3 A Novel Quantum Dot Cellular Automata for Implementation of Multi-Valued Logic**
Mohammad A. Tehrani and Keivan Navi
Shahid Beheshti University, Iran
- P3-4 Synthesis of Ternary CdInSe Quantum Dots with Tunable Photoluminescence Properties**
Norhayati Abu Bakar, Vivi Fauzia, Akrajas Ali Umar, Muhamad Mat Salleh and Muhammad Yahaya
Universiti Kebangsaan Malaysia, Malaysia
- P3-5 Optical Properties of CdS Nanoparticles Embedded in PVA**
Sung Yong Ha, Dong Sun Yoo, Il Gon Kim, Jung Du Lee, Jae Young Jung and Moon Sik Choo
Changwon National University, Korea
- P3-6 Growth of Spherical and Tetrapod-Shaped CdSe Nanocrystals Doped with Cu**
Peter Tananaev, Sergey Dorofeev, Roman Vasiliev and Tatyana Kuznetsova
Moscow State University, Russia
- P3-7 Role of Defects in Tailoring the Properties of Manganese Doped ZnS Nanoparticles Annealed at Different Temperatures for Field Emission Device Applications**
S. Sasi Florence¹, Rita John² and R. M. Eugin Nirmala¹
¹Mother Teresa Women's University, India, and ²University of Madras, India
- P3-8 Growth and Optical Properties of Colloidal CdTe/CdSe and CdTe/CdS Nanoheterostructures Based on CdTe Tetrapods**
Roman B. Vasiliev, Dmitry N. Dirin, Maria S. Sokolikova and Alexander M. Gaskov
Lomonosov Moscow State University, Russia
- P3-9 Computational Study on Some CdSe Nanoparticles**
Hoda Iravanizade¹, Masoud Kavosh Tehrani² and Hassan Sabzyan³
¹Payam-e-Noor University, Iran, ²Malek-e-Ashtar University of Technology, Iran, and ³University of Isfahan, Iran
- P3-10 Electrosynthesis of Cadmium Sulfide Nanofibers by Pulsed Current Method**
Hassan Karami and Ahmad Kaboli
Payam-e-Noor University, Iran
- P3-11 Electrical Control of Exchange Interaction Between Electrons in Nanowire Double Quantum Dots**
A. Kwoeniowski and J. Adamowski
AGH - University of Science and Technology, Poland
- P3-12 Ultrafast Exciton Relaxation Dynamics in Silicon Quantum Dots**
Vincent Groenewegen, Anja Sommer and Carola Kryschi
Friedrich-Alexander University of Erlangen-Nuremberg, Germany
- P3-13 Surface Chemistry of Non-Oxidized, Molecule-Terminated Silicon Nanowires: Monolayer Formation, Kinetics and Oxidation Resistance**
Sreenivasa Reddy Punireddi¹, Muhammad Y. Bashouti¹, Ossama Assad¹, Yair Paska¹, Thomas Stelzner², Andreas Berger^{2,3}, Silke Christiansen^{2,3} and Hossam Haick¹
¹Technion Israel Institute of Technology, Israel, ²Institute of Photonic Technology e.V., Germany, and ³Max-Planck-Institute of Microstructure Physics, Germany
- P3-14 Chemical Functionalization of Silicon Nanowires - A Spectroscopic Study**
Clément Suspène, Caroline Celle and Jean-Pierre Simonato
CEA - Grenoble, France

- P3-15 Regularization Algorithm for Density-of-States Spectrum Deconvolution from Low-Temperature C(V) Dependencies**
Valeri Ligatchev and Sai Kong Chin
Institute of High-Performance Computing, Singapore
- P3-16 Supramolecular Approach to the Preparation of Discrete Functional Gold Nanoparticles**
Ken Cham-Fai Leung, Chun-Pong Chak and Shouhu Xuan
The Chinese University of Hong Kong, Hong Kong
- P3-17 Facile Loading of Single-Stranded DNA on Gold Nanoparticles with Conformational Control**
Yanbing Zu and Zhiqiang Gao
Institute of Bioengineering and Nanotechnology, Singapore
- P3-18 One-Step Rapid Synthesis of Ultrathin Single-Crystalline Gold Nanowires and Their Application in Surface-Enhanced Raman Scattering**
HuaJun Feng, Yanmei Yang and Bengang Xing
Nanyang Technological University, Singapore
- P3-19 Enzyme Immobilized in the Functional Porous Silica Coated Gold Nanorod Nanoparticle**
Kun-Che Kao, Yann Hung and Chung-Yuan Mou
National Taiwan University, Taiwan
- P3-20 Bio-Inspired Synthesis of Anisotropic Nanostructures of Au and Ag and Their Applications in SERS**
Bikash Kumar Jena
Institute of Minerals and Materials Technology, India
- P3-21 A Versatile Approach for Producing Water-Stable Magnetic Nanoparticles: Ligand Exchange**
Ian Robinson¹, Le D. Tung¹, David G. Fernig¹, Cameron Alexander² and Nguyen T. K. Thanh^{1,3}
¹University of Liverpool, UK, ²University of Nottingham, UK, and ³The Davy-Faraday Research Laboratory, The Royal Institution of Great Britain, UK
- P3-22 Coated Nanosized Iron Oxide for Magnetic Hyperthermia, and Its Application in the Denaturing of Harmful Cells and Bacteria**
Luanne A. Thomas and Ivan P. Parkin
University College London, UK
- P3-23 A Computational Study of Magnetic Nanoparticle Clustering**
Eldin Wee Chuan Lim
National University of Singapore, Singapore
- P3-24 Rapid, Catalyst-Free Synthesis of Zinc Oxide Nanostructures**
Joachim Pedersen and Kwok Siong Teh
San Francisco State University, USA
- P3-25 Evaluation of the Genotoxic Properties of Nanoparticulate and Bulk ZnO, Al₂O₃ in the Human Lung Cell Line A549**
Masoud Mashhadi Akbar Boojar, Mahnaz Azarnia and Ahmad Reza Katozian
Tarbiat Moalem University, Iran
- P3-26 The Magnetism of BiFeO₃ Powders**
Jiabao Yi and Jun Ding
National University of Singapore, Singapore
- P3-27 Dynamic Pathway Models for Nanosize Effects in Fast Ion Conductor Heterolayers**
Stefan Adams
National University of Singapore, Singapore
- P3-28 Effect of Nano Crystallite on Ionic Conductivity in Li_{1-x}Al_{0.4}M_{1.6}(PO₄)₃ (M=Ti, Ge) Solid Electrolytes**
R. Prasada Rao, Stefan Adams, M.V. Reddy and B.V.R. Chowdari
National University of Singapore, Singapore
- P3-29 Temperature Dependence of the Quantum Optical Transition Properties of GaN to the Nano Size Two Dimensional System**
Joung Young Sug, Ji-Ho Park, Jae-Hyun Kwon, Jun Yong Choi and Su Ho Lee
Kyungpook National University, Korea

P4: NANOSYSTEMS FOR SENSING, DIAGNOSTIC, IMAGING AND MAGNETIC APPLICATIONS

- P4-1 Colorimetric Bioassay for Sensing *Enterobacter cloacae* P99 β -Lactamase Activity and Inhibition Using Silver and Gold Nanoparticles**
Rongrong Liu, Wei Ling Teo and Bengang Xing
Nanyang Technological University, Singapore
- P4-2 Development of Novel Techniques for Ventilation Lung Scintigraphy Using Nano Ca-Disodium-EDTA DPI**
Neeraj Kumar¹, Gaurav Mittal¹, Thakuri Singh¹, Shaheen Sultana², Farhan Jalees Ahmed² and Aseem Bhatnagar¹
¹Institute of Nuclear Medicine and Allied Sciences, India, and ²Jamia Hamdard University, India
- P4-3 Rapidity Response Electrochemical Biosensors for Early Detection of Acute Respiratory Tract Infection Using Multi-Walled Carbon Nanotube**
Jun-Yong Lee, Eun Jin Park, Jun Hyup Kim and Nam Ki Min
Korea University, Korea

- P4-4 Nanoengineered Fluorescent Glucose Sensors: Effects of Reagent Encapsulation within Dissolved Core Alginate-Templated Microspheres**
 Ayesha Chaudhary¹, Monica Raina¹, Harri Harma², Pekka Hanninen², Michael J. McShane³ and Rohit Srivastava¹
¹Indian Institute of Technology Bombay, India, ²University of Turku, Finland, and ³Texas A & M University, USA
- P4-5 A Nanoporous Aerogel Biochip for Recognition of Immune Antigens**
 Yen Kuang Li¹, Den-Kai Yang¹, Yun-Chu Chen¹, Hung-Ju Su², Jui-Chuang Wu¹ and Yui Whei Chen-Yang¹
¹Chung Yuan Christian University, Taiwan, and ²Industrial Technology Research Institute, Taiwan
- P4-6 Simple Type Electrochemical DNA Sensor for Legionella Pneumophila Detection Based on Ferrocenyl-Oligonucleotide and Carbon Nanotube Electrode**
 Eun Jin Park, Jun-Young Lee, Joon-Hyung Jin and Nam Ki Min
 Korea University, Korea
- P4-7 Relationship between Mesostructure and Electrochemical Reactivity of Ordered Mesoporous Carbon as an Amperometric Sensor of Morphine**
 Xiangjie Bo, Jean Chrysostome Ndamanisha and Liping Guo
 Northeast Normal University, China
- P4-8 Hydrogen Gas Sensor Based on Highly Ordered Polyaniline/Multiwall Carbon Nanotubes Composite**
 Rashidah Arsat¹, X. He², P. Spizziri³, K. Kalantar-Zadeh¹ and W. Wlodarski¹
¹RMIT University, Australia, ²State Key Laboratory of Transducer Technology, Chinese Academy of Sciences, China, and ³University of Melbourne, Australia
- P4-9 Absorption Spectral Response of Electropolymerized Nanostructured Polyaniline Thin Films Towards NO₂**
 Rashidah Arsat¹, Mohd Hanif Yaacob¹, X. He², W. Wlodarski¹ and K. Kalantar-Zadeh¹
¹RMIT University, Australia, and ²State Key Laboratory of Transducer Technology, Chinese Academy of Sciences, China
- P4-10 Hydrogen Sensing Properties of a Pt/Nanostructured MoO₃/SiC Schottky Diode**
 Jerry Yu, Michael Breedon, Mahnaz Shafiei, Wojtek Wlodarski and Kourosh Kalantar-Zadeh
 RMIT University, Australia
- P4-11 Relationship Between Formaldehyde Gas Sensing Property and the Nanostructures of ZnO Prepared by CVD**
 Dangwen Zhang, Ning Han, Yajun Tian and Yunfa Chen
 State Key Laboratory of Multi-Phase Complex Systems, Institute of Process Engineering, Chinese Academy of Sciences, China
- P4-12 Reverse Biased Pt/Nanostructured ZnO Schottky Junction Based NO₂ Gas Sensors**
 Mahnaz Shafiei, Michael Breedon, Jerry Yu, Kourosh Kalantar-Zadeh and Wojtek Wlodarski
 RMIT University, Australia
- P4-13 Highly Stable and Pressure Sensitive Tip-to-Tip Field Emission Characteristics of Hydrothermally Grown ZnO Nanowires**
 Wen-I Hsu, Shui-Jinn Wang, Chih-Ren Tseng, Wei-Chih Tsai and Rong-Ming Ko
 National Cheng Kung University, Taiwan
- P4-14 Preparation and Optoelectronic Properties of One-Dimensional Hydrothermally Grown ZnO Nanowires/p-GaN Nano Heterojunction Structures**
 Wei-Chih Tsai¹, Shui-Jinn Wang¹, Chih-Ren Tseng¹, Wen-I Hsu¹, Rong-Ming Ko¹, Jia-Chuan Lin², Kai-Ming Uang³ and Tron-Min Chen³
¹National Cheng Kung University, Taiwan, ²St. John's University, Taiwan, and ³Wu Feng University, Taiwan
- P4-15 Electrocatalytic Characteristic of Nanoparticles/Aspartic Acid Nanohybrid Modified Electrode in Development of Biosensor for Determination of Pb(II)**
 Nor Azah Yusof, Zareena Mohd Saat, Tan Wee Tee and Abdul Halim Abdullah
 Universiti Putra Malaysia, Malaysia
- P4-16 Investigation of Gasochromic Response Observed for Pd/WO₃ Nanotextured Thin Films Exposed to H₂**
 Mohd Hanif Yaacob, Michael Breedon, Guy Gangemi, Wojtek Wlodarski and Kourosh Kalantar-Zadeh
 RMIT University, Australia
- P4-17 Electrical Bistable Organic-Inorganic Hybrid Core-Shell Nanoparticles: Synthesis and Characterizations**
 Bikas C. Das and Amlan J. Pal
 Indian Association for the Cultivation of Science, India
- P4-18 Nanofabrication of Electrochemical Transducer Using New Observed Phenomena During Anodization**
 Radim Hrdy, Marina Vorozhtsova, Jana Drbohlavova and Jaromir Hubalek
 Brno University of Technology, Czech Republic
- P4-19 Development of a Nanostructural AFM Probe for Propagating Microwave Signals**
 Atsushi Hosoi, Motohiro Hamada, Akifumi Fujimoto and Yang Ju
 Nagoya University, Japan
- P4-20 Large-Area Sub-Micron Structure Fabrication by Laser Irradiation through Micro-Lens Array**
 M. Tang¹, M. C. Lum², M. H. Hong¹ and Y. S. Choo¹
¹National University of Singapore, Singapore, and ²Experimental Therapeutics Center, Singapore
- P4-21 Defected Nanostructure Removed from Display Surface by a Non-Contact Positive Electrode Design**
 P. S. Pa
 National Taipei University of Education, Taiwan

P4-22 Alcohol and Gas Sensors Based on Nanoporous Silicon

Jia-Chuan Lin¹, Shui-Jinn Wang² and Wei-Chih Tsai²
¹St. John's University, Taiwan, and ²National Cheng Kung University, Taiwan

P4-23 Residual Layer Self-Removal in Nanoimprint Lithography

Jarrett Dumond and Low Hong Yee
Institute of Materials Research and Engineering, Singapore

P4-24 Nanoholes-Array Surface Plasmon Biosensor on Polymer Substrate Using Micro-Stamping

Kwok Wei Shah, Ahmad Nazri and X. D. Su
Institute of Materials Research and Engineering, Singapore

P4-25 Focused Ion Beam Techniques for Prototyping an Extraordinary Hall-Effect Sensor

Josef Kiermaier, M. Becherer, R. Emling, W. Kraus, G. Csaba and D. Schmitt-Landsiedel
Technical University Munich, Germany

P4-26 Easy and Inexpensive Fabrication of a Nanofluidic Channel with a Built-In Valve Mechanism Using a Biological Nanotube

Karsten B. Andersen, Casper H. Clausen, Jaime Castillo and Winnie E. Svendsen
Technical University of Denmark, Denmark

P4-27 Tracking Cell-Related Molecular Events Using Quantum Dots

Hai-Yan Xie, Jing Zhang, Ping-Cui Wang and Rui Zhen
Beijing Institute of Technology, China

P4-28 Water Soluble Fluorescent Polymeric Nanoparticles and Their Application in Bioimaging

Xu Li¹, Zhi Kuan Chen¹, Khine Yi Mya¹, Bei Ping He², Lv Li² and Zhao Hui Li²
¹Institute of Materials Research and Engineering, Singapore, and ²National University of Singapore, Singapore

P4-29 High-Speed and Efficient Metal-Semiconductor-Metal Nanostructures

Stephane Collin¹, Fabrice Pardo¹, Stanislav Averin², Nathalie Bardou¹ and Jean-Luc Pelouard¹
¹Laboratoire de Photonique et de Nanostructures CNRS, France, and ²Institute of Radioengineering and Electronics, Russian Academy of Sciences, Russia

**TUESDAY, AUGUST 4, 2009, 12:00PM TO 1:15PM
POSTER SESSION III**

P5: PROCESSING AND TEMPLATING OF NANOTUBES AND NANOPOROUS MATERIALS

P5-1 Investigation of Adsorption of Diazinon and Fenitothion on MCM-41 and MCM-48 Mesoporous Silicas

Mahsa Armaghan and Mostafa M. Amini
Shahid Beheshti University, Iran

P5-2 Sol-Gel Derived Multi-Functional Mesoporous TiO₂ Bioactive Coating

Yen-Po Chang, Chih-Shin Chao, Dean-Mo Liu and San-Yuan Chen
National Chiao Tung University, Taiwan

P5-3 A Novel Microemulsion-Based Synthesis of Hollow Silica Nanoparticles

Chih-Ta Tseng, Si-Han Wu, Yu-Shen Lin, Yann Hung and Chung-Yuan Mou
National Taiwan University, Taiwan

P5-4 Confining Sol-Gel Chemistry in Small Droplets: Preparation of Porous Metal Oxide Nanoparticles in Miniemulsion

Renate Schiller¹, Clemens K. Weiss¹ and Katharina Landfester^{1,2}
¹Max-Planck-Institute for Polymer Research, Germany, and ²University of Ulm, Germany

P5-5 Self-Assembled Functionalized Periodic Mesostructured Organosilica Materials

M. Abdul Wahab and He Chaobin
Institute of Materials Research and Engineering, Singapore

P5-6 Hierarchically Macro/Mesoporous Silica Monoliths Constructed with Interconnecting Micrometer-Sized Unit Rods

Zi-Le Hua, Jian Hua Gao, Wen-Bo Bu, Ling-Xia Zhang and Jian-Lin Shi
State Key Lab of High Performance Ceramics and Superfine Microstructures, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

P5-7 Effect of Acid Leaching on Functionalized Mesoporous Materials

Massey de los Reyes^{1,2} and Peter Majewski²
¹Institute of Materials Engineering, Australian Nuclear Science and Technology Organization, Australia, and ²University of South Australia, Australia

P5-8 Effect of Ultrasound and Poly(vinyl Alcohol) on the Synthesis of Silica-Pillared Clay by Gallery-Template Process

Quan Chen, Kerk Wai Tata, Andrew M. Soutara and Xian Ting Zeng
Singapore Institute of Manufacturing Technology, Singapore

- P5-9 Synthesis of Uniform Hollow Oxide Nanoparticles Through Nanoscale Acid Etching**
Kwangjin An, Soon Gu Kwon, Mihyun Park, Hyon Bin Na and Taeghwan Hyeon
Seoul National University, Korea
- P5-10 The Effect of First Step Anodization in Ordering of Porous Anodic Alumina**
Kwang Hong Lee and Chee Cheong Wong
Nanyang Technological University, Singapore
- P5-11 Advanced Interpore Distance Expansion of a Self-Ordered Porous Alumina Membrane by Low Temperature High Voltage Anodization**
Honggue Shin¹, Yongmin Park¹, Jongphil Choi¹, Nampyo Hong¹, Youngho Seo¹, Byeonghee Kim¹ and Young Hyu Choi²
¹Kangwon National University, Korea, and ²Changwon National University, Korea
- P5-12 Nanoporous Alumina Membranes with Different Internal and External Chemical Functionalities**
Abdul Mutalib Md Jani¹, Leonora Velleman¹, Dusan Losic², Joe G. Shapter¹ and Nicolas H. Voelcker¹
¹Flinders University, Australia, and ²University of South Australia, Australia
- P5-13 Chemical Bath Deposition of Zinc Carbonate Hydroxide Nanoparticle and Conversion into Zinc Oxide Porous Structure**
Nugroho Pratomo Ariyanto¹, Brian Yulianto², Junaidi Syarif¹, Sahbudin Shaari¹ and Huda Abdullah¹
¹Universiti Kebangsaan Malaysia, Malaysia, and ²Bandung Institute of Technology, Indonesia
- P5-14 Fabrication and Catalytic Applications of Multi-Layer Netlike Cerium Phosphate Nanotubes**
Xusheng Wu and Sibudjing Kawi
National University of Singapore, Singapore
- P5-15 Water Permeation through Alpha Hemolysin Nanopore**
Jirasak Wong-ekkkabut and Mikko Karttunen
The University of Western Ontario, Canada
- P5-16 Coatings of Nanoporous Carbons for Novel Hierarchically Catalyst Supports**
Friedrich Glenk and Bastian Etzold
Universität Erlangen-Nürnberg, Germany
- P5-17 CVD Vis-à-Vis Water Assisted Growth of Multiwalled Carbon Nanotubes**
Malti Bansal¹, C. Lal², Ritu Srivastava², M. N. Kamalasanan² and L. S. Tanwar¹
¹Netaji Subhas Institute of Technology, India, and ²National Physical Laboratory, India
- P5-18 Optimization of the Process Parameters on the Production of MWCNTs and Its Potential Application in Protein Purification**
Mubarak N. M.¹, Faridah Y.¹, Alkhatib M. F.¹, Muataz A. A.², Qudsieh I. Y.³, Mohammed A. Al Saadi¹ and Khalid M. ¹
¹IUM, Malaysia, ²King Fahd University of Petroleum and Minerals, and ³Jazan University, Saudi Arabia
- P5-19 Surface Modification of Carbon Nanotubes with PSPM Brushes and Doping with CdS Quantum Dots**
Irantzu Llarena¹, G. Romero¹, R. F. Ziolo² and S. E. Moya¹
¹CICbiomaGUNE, Spain, and ²CIQA, Mexico
- P5-20 Design Routes to Graphene: Mother of All Carbon Based Nanostructures**
Malti Bansal¹, C. Lal², Ritu Srivastava², M. N. Kamalasanan² and L. S. Tanwar¹
¹Netaji Subhas Institute of Technology, India, and ²National Physical Laboratory, India
- P5-21 Surface Electrical Resistivity of Graphite-Polyurethane and Multiwall Nanotube-Polyurethane Composites: Experiments and Modeling**
Ganesh K. Kannarpady and Abhijit Bhattacharyya
University of Arkansas at Little Rock, USA
- P5-22 Effective Growth of Boron Nitride Nanotubes by Thermal Chemical Vapor Deposition**
Chee Huei Lee, Ming Xie, Jiasheng Wang and Yoke Khin Yap
Michigan Technological University, USA
- P5-23 Boron Nitride Nanotubes as Boron Carriers in Boron Neutron Capture Therapy**
Gianni Ciofani¹, Vittoria Raffa¹, Arianna Menciassi^{1,2}, and Alfred Cuschieri¹
¹Scuola Superiore Sant'Anna, Italy, and ²Italian Institute of Technology, Italy

P6: TAILORING OF POLYMERIC NANOPARTICLES, ORGANIC-INORGANIC NANOCOMPOSITES AND BIOHYBRIDS

- P6-1 Probing the Self-Assembly Mechanism of E2 Core Protein**
Tao Peng, Sze Wah Tan, Ratna Ekawati Dharmawan, Samuel Teow Tiong Tay and Sierin Lim
Nanyang Technological University, Singapore
- P6-2 Subunit Assembly of Mutant Ferritin from the Hyperthermophilic Archaeon *Archaeoglobus Fulgidus***
Barindra Sana¹, Eric Johnson² and Sierin Lim¹
¹Nanyang Technological University, Singapore, and ²California Institute of Technology, USA
- P6-3 Controlled Manipulation and Immobilization of Self-Assembled Nano Spheres by Dielectrophoresis**
Jaime Castillo, Nicolaj Christiansen and Winnie Edith Svendsen
Technical University of Denmark, Denmark

- P6-4 Preparation and Characterization of Nano/Microcrystalline Cellulose Particles from Different Agro Sources**
Dipa Ray¹, Kunal Das² and N. R. Bandyopadhyay²
¹University of Calcutta, India, and ²Bengal Engineering and Science University, India
- P6-5 Encapsulations of Eicosapentaenoic Acid-Contained Nanoemulsions with Maltodextrin Shell**
Jin Kim, Doo-Bock Kim, Kyong-Hwan Chung and Ki-Young Lee
Chonnam National University, Korea
- P6-6 New Nanomaterials Based on Complexes of G4-DNA with Intercalators**
Irit Lubitz and Alexander Kotlyar
Tel Aviv University, Israel
- P6-7 Study of Order-Disorder Phase Transformation Behavior of Triacylglycerols and Its Influence on Nano-Mechanics**
Hong-Wei Chen¹, Jia-Yuan Huang¹, Wen-Dung Hsu¹ and Angela Violi²
¹National Cheng Kung University, Taiwan, and ²University of Michigan, USA
- P6-8 Tailoring of Size and Properties of Natural Hydrogel Polymeric Nanoparticles by Alteration of Cross-Linking**
Isha Mutreja¹, Amit K. Dinda² and Susmita Mitra¹
¹Amity University, India, and ²All India Institute of Medical Sciences, India
- P6-9 Physical Characteristics of Nifedipine-Loaded Biodegradable PLGA Nanospheres Prepared by Solvent Displacement Method**
Suhaili Zainal Abidin, Javad Sameni, Tommy Julianto and Abu Bakar Abdul Majeed
Universiti Teknologi Mara, Malaysia
- P6-10 Sucrose Esters as Alternative Surfactants for Preparation of PLGA Nanoparticles**
Javad K. Sameni, T. Julianto and A. B. A. Majeed
Universiti Teknologi Mara, Malaysia
- P6-11 Synthesis and Characterization of Poly (Butylene Pimelate) and Poly (Butylene Sebacate) Microspheres and Nanofibers for Biomedical Applications**
Sakthivel Gandhi and Uma Maheswari Krishnan
Sastra University, India
- P6-12 Formation and Characterization of Microemulsions Containing Polymeric Silicone**
Suraj Chandra Sharma¹, Koji Tsuchiya¹, Kenichi Sakai¹, Hideki Sakai¹, Masahiko Abe¹ and Reiji Miyahara²
¹Tokyo University of Science, Japan, and ²Shiseido Research Center, Yokohama, Japan
- P6-13 PPSM Polymer Brush, Synthesis and Mechanical Characterization**
Irantzu Llarena, S. E. Moya and J. J. Iturri Ramos
CICbiomaGUNE, Spain
- P6-14 Organic/Inorganic Hybrids Templated by Block Copolymer Nanostructures**
Ae-jung Jang, Su Yeon Choi, Chansub Lee and Seung Hyun Kim
Inha University, Korea
- P6-15 Synthesis and Self-Assembly of PEG-b-PPFS-graft-POSS Amphiphilic Hybrid Copolymers**
Hazrat Hussain¹, B. H. Tan¹, K. Y. Mya¹, Liu Ye¹, C. B. He¹ and Thomas P. Davis^{1,2}
¹ Institute of Materials Research and Engineering, Singapore, and ² University of New South Wales, Australia
- P6-16 Synthesis and Self-Assembly of Fluorinated Amphiphilic Block Copolymers**
Maureen B. H. Tan¹, Hazrat Hussain¹, Chakravarthy S. Gudipati¹, Ye Liu¹, Chao Bin He¹, Thomas P. Davis²
¹Institute of Materials Research and Engineering, Singapore, and ²University of New South Wales, Australia
- P6-17 Development of Amine Functionalized Amphiphilic PLGA-PEG Copolymer for Nanoparticles**
Chia-Wen Liu^{1,2} and Wen-Jen Lin¹
¹National Taiwan University, Taiwan, and ²Industrial Technological Research Institute, Taiwan
- P6-18 Phase and Rheological Behavior of Mixed Nonionic Surfactants in Aqueous Solution**
Suraj Chandra Sharma, Kenichi Sakai, Hideki Sakai and Masahiko Abe
Tokyo University of Science, Japan
- P6-19 Nano Particle Generation for Pharmaceutical Applications by Supercritical Fluid Processing**
Fatemeh Zabihi¹, A. A. Seyf-kordi², A. Vaziri¹ and M. Otady¹
¹Islamic Azad University, Iran and ²Sharif University of Technology
- P6-20 Growth of Copper Phthalocyanine Rods onto the Au Plasmon Electrodes Through Micelle Disruption Methods**
Wei-Hung Chen, Wen-Yin Ko, Ying-Shiou Chen and Kuan-Jiuh Lin
Chung-Hsing University, Taiwan
- P6-21 Synthesis of Hydrophobic Dye-Doped Variable Core-Shell Nanoparticles Using Organosilane Precursors**
Dhiraj Kumar¹, Amit K. Dinda² and Susmita Mitra¹
¹Amity University Uttar Pradesh, India, and ²All India Institute of Medical Sciences, India
- P6-22 Stiffness and Fracture Mechanisms of High Performance Epoxy - Tapanuli Layered Silicate Nanocomposites**
Ariadne L. Juwono¹, R. Sihombing¹, Sutarno², H. Subawi² and N. Chitraningrum¹
¹University of Indonesia, Indonesia, and ²Indonesian Aerospace Ltd, Indonesia

P6-23 Preparation and Morphological Study of Epoxy/Silane Modified Nanoclay Nanocomposites

M. Khoeini¹, S. Bazgir¹, M. Tamizifar², A. Nemat³ and K. Arzani¹

¹Islamic Azad University, ²Iran University of Science and Technology, Iran, and ³Sharif University of Technology, Iran

P6-24 Investigation of Mechanical and Thermal Behavior of α -Alumina/Polypropylene Nanocomposite

Fatemeh Mirjalili¹, Luqman Chuah¹, Hasmaliza Mohamad², Roya Aghababazadeh³, Dayang Biak¹, and Fukhrul Razi Ahmadun¹

¹Universiti Putra Malaysia, Malaysia, ²Universiti Sains Malaysia, Malaysia, and ³Institute for Colorants, Paint and Coatings, Iran

P6-25 Polyaniline/ ZnFe₂O₄ Nanocomposites: Preparation, Characterization and Tailoring the DC Electrical Conductivity

Prasanna Gunderi Dhananjaya¹, H. S. Jayanna¹ and V. B. Prasad²

¹Kuvempu University, India, and ²Indian Institute of Science, India

P6-26 Structural and Optical Properties of Functional Hybrid Composites Based on TiO₂ Nanostructures and Metal Phthalocyanine

Wisanu Pecharapa and Wanichaya Mekprasart

King Mongkut's Institute of Technology Ladkrabang, Thailand

P6-27 The Influence of Hydrophobic Magnetic Nanoparticle-Inclusion Shell on Microbubbles Contrast Agent

Fang Yang, Yixin Li and Ning Gu

Southeast University, China

P7: DESIGN AND ENGINEERING OF STRUCTURAL AND FUNCTIONAL NANOMATERIALS

P7-1 Advances in Radiation-Engineered Nanomaterials and the Role of the IAEA

Agnes Safrany, Maria Helena De Oliveira Sampa, Mohammad Haji-Saeid and Natesan Ramamoorthy

International Atomic Energy Agency, Austria

P7-2 The Temperature and pH-Responsive Nanocarbon-Polymer Composite Microgels for Obtaining Functional Textile Material

Audrey Tourrette, Marijn M.C.G. Warmoeskerken and Dragan Jovic

University of Twente, The Netherlands

P7-3 Improving Barrier Properties of PET/PA Polymer Nanocomposites for Packaging Applications

Michele Modesti, Stefano Donadi, Stefano Besco, Martina Roso and Alessandra Lorenzetti

University of Padova, Italy

P7-4 Understanding Shape Memory Effect of Ni-Ti Alloy by Nano-Indentation Study

Arijit Sinha, Shubhabrata Datta and Partha Pratim Chattopadhyay

Bengal Engineering and Science University, India

P7-5 Superhydrophobicity of Boron Nitride Nanotubes Grown on Silicon Substrates

Chee Huei Lee, Jaroslaw Drelich and Yoke Khin Yap

Michigan Technological University, USA

WEDNESDAY, AUGUST 5, 2009, 12:15PM TO 1:30PM
POSTER SESSION IV

P8: NANOSYSTEMS FOR BIOLOGICAL AND MEDICAL APPLICATIONS

P8-1 Medicinal Application of Colloidal Gold Nanoparticles

Abhimanyu K. Singh, A. K. Rai, Prashant K. Rai and Geeta Watal

University of Allahabad, India

P8-2 Phototoxic Effect of Functionalized Biological Nanotubes on Cells Infected with Leishmaniasis

Jaime Castillo¹, John Castillo², Patricia Escobar², Fernando Martinez², Edgar Paez² and Winnie Edith Svendsen¹

¹Technical University of Denmark, Denmark, and ²Industrial University of Santander, Colombia

P8-3 Hydrophilic 10-Hydroxycamptothecin Nanocrystallites for Targeting Therapy of Liver Carcinoma

Wei Wei, Zhan-Guo Yue and Guang-Hui Ma

National Key Laboratory of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences, China

- P8-4 Nanoparticles and Cancer Therapy: An In-Depth Analysis of Various Nanoparticles That Can Be Utilized for Therapy with Emphasis on Dendrimers as the Most Potential Therapeutic**
Sri Harsha M., Sri Anusha M., Shreena V. and Shravanthi B.
Rajalakshmi Engineering College, India
- P8-5 Cancer Crusade - Use of Nano-Targeted Delivery of CaMK II in Specific Lung Epithelial Cells**
Sri Harsha M. and Raghuvaran N.
Rajalakshmi Engineering College, India
- P8-6 Studies of Nano Calcium Di Sodium EDTA Dry Powder Inhalation (DPI) for Heavy Metal Poisoning**
Neeraj Kumar¹, Gaurav Mittal¹, Thakuri Singh¹, Farahan J. Ahemad² and Aseem Bhatnagar¹
¹Institute of Nuclear Medicine and Allied Sciences, India, and ²Jamia Hamdard (Hamdard University), India
- P8-7 Clinical Studies for Estimating the Effect of Nanosized Lactose on Deposition Pattern of Micronized Salbutamol Sulphate Dry Powder Inhalation**
Bhavna¹, Gaurav Mittal², Farhan Jalees Ahmad¹, Roop K. Khar¹ and Aseem Bhatnagar²
¹Jamia Hamdard, India, and ²Institute of Nuclear Medicine and Allied Sciences, India
- P8-8 Comparative Study of Intranasal and Intravenous Administration of Radiolabeled Nanoparticulate Formulation of Cholinesterase Inhibitor in the Rat Model for Existence of Shortest Route to Target the Drug in Neurodegenerative Disorders**
Bhavna¹, Mushir Ali¹, Aseem Bhatnagar² and Javed Ali¹
¹Jamia Hamdard, India, and ²Institute of Nuclear Medicine and Allied Sciences, India
- P8-9 Controlled Release Polymeric Ocular Delivery of Acyclovir**
Anup Naha, Praful B. Deshpande, Gopal V. Shavi, M. Sreenivasa Reddy, Ranjith A. K., Karthik A., Udupa N. and Koteswara K. B.
Manipal University, India
- P8-10 Polyethyleneimine Coated Mesoporous Silica Nanoparticles (MSN@PEI) for siRNA Delivery**
Si-Han Wu, Yann Hung, and Chung-Yuan Mou
National Taiwan University, Taiwan
- P8-11 In Vitro Study of Functionalized Near-Infrared Mesoporous Silica Nanoparticles for Cancer Targeting Delivery**
Shih-Hsun Cheng¹, Meng-Chi Chen¹, Chia-Hung Lee¹, Chung-Shi Yang¹, Fan-Gang Tseng², Chung-Yuan Mou³ and Leu-Wei Lo¹
¹National Health Research Institutes, Taiwan, ²National Tsing Hua University, Taiwan, and ³National Taiwan University, Taiwan
- P8-12 Microcapsule Carbon Nanotube Devices for Targeted Delivery**
Arun Kulamarva, Jasmine Bhatena, Arghya Paul, Meenakshi Malhotra and Satya Prakash
McGill University, Canada
- P8-13 Biocompatible Smart Nanocontainer for the Delivery of Bioactive Agents**
Yong J. Suh¹, Dae S. Kil¹, Kang S. Chung¹, Elshad Abdullayev² and Yuri M. Lvov²
¹Korea Institute of Geoscience and Mineral Resources, Korea, and ²Louisiana Tech University, USA
- P8-14 Design and Synthesis of Self-Assembled Galactosylated Amphiphilic Oligopeptide Nanoparticles for Targeted Co-Delivery of P53 and Doxorubicin**
Nikken Wiradharma^{1,2}, Yen Wah Tong² and Yi-Yan Yang¹
¹Institute of Bioengineering and Nanotechnology, Singapore, and ²National University of Singapore, Singapore
- P8-15 Nanoparticles of Lactobionic Acid Grafted PEG-Chitosan and Docking Simulation for Asialoglycoprotein Receptor**
Wen Jen Lin, Tze Dan Chen and Jung Hsin Lin
National Taiwan University, Taiwan
- P8-16 Transferrin Appended Long Circulating Nanoparticles for Brain Tumor Targeting**
Aviral Jain and S. K. Jain
Dr H S G University, India
- P8-17 In Vitro and In Vivo Evaluation of Antibiotic Delivery Facilitated by Cholesterol-Terminated PEG(Mw=3k)-TAT Micelle Targeted to Brain**
Lihong Liu¹, Kun Guo², Jia Lu^{2,3}, Beiping He², Yi-Yan Yang¹ and Shabbir Moochhala³
¹Institute of Bioengineering and Nanotechnology, Singapore, ²National University of Singapore, Singapore and ³DSO National Laboratory, Singapore
- P8-18 Targeted Novel Nanoparticles for the Interferon Delivery for Treatment of Hepatitis B**
Priti Tomar, Namita Giri and Vinod Kumar Dixit
Dr H. S. Gour University Sagar, India
- P8-19 Preparation of Nanoparticles Composed of Poly(ϵ -caprolactone) and Poly(Ethyl Ethylene Phosphate) Four-Arm Block Copolymers for Doxorubicin Delivery**
Nguyen Van Cuong, Yung-Tsung Chen and Ming-Fa Hsieh
Chung Yuan Christian University, Taiwan
- P8-20 Polymer-Nanoparticle Composite with Antibacterial Property**
Xiao Li Jiang, X. F. Zhou, Y. Zhang and N. Gu
Jiangsu Laboratory for Biomaterials and Devices, State Key Laboratory of Bioelectronics, Southeast University, China
- P8-21 Entrapment of Hydrophobic Drugs in Magnetic-Sensitive Nanocarriers with Well-Controlled and Efficient Release into Cancer Cells**
Wei-Lin Tung, Shang-Hsiu Hu, Dean-Mo Liu and San-Yuan Chen
National Chiao Tung University, Taiwan

- P8-22 Development and Characterization of Biocompatible Nanostructured Lipid Carrier: *In Vivo* Sun Protection Study**
Arvind Gulbake, Aviral Jian, Pius Khare, Satish Shilpi and S. K. Jain
Dr H. S. Gour University Sagar, India
- P8-23 Hierarchical Hollow CaCO₃ Particles as Anticancer Drug Carrier**
Wei Wei and Guang-Hui Ma
National Key Laboratory of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences, China
- P8-24 Preparation and Evaluation of Layered Double Hydroxides as Low Molecular Weight Heparin Carriers**
Zi Gu, Zhi Ping Xu, Anita Thomas, Julie Campbell and Gao Qing Lu
Australian Institute of Bioengineering and Nanotechnology, The University of Queensland, Australia
- P8-25 Nanosystem for Minimizing Bioavailability Variations of Ezetimibe - Formulation Development and Evaluation**
Vikas Bali, Mushir Ali and Javed Ali
Jamia Hamdard, India
- P8-26 Characterize the Growth Morphology of Embryonic Stem Cell's Colonies with Vertical Scanning Interferometer**
Chong Wee Keat¹, Li Xiang¹, Zhao Li¹, Allen Chen², Steve Oh² and Andre Choo²
¹Singapore Institute of Manufacturing Technology, Singapore, and ²Bioprocessing Technology Institute, Singapore
- P8-27 Nacre-Like Film for Bone-Regeneration Engineering**
Fangfang Sun, Jaebeom Lee, Kwangnak Koh, Dong-Wook Han, Byung-Ki Lim and Su-Chak Ryu
Pusan National University, Korea
- P8-28 Enhanced Cell Growth on Nanopatterned Zeolite L Monolayers**
Matthias Otter and Luisa De Cola
Westfaelische Wilhelms-Universitaet, Germany
- P8-29 Microfabricated Silicon Carbide Membrane as Cell Culture Platform**
Bangtao Chen and Ciprian Iliescu
Institute of Bioengineering and Nanotechnology, Singapore
- P8-30 Single Molecule Evidence of Molecular Motion in Nanochannels**
Ilaria De Santo, Filippo Causa and Paolo A. Netti
University of Naples Federico II, Italy
- P8-31 Multiscale Computational Approach of Molecular Motion in Nanochannels**
Maria Silvia Paneni^{1,2}, Paola Posocco², Iliaria De Santo¹, Filippo Causa³, Paolo A. Netti¹ and Sabrina Pricl²
¹Interdisciplinary Research Centre on Biomaterials, Italy, ²University of Trieste, Italy, and ³ University of Magna Graecia, Italy
- P8-32 An Efficient Novel Hybrid Molecular Dynamics Simulation of Nanobio Channels: An Improvement in the Detection of Cell Tribulation and Drug Delivery Systems**
Negin Maftouni and Farshad Kowsary
University of Tehran, Iran

P9: NANOSYSTEMS FOR CHEMICAL AND CATALYTIC APPLICATIONS

- P9-1 Electrocatalytic Oxidation by Coral-Like Porous Gold**
Hero Kim and Younghun Kim
Kwangwoon University, Korea
- P9-2 Newly Self-Assembled Monolayer of Cobalt Porphyrin-Modified Gold Electrodes with High Electrocatalysis of 2-Mercaptoethanol Oxidation**
Yi-Chi Pao, Ssu-Ching Wang and Shu-Hua Cheng
National Chi Nan University, Taiwan
- P9-3 Hydroxo-Bridged Dinuclear Cupric Complexes Encapsulated in Various Mesoporous Silica to Mimic the Catalytic Activity of Catechol Oxidases**
Chia-Hung Lee¹, Han-Chou Lin¹, Tien-Sung Lin² and Chung-Yuan Mou¹
¹National Taiwan University, Taiwan, and ²Washington University, USA
- P9-4 Photocatalytic Degredation of Methylene Blue in Water by Nanocomposite of Ag/TiO₂ and Nanocrystalline TiO₂**
Leila Torkian¹, Mostafa M. Amini² and Ehsan Amereh³
¹Islamic Azad University, Iran, ²Shahid Beheshti University, Iran, and ³Iran University of Science and Technology, Iran
- P9-5 Photodegradation of Dye Pollutant by Low-Dimensional Structure TiO₂/Metal Phthalocyanine Composites**
Wanichaya Mekprasart and Wisanu Pecharapa
King Mongkut's Institute of Technology Ladkrabang, Thailand
- P9-6 Photosplitting Ammonia by Redox Properties of TiO₂ Nanoparticles by Flame CVD Process**
Hongyong Xie, Lingling Wang, Luping Zhu, Guilan Gao, Lijun Wang and Hao Yuan
Shanghai Second Polytechnic University, China
- P9-7 Sun Protection Enhancement by Nanocapsulation of TiO₂ Particles with Chitosan Shell**
Hyo-Yun Jung, Jina Kim, Kyong-Hwan Chung and Ki-Young Lee
Chonnam National University, Korea

- P9-8 Selective Adsorption of Bisphenol A Using Organic-Inorganic Hybrid Mesoporous Silicas Prepared by Co-Condensation**
Yong-Ho Kim¹, Yeon-Sung Chung², Kwang-Ho Choo¹, Sang-June Choi¹ and Byunghwan Lee²
¹Kyungpook National University, Korea, and ²Keimyung University, Korea
- P9-9 Enzymatic Esterification in Aqueous Miniemulsions**
E. M. Aschenbrenner¹, C. K. Weiss¹ and K. Landfester^{1,2}
¹Max-Planck-Institute for Polymer Research, Germany, and ²University of Ulm Germany
- P9-10 Isolation of Novel Cellulolytic Bacteria from Deep-Sea Using Nanofibrous Cellulose**
Mikiko Tsudome¹, Shigeru Deguchi¹, Tohru Kobayashi¹, Susumu Ito² and Koki Horikoshi¹
¹Institute of Biogeosciences, Japan Agency for Marine-Earth Science and Technology, Japan, and ²University of the Ryukyus, Japan
- P9-11 Sorting Ions and Molecules Using Nanofilter Membrane: Utilizing Ion Concentration Polarization in a Micro/Nanochannel System**
Jongyoon Han
Massachusetts Institute of Technology, USA and Singapore-MIT Alliance for Research and Technology Center, Singapore

P10: NANOSYSTEMS FOR ENERGY AND ENVIRONMENTAL APPLICATIONS

- P10-1 Highly Efficient Dye-Sensitized Solar Cells Using Novel Phenothiazine Dyes**
Zhi Bin Xie¹, Anupam Midya¹, Kian Ping Loh¹, Stefan Adams¹, Daniel J. Blackwood¹, John Wang¹, Xuanjun Zhang² and Zhikuan Chen²
¹National University of Singapore, Singapore, and ²Institute of Materials Research and Engineering, Singapore
- P10-2 Dye Organization on Anatase Surfaces and Performance of Dye-Sensitized Solar Cells**
Stefan Adams, Peng Zhongliang and Jessen Cunnuswamy
National University of Singapore, Singapore
- P10-3 Fabrication of Dye-Sensitized Solar Cell Based on TiO₂ Nanotube Array Electrodes**
Raheleh Mohammadpour, Azam Iraj Zad, Nima Taghavinia and Masoud Rahman
Sharif University of Technology, Iran
- P10-4 TiO₂ Fibrous Electrodes for Dye Sensitized Solar Cells Prepared by Layer-by-Layer Self Assembly Method**
Masoud Rahman and Nima Taghavinia
Sharif University of Technology, Iran
- P10-5 Mid-Infrared SnTe Nanocrystal for Potential Multi-Exciton Generation with Application in Solar Cell**
Guan Hui Lim, M. S. Neo, J. C. Tang, P. J. Chia, P. K. H. Ho, S. J. Chua and W. S. Chin
National University of Singapore, Singapore
- P10-6 Hydrogen Storage on Nanoporous Zeolites with Varying Pore Properties at High Pressure**
Kyong-Hwan Chung and Ki-Young Lee
Chonnam National University, Korea
- P10-7 Nano-Carbon Mediated Storage and Production of Hydrogen from Photosynthetic Microbes and Archea**
Srideepika S. and Sri Harsha M.
Rajalakshmi Engineering College, India
- P10-8 Low Irreversibility and High Energy Capacity Silicon/Graphite Nanocomposite Anode for Lithium-Ion Batteries**
Yen-Po Chang, Jin-Ming Chen, Shin-Liang Kuo, Chi-Ju Cheng and Pao-Ching Chiu
Industrial Technology Research Institute, Taiwan
- P10-9 Facile Preparation of an Excellent Novel Pt/RuO₂-MnO₂/CNTs Catalyst with High Dispersion of Pt for DMFC**
Chunmei Zhou, Hongjuan Wang, Feng Peng, Hao Yu and Jian Yang
South China University of Technology, China
- P10-10 Fabrication and Characterization of a Silicon-Based Monolithic Micro Direct Methanol Fuel Cell Array**
Ling Ling Sun, Liu Yonghao, Liu Juhui, Xiao Pan and Chang Quan
Temasek Polytechnic, Singapore
- P10-11 Capacitance Dependent Catalytic Activity of Novel Pt/MnO₂_xH₂O/CNT Nanocatalyst for Electrocatalysis of Methanol**
Feng Peng, Chunmei Zhou, Hongjuan Wang, Hao Yu and Jian Yang
South China University of Technology, China