

# C-1 Nanostructured and Nanocomposite Materials

## Representative Organizer

Takayuki WATANABE (Kyushu University)

## Co-organizers

Yasunori TANAKA (Kanazawa University)

Masaya SHIGETA (Osaka University)

Manabu TANAKA (Kyushu University)

Poster Session 1      March 27 (Fri.)      16:45 ~ 18:00

- 16:45 C1-P-01    **Effects of Hydrolysis Conditions on the Structure and Luminescence of Titanium-Doped ZnAl<sub>2</sub>O<sub>4</sub> Nanoparticles**  
Mu-Tsun Tsai, Bo-Jyun Lin  
*DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, NATIONAL FORMOSA UNIVERSITY*
- 16:45 C1-P-02    **Phase Formation, Crystal Structure and Particle Size of the Novel Microwave Dielectric Zinc Niobate Nanopowders**  
Penphitcha Amonpattaratkit, Supon Ananta  
*DEPARTMENT OF PHYSICS AND MATERIALS SCIENCE, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*
- 16:45 C1-P-03    **Effect of Surface Modification on the Formation of Magnesium Ferrite Nanoparticles Prepared by Refluxing Method**  
<sup>1</sup>Jeeranan Nonkumwong, <sup>1</sup>Jinjutha Sirisukha, <sup>2</sup>Supon Ananta, <sup>1</sup>Laongnuan Srisombat  
*1 DEPARTMENT OF CHEMISTRY, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*  
*2 DEPARTMENT OF PHYSICS AND MATERIALS SCIENCE, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*
- 16:45 C1-P-04    **Morphology and Crystal Structure Characterizations of Gold Nanoparticles via Synchrotron Small/Wide Angle X-ray Scattering Techniques**  
<sup>1</sup>Phakkhananan Pakawanit, <sup>2</sup>Supagorn Rugmai, <sup>3</sup>Laongnuan Srisombat, <sup>1</sup>Supon Ananta  
*1 DEPARTMENT OF PHYSICS AND MATERIALS SCIENCE, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*  
*2 SYNCHROTRON LIGHT RESEARCH INSTITUTE (PUBLIC ORGANIZATION)*  
*3 DEPARTMENT OF CHEMISTRY, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*
- 16:45 C1-P-05    **Thermal Oxidation Induced Phase Transformation of ZnO-Ge Core-Shell Nanomaterials**  
Tzu Yin Lin, Yuan Chang Liang  
*INSTITUTE OF MATERIALS ENGINEERING, NATIONAL TAIWAN OCEAN UNIVERSITY*
- 16:45 C1-P-06    **Structural Stability of Hexagonal Close-Packed Ni-Co Alloy Nanoparticles**  
Keita Sakuragi, Mutsuhiro Shima  
*DEPARTMENT OF MATERIALS SCIENCE AND TECHNOLOGY, GIFU UNIVERSITY*
- 16:45 C1-P-07    **Antibacterial Effects of Amine-Containing Plasma Thin Films Containing Metallic Nanoparticles**  
Chih Hao Lin, Meng Jiy Wang  
*DEPARTMENT OF CHEMICAL ENGINEERING, NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY*
- 16:45 C1-P-08    **Facet-Dependent Surface Plasmon Resonance Properties of Au-Cu<sub>2</sub>O Core-Shell Nanocubes, Octahedra, and Rhombic Dodecahedra**  
Shih-Chen Hsu, Michael H.Huang  
*DEPARTMENT OF CHEMISTRY AND FRONTIER RESEARCH CENTER ON FUNDAMENTAL AND APPLIED SCIENCE OF MATTER, NATIONAL TSING HUA UNIVERSITY*

- 16:45 C1-P-09 **Investigation on Formation Mechanism of Amorphous Silicon Nanoparticles in Induction Thermal Plasmas**  
Daisuke Okamoto, Takuya Kageyama, Manabu Tanaka, Hirotaka Sone, Takayuki Watanabe  
 DEPARTMENT OF CHEMICAL ENGINEERING, KYUSHU UNIVERSITY
- 16:45 C1-P-10 **Site-Selective Assembly and Reorganization of Gold Nanoparticles along Aminosilane-Covered Nanolines Prepared by Scanning Probe Lithography**  
Jeonghyeon Yang, Takashi Ichii, Kuniaki Murase, Hiroyuki Sugimura  
 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, KYOTO UNIVERSITY
- 16:45 C1-P-11 **Arrangement of Gold Nanoparticle on Hexagonal Nanotemplate Fabricated by Porous Alumina Mask**  
<sup>1</sup>Jeonghyeon Yang, <sup>1</sup>Takashi Ichii, <sup>1</sup>Kuniaki Murase, <sup>1</sup>Hiroyuki Sugimura, <sup>2</sup>Toshiaki Kondo, <sup>2,3</sup>Hideki Masuda  
 1 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, KYOTO UNIVERSITY  
 2 KANAGAWA ACADEMY OF SCIENCE AND TECHNOLOGY  
 3 DEPARTMENT OF URBAN ENVIRONMENTAL SCIENCES, TOKYO METROPOLITAN UNIVERSITY
- 16:45 C1-P-12 **Grain Refinement of Aluminum Cast by  $L1_2$   $Al_{22}Fe_3Ti_8$  Intermetallic Compound Particles**  
Takayuki Hamada, Yoshimi Watanabe, Hisashi Sato  
 GRADUATE SCHOOL OF ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY
- 16:45 C1-P-13 **Physicochemical Properties of *Polygonum Minus* Nanoparticles Treated by Hydrothermal Methods**  
<sup>1,2,3</sup>Nadzirah Abu Samah, <sup>3</sup>Abdul Latif Ibrahim, <sup>4</sup>Tetsuo Soga, <sup>1</sup>Mohamad Rusop Mahmood  
 1 NANO - SCITECH CENTRE, INSTITUTE OF SCIENCE, UNIVERSITI TEKNOLOGI MARA (UITM)  
 2 FACULTY OF APPLIED SCIENCE, UNIVERSITI TEKNOLOGI MARA (UITM)  
 3 INSTITUTE OF BIO-IT SELANGOR, UNIVERSITI SELANGOR  
 4 DEPARTMENT OF FRONTIER MATERIALS, GRADUATE SCHOOL OF ENGINEERING
- 16:45 C1-P-14 **Fragmentation Behavior of  $Al_3Ti$  Platelet Particles in Al- $Al_3Ti$  Composite Deformed by Asymmetric Rolling Process**  
Akihiro Mori, Hisashi Sato, Yoshimi Watanabe  
 GRADUATE SCHOOL OF ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY
- 16:45 C1-P-15 **Enhanced Field Emission of  $TiO_2$  Nanowires with UV Illumination**  
Sin-Hui Wang, Shoou-Jinn Chang  
 INSTITUTE OF MICROELECTRONICS AND DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY
- 16:45 C1-P-16 **UV Enhanced Field Emission for  $CuO$  Nanowires Prepared on Glass Substrate**  
<sup>1</sup>Cheng-Wei Lin, <sup>1</sup>Yen-Ming Juan, <sup>2</sup>Han-Ting Hsueh, <sup>1</sup>Shoou-Jinn Chang, <sup>3</sup>Shih-Wei Huang, <sup>3</sup>Tseng-Chieh Cheng  
 1 INSTITUTE OF MICROELECTRONICS AND DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY  
 2 NATIONAL NANO DEVICE LABORATORIES  
 3 DEPARTMENT OF MECHANICAL ENGINEERING, NATIONAL KAOHSIUNG UNIVERSITY OF APPLIED SCIENCE
- 16:45 C1-P-17 **Synthesis Sulfur Doped  $ZnO$  Nanowires to Fabricate Flexible Piezoelectric Nanogenerators on Flexible PET Substrates**  
<sup>1</sup>Cheng-Liang Hsu, <sup>1</sup>I-Long Su, <sup>2</sup>Ting-Jen Hsueh  
 1 DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL UNIVERSITY OF TAINAN  
 2 NATIONAL NANO DEVICE LABORATORIES
- 16:45 C1-P-18 **Synthesis and Gas Sensing Performance of Zinc Ferrite-Based One-Dimensional Structures**  
Yuan-Chang Liang, Hao-Yuan Hsia  
 INSTITUTE OF MATERIALS ENGINEERING, NATIONAL TAIWAN OCEAN UNIVERSITY
- 16:45 C1-P-19 **Reverse Gas Sensing Performance of  $ZnS$  Heterostructures and Tubes toward Reducing and Oxidizing Gases**  
Shang-Luen Liu, Yuan-Chang Liang  
 INSTITUTE OF MATERIALS ENGINEERING, NATIONAL TAIWAN OCEAN UNIVERSITY

- 16:45 C1-P-20 **Hydrothermal Growth of ZnO Nanorods for UV-Activated Gas Sensing Devices**  
 Yan-Liang Chen, K.Y.Peng, D.H.Wei  
 GRADUATE INSTITUTE OF MANUFACTURING TECHNOLOGY AND DEPARTMENT OF MECHANICAL ENGINEERING,  
 NATIONAL TAIPEI UNIVERSITY OF TECHNOLOGY (TAIPEI TECH)
- 16:45 C1-P-21 **Electrical Properties of Aluminium Doped Zinc Oxide Nanorod by Using Different Type of Electrodes**  
<sup>1</sup>Muhamad Amir Ridhwan Abdullah, <sup>1</sup>Ahmad Syakirin Ismail, <sup>1,2</sup>Mohamad Hafiz Mamat, <sup>1,2</sup>Muhamad Rusop  
 1 NANO-ELECTRONIC CENTRE (NET), FACULTY OF ELECTRICAL ENGINEERING, UNIVERSITI TEKNOLOGI MARA (UITM)  
 2 NANO-SCITECH CENTRE (NST), INTITUTE OF SCIENCE, UNIVERSITI TEKNOLOGI MARA (UITM)
- 16:45 C1-P-22 **Structural and Electrical Behavior of Fe-Doped ZnO Nanorods for Humidity Detection**  
<sup>1,2</sup>Ahmad Syakirin Ismail, <sup>1,2</sup>Muhammad Ameer Ridhwan Abdullah, <sup>1,2</sup>Mohamad Hafiz Mamat,  
<sup>3</sup>Tetsuo Soga, <sup>1,2</sup>Mohamad Rusop  
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 2 NANO-SCITECH CENTRE (NST), INTITUTE OF SCIENCE, UNIVERSITI TEKNOLOGI MARA (UITM)  
 3 DEPARTMENT OF ENVIRONMENTAL TECHNOLOGY AND URBAN PLANNING, NAGOYA INSTITUTE OF TECHNOLOGY
- 16:45 C1-P-23 **Study of Field-Emission Properties of Cu Nanowire Arrays Grown Directly on Cu Substrate**  
Ulugbek Shaislamov, Jong-Keun Yang, Seung-Hyeon Kim, Min-Gyu Oh, Konstantin Lyakhov, Rai Suresh,  
 Rahmman Md Shahinur, Muhamad Waqar Ahmed, Heon-Ju Lee  
 DEPARTMENT OF ENERGY ENGINEERING, JEJU NATIONAL UNIVERSITY
- 16:45 C1-P-24 **Growth of Vertically Aligned Cu Nanowires for Improved Heat Transfer**  
Ulugbek Shaislamov, Jong-Keun Yang, Seung-Hyeon Kim, Min-Gyu Oh, Konstantin Lyakhov, Rai Suresh,  
 Rahmman Md Shahinur, Muhamad Waqar Ahmed, Heon-Ju Lee  
 DEPARTMENT OF ENERGY ENGINEERING, JEJU NATIONAL UNIVERSITY
- 16:45 C1-P-25 **Thickness-Controlled Synthesis of Vertically Aligned c-Axis Oriented ZnO Nanorod Array: Effect of Growth Time Deposition via Sonicated Sol-Gel Immersion Method**  
<sup>1,2</sup>Mohd Firdaus Malek, <sup>1</sup>Mohamad Hafiz Mamat, <sup>3</sup>Tetsuo Soga, <sup>4</sup>Saadah Abdul Rahman, <sup>5</sup>Salman A.h.Alrokayan,  
<sup>5</sup>Haseeb A.Khan, <sup>1,2</sup>Mohamad Rusop Mahmood  
 1 NANO-ELECTRONIC CENTRE (NET), FACULTY OF ELECTRICAL ENGINEERING, UNIVERSITI TEKNOLOGI MARA (UITM)  
 2 NANO-SCITECH CENTRE (NST), INSTITUTE OF SCIENCE (IOS), UNIVERSITI TEKNOLOGI MARA (UITM)  
 3 DEPARTMENT OF FRONTIER MATERIALS, NAGOYA INSTITUTE OF TECHNOLOGY (NITECH)  
 4 LOW DIMENSIONAL MATERIALS RESEARCH CENTRE (LDMRC), DEPARTMENT OF PHYSICS, FACULTY OF SCIENCE,  
 UNIVERSITI MALAYA (UM)  
 5 DEPARTMENT OF BIOCHEMISTRY, COLLEGE OF SCIENCE, KING SAUD UNIVERSITY (KSU)
- 16:45 C1-P-26 **Length Effect of Hydrothermally Synthesized Zn<sub>0.99</sub>Al<sub>0.01</sub>O Nanorods on the Microstructural and Optical Properties**  
<sup>1</sup>Chung-Yuan Kung, <sup>1</sup>Yong-Chang Jhang, <sup>2</sup>S.L.Young, <sup>2</sup>H.Z.Chen, <sup>2</sup>M.C.Kao  
 1 DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL CHUNG HSING UNIVERSITY, TAICHUNG  
 2 DEPARTMENT OF ELECTRONIC ENGINEERING, HSIUPING UNIVERSITY OF SCIENCE AND TECHNOLOGY, TAICHUNG
- 16:45 C1-P-27 **Plasma-Assisted Growth of Indium Oxide Nanowires**  
Yu-Cian Wang, Chih-Yao Chen, I-Chen Chen  
 INSTITUTE OF MATERIALS SCIENCE AND ENGINEERING, NATIONAL CENTRAL UNIVERSITY
- 16:45 C1-P-28 **Effect of Adding SiCNWs and CNTs on Mechanical Properties of 0-3 Natural Rubber Composites**  
Khantichai Janyakunmongkol, Wandee Thamjaree, Wim Nhuapeng  
 DEPARTMENT OF PHYSICS AND MATERIALS SCIENCE, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY
- 16:45 C1-P-29 **Large-Scale Synthesis of Multi-Walled Carbon Nanotubes Using Floating Copper Catalysts**  
Chung-Hsuan Hsiao, Jarrn-Horng Lin  
 DEPARTMENT OF MATERIALS SCIENCE, NATIONAL UNIVERSITY OF TAINAN
- 16:45 C1-P-30 **Synthesis of Single-Walled Carbon Nanotubes from Pd Catalysts by Gas Source Method Using Ethanol in High Vacuum**  
<sup>1</sup>Akinari Kozawa, <sup>2</sup>Takahiro Saida, <sup>1</sup>Shigeya Narituka, <sup>1,2</sup>Takahiro Maruyama  
 1 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, MEIJO UNIV.  
 2 DEPARTMENT OF APPLIED CHEMISTRY, MEIJO UNIV.

- 16:45 C1-P-31 **Enhancing the Luminous Efficiency of Field Emission Organic Light-Emitting Diodes Using Silver Nanoparticle-Doped Carbon Nanotube Emitters**  
Meng-Cheng Yeh, Shui-Hsiang Su, Hao Hsu, Meiso Yokoyama, Wen-Kai Lin  
*DEPARTMENT OF ELECTRONIC ENGINEERING, I-SHOU UNIVERSITY*
- 16:45 C1-P-32 **Effect of Working Gas of Low Pressure Plasma Treatment on Copper Substrate Using for Carbon Nanotubes Synthesis**  
Chotika Suttichart, Dheerawan Boonyawan, Wim Nhuapeng, Wandee Thamjaree  
*DEPARTMENT OF PHYSICS AND MATERIALS SCIENCE, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*
- 16:45 C1-P-33 **Chemical Composition Effect of Ag/Au/Pt/MWCNTs on Catalytic Activity for Methanol Oxidation**  
<sup>1</sup>Kontee Thongthai, <sup>1</sup>Laongnuan Srisombat, <sup>2</sup>Supon Ananta  
*1 DEPARTMENT OF CHEMISTRY, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*  
*2 DEPARTMENT OF PHYSICS AND MATERIALS SCIENCE, FACULTY OF SCIENCE, CHIANG MAI UNIVERSITY*
- 16:45 C1-P-34 **A Hybrid Nanostructure of Molybdenum Disulfide and Nitrogen-Doped Graphene Oxide Coated on Fluorine Doped Tin Oxide Glass as Counter Electrode for Dye-Sensitized Solar Cells**  
<sup>1</sup>Che-Wei Chang, <sup>1</sup>Che-Hsien Lin, <sup>2</sup>Min-Chien Hsiao, <sup>3</sup>Chao-Kuang Cheng, <sup>2</sup>Chen-Chi M Ma, <sup>1</sup>Chuen-Horng Tsai, <sup>3</sup>Chien-Kuo Hsieh  
*1 DEPARTMENT OF ENGINEERING AND SYSTEM SCIENCE, NATIONAL TSING HUA UNIVERSITY*  
*2 DEPARTMENT OF CHEMICAL ENGINEERING, NATIONAL TSING HUA UNIVERSITY*  
*3 DEPARTMENT OF MATERIALS ENGINEERING, MING CHI UNIVERSITY OF TECHNOLOGY*
- 16:45 C1-P-35 **High-Quality Multi-Layer Graphene by Precipitation Method with Two Step Annealing**  
<sup>1</sup>Yuki Ueda, <sup>1</sup>Manabu Suzuki, <sup>1</sup>Jumpei Yamada, <sup>2</sup>Takahiro Maruyama, <sup>1</sup>Shigeya Naritsuka  
*1 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, MEIJO UNIVERSITY*  
*2 DEPARTMENT OF APPLIED CHEMISTRY, MEIJO UNIVERSITY*
- 16:45 C1-P-36 **Improving Electron Field Emission Characteristics of Carbon Nanowalls Fabricated by Radio-Frequency Sputtering Through Thermal Annealing**  
<sup>1</sup>Kun-Yi Lee, <sup>1</sup>Young-Lin Jheng, <sup>2</sup>Wen-Ching Shih  
*1 DEPARTMENT OF ELECTRICAL ENGINEERING, CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY*  
*2 GRADUATE INSTITUTE IN ELECTRO-OPTICAL ENGINEERING, TATUNG UNIVERSITY*
- 16:45 C1-P-37 **Synthesis Micro and Nano Silver-Graphene Composite via Horizontal Vapor Phase Growth (HVPG) Technique**  
<sup>1</sup>Muhammad Akhsin Muflikhun, <sup>1</sup>Alvin Y.Chua, <sup>2</sup>Gwen Castillon, <sup>2</sup>Gil Nonato Santos  
*1 DEPARTMENT OF MECHANICAL ENGINEERING, DE LA SALLE UNIVERSITY*  
*2 DEPARTMENT OF PHYSIC, DE LA SALLE UNIVERSITY*
- 16:45 C1-P-38 **Purification of SWNTs by Gelatin Mixture and Centrifugation Method**  
Kazi Hanium Maria, Tetsu Mieno  
*GRADUATE SCHOOL OF SCIENCE AND TECHNOLOGY, SHIZUOKA UNIVERSITY*
- 16:45 C1-P-39 **Fabrication of Carbon Nanotubes by Combustion Reactions**  
<sup>1</sup>Jaehyuk Choi, <sup>2</sup>Jaehyun Kim, <sup>3</sup>Jungsik Choi, <sup>3</sup>Woojung Shin, <sup>4</sup>Joohee Lee, <sup>1</sup>Seokhoon Yoon, <sup>1</sup>Yongsup Yun  
*1 DIVISION OF MARINE SYSTEM ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY*  
*2 KOREAN RESISTER OF SHIPING*  
*3 DEPARTMENT OF MARINE SYSTEM ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY*  
*4 KOREA AEROSPACE RESEARCH INSTITUTE*
- 16:45 C1-P-40 **Effects of Graphite-Particle Size on Wear Properties of Cu/Graphite Composites Fabricated by Centrifugal Mixed Powder Method**  
Kentaro Tanaka, Hisashi Sato, Yoshimi Watanabe  
*GRADUATE SCHOOL OF ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY*

# C-1 Nanostructured and Nanocomposite Materials

## **Representative Organizer**

Takayuki WATANABE (Kyushu University)

## **Co-organizers**

Yasunori TANAKA (Kanazawa University)

Masaya SHIGETA (Osaka University)

Manabu TANAKA (Kyushu University)

## Poster Session 2      March 28 (Sat.)      16:45 ~ 18:00

- 16:45 C1-P-41      **Effect of Boron Addition on the Mechanical and Thermal Properties of Cu/Diamond Composites Fabricated by SPS**  
<sup>1</sup>Motohiro Tanaka, <sup>2</sup>Kanryu Inoue, <sup>1</sup>Yasuyuki Agari, <sup>1</sup>Masami Sugioka, <sup>1</sup>Takashi Takeuchi, <sup>1</sup>Jun-Ichi Tani, <sup>3</sup>Masakazu Kawahara, <sup>4</sup>Yukio Makino, <sup>5</sup>Mikio Ito, <sup>1</sup>Kiyoshi Mizuuchi  
*1 OSAKA MUNICIPAL TECHNICAL RESEARCH INSTITUTE  
2 MATERIALS SCIENCE & ENGINEERING, UNIVERSITY OF WASHINGTON  
3 FUJI ELECTRONIC INDUSTRIAL CO., LTD.  
4 DEPARTMENT OF SCIENCE, KYOTO UNIVERSITY  
5 CENTER FOR ATOMIC & MOLECULAR TECHNOLOGIES, OSAKA UNIVERSITY*
- 16:45 C1-P-42      **Synthesis and Application of Up-Conversion Phosphor Nanosheets**  
<sup>1</sup>Soichi Takasugi, <sup>1</sup>Riku Iida, <sup>1</sup>Koji Tomita, <sup>2</sup>Kiyofumi Katagiri, <sup>3</sup>Minoru Osada, <sup>4</sup>Masato Kakihana  
*1 DEPARTMENT OF CHEMISTRY, SCHOOL OF SCIENCE, TOKAI UNIVERSITY  
2 DEPARTMENT OF APPLIED CHEMISTRY, GRADUATE SCHOOL OF ENGINEERING, HIROSHIMA UNIVERSITY  
3 INTERNATIONAL CENTER FOR MATERIALS NANOARCHITECTONICS (MANA), NATIONAL INSTITUTE FOR MATERIALS SCIENCE (NIMS)  
4 INSTITUTE OF MULTIDISCIPLINARY RESEARCH FOR ADVANCED MATERIALS, TOHOKU UNIVERSITY*
- 16:45 C1-P-43      **High Temperature Oxidation of Nano-Multilayered ZrAlSiN Thin Films in Air**  
Soon Yong Park, Kwon Yong Ji, Min Jung Kim, Dong Bok Lee  
*SCHOOL OF ADVANCED MATERIALS SCIENCE AND ENGINEERING, SUNGKYUNKWAN UNIVERSITY*
- 16:45 C1-P-44      **Removing Organic Structure Around Au Nano-Particles to Enhance Conductivity of AZO Thin Films**  
Yu-Hsin Weng, Yu-Rui Wang, Yen-Sheng Lin  
*DEPARTMENT OF ELECTRONIC ENGINEERING, I-SHOU UNIVERSITY*
- 16:45 C1-P-45      **Synthesization of Tin Sulphide Material and Structural, Electro-Optical and Mechanical Properties of Thermally Evaporated SnS Films**  
<sup>1</sup>Prachi Madan, <sup>2</sup>A.D.Sivagami, <sup>2</sup>Bornali Sarma, <sup>2</sup>Arun Sarma  
*1 SCHOOL OF ELECTRICAL ENGINEERING TECHNOLOGY (SELECT)  
2 SCHOOL OF ADVANCED SCIENCES (SAS), VIT UNIVERSITY CHENNAI*
- 16:45 C1-P-46      **Optical Characterization of Molybdenum Tungsten Disulfide Layered Alloys**  
<sup>1</sup>Jia-Rong Zhang, <sup>1</sup>Po-Hung Wu, <sup>1</sup>Ying-Sheng Huang, <sup>1</sup>Kuei-Yi Lee, <sup>2</sup>Hung-Pin Hsu, <sup>3</sup>Kwong-Kau Tiong  
*1 DEPARTMENT OF ELECTRONIC ENGINEERING, NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY  
2 DEPARTMENT OF ELECTRONIC ENGINEERING, MING CHI UNIVERSITY OF TECHNOLOGY  
3 DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL TAIWAN OCEAN UNIVERSITY*
- 16:45 C1-P-47      **Effect of Metal Ion Concentration in Ni-W Plating Solution on Surface Roughness of Ni-W Film**  
<sup>1</sup>Manabu Yasui, <sup>1</sup>Satoru Kaneko, <sup>1</sup>Masahito Kurouchi, <sup>2</sup>Hiroaki Ito, <sup>1</sup>Takeshi Ozawa, <sup>3</sup>Masahiro Arai  
*1 KANAGAWA INDUSTRIAL TECHNOLOGY CENTER  
2 COLLEGE OF SCIENCE AND ENGINEERING AOYAMA GAKUIN UNIVERSITY  
3 DEPARTMENT OF AEROSPACE ENGINEERING, NAGOYA UNIVERSITY*

- 16:45 C1-P-48 **Perpendicular Magnetization Behavior of Functional FePt-Ag Nanogranular Films for Magnetic Storage Medium**  
D.H.Wei, K.Y.Peng, Y.L.Chen  
*INSTITUTE OF MANUFACTURING TECHNOLOGY AND DEPARTMENT OF MECHANICAL ENGINEERING, NATIONAL TAIPEI UNIVERSITY OF TECHNOLOGY (TAIPEI TECH)*
- 16:45 C1-P-49 **Analysis of Degradation of Hot Carrier Stress with Different Dimensions of Device**  
Chun-Pao Chuang, Yu-Hong Chen, Jone-Fang Chen  
*INSTITUTE OF MICROELECTRONICS, DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY*
- 16:45 C1-P-50 **Gate Oxide Integrity Under Hot Carrier Stress in HV-P-LDMOSFET**  
Tzu-Hsiang Chen, Wei-Hung Tsai, Jone-Fang Chen  
*INSTITUTE OF MICROELECTRONICS, DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY*
- 16:45 C1-P-51 **Reliability Study of Device in NAND Flash Memory Periphery Circuitry**  
Chun-Po Chang, Yan-Lin Tsai, Jone-Fang Chen  
*INSTITUTE OF MICROELECTRONICS, DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY*
- 16:45 C1-P-52 **Fabrication of MoS<sub>2</sub>-FET with Ferroelectric VDF/TrFE Copolymer Gate Structure**  
<sup>1</sup>Soichiro Hirose, <sup>1</sup>Takuhei Kobayashi, <sup>2</sup>Takashi Nakajima, <sup>1</sup>Yoshihiro Araie, <sup>1</sup>Takeshi Kawae, <sup>1</sup>Akiharu Morimoto  
*1 KANAZAWA UNIVERSITY  
2 TOKYO UNIVERSITY OF SCIENCE*
- 16:45 C1-P-53 **Fabrication and Characterization of ns-CNO/MoS<sub>2</sub> MISFET Structure**  
<sup>1</sup>Takuhei Kobayashi, <sup>1</sup>Soichiro Hirose, <sup>2</sup>Hiroshi Uchida, <sup>1</sup>Yoshihiro Araie, <sup>1</sup>Takeshi Kawae, <sup>1</sup>Akiharu Morimoto  
*1 KANAZAWA UNIVERSITY  
2 SOPHIA UNIVERSITY*
- 16:45 C1-P-54 **Formation of Copper-Based Nanostructures Using Chemical Precipitation**  
Ya-Sin Huang, Jarm-Horng Lin  
*DEPARTMENT OF MATERIALS SCIENCE, NATIONAL UNIVERSITY OF TAINAN*
- 16:45 C1-P-55 **Preparation of  $\beta$ -Tricalcium Phosphate Ceramics by Spark Plasma Sintering**  
Daisuke Kawagoe, Sougo Ohta, Shuntaro Yamaguchi, Akiko Shinohara, Takakuni Tanaka  
*DEPARTMENT OF MATERIALS CHEMISTRY AND BIOENGINEERING, OYAMA NATIONAL COLLEGE OF TECHNOLOGY*
- 16:45 C1-P-56 **Nonstoichiometric Oxygen Induced Changes of Microstructure and Physical Properties of Vanadium Oxide-Based Core-Shell Structures**  
Yu-Ru Cheng, Yuan-Chang Liang  
*INSTITUTE OF MATERIALS ENGINEERING, NATIONAL TAIWAN OCEAN UNIVERSITY*
- 16:45 C1-P-57 **N Doping on He Plasma Irradiated Nanostructured Metal**  
<sup>1</sup>Tomoya Ishida, <sup>2</sup>Shin Kajita, <sup>1</sup>Noriyasu Ohno, <sup>2</sup>Tomoko Yoshida, <sup>1</sup>Yasuyuki Noiri  
*1 GRADUATE SCHOOL OF ENGINEERING, NAGOYA UNIVERSITY  
2 ECOTOPIA SCIENCE INSTITUTE, NAGOYA UNIVERSITY*
- 16:45 C1-P-58 **Preparation of PVA/CMC Hydrogel Composites for Metal Ions Reduction**  
Liang-Yi Wang, Meng-Jiy Wang  
*DEPARTMENT OF CHEMICAL ENGINEERING, NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY*
- 16:45 C1-P-59 **Investigation of Fluorous Hybrid Dielectric Materials for Printed Thin Film Transistors**  
<sup>1</sup>Kwang Ho Kim, <sup>2</sup>Young Tae Kim, <sup>2</sup>Seok Heon Jung, <sup>2</sup>Jin-kyun Lee, <sup>1</sup>Byungwook Yoo  
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2 DEPT. OF POLYMER SCIENCE AND ENGINEERING, INHA UNIVERSITY*

- 16:45 C1-P-60 **Fabrication of Bilayered Hybrid PVDF-TrFE/ PbTiO<sub>3</sub> for Thin Films Capacitor**  
<sup>1</sup>Nurbaya Zainal, <sup>2</sup>Salman A. H. Alrokayan, <sup>2</sup>Haseeb A. Khan, <sup>3</sup>Tetsuo Soga, <sup>1</sup>Mohamad Rusop  
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*2 DEPARTMENT OF BIOCHEMISTRY, COLLEGE OF SCIENCE, KING SAUD UNIVERSITY*  
*3 DEPARTMENT OF FRONTIER, NAGOYA INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-61 **DLC Nanomesh Mold for the Fabrication of Large-Scaled Sub-Wavelength Antireflective Nanostructure**  
<sup>1,3</sup>Sih-Sian Guu, <sup>1,2</sup>K.Y.Peng, <sup>2</sup>Y.L.Chen, <sup>1</sup>Yu-Hsuan Ho, <sup>1,4</sup>Ming-Chih Tsai, <sup>4</sup>Wei-Cheng Tian, <sup>2</sup>Da-Hua Wei, <sup>1,3</sup>Pei-Kuen Wei  
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*2 GRADUATE INSTITUTE OF MANUFACTURING TECHNOLOGY AND DEPARTMENT OF MECHANICAL ENGINEERING, NATIONAL TAIPEI UNIVERSITY OF TECHNOLOGY (TAIPEI TECH)*  
*3 INSITITUE OF OPTOELECTRONIC SCIENCES, NATIONAL TAIWAN OCEAN UNIVERSITY*  
*4 GRADUATE INSTITUTE OF BIOMEDICAL ELECTRONICS AND BIOINFORMATICS, NATIONAL TAIWAN UNIVERSITY*
- 16:45 C1-P-62 **High-Temperature Corrosion of Aluminized and Chromized Fe-25.8%Cr-19.5%Ni Alloys in N<sub>2</sub>/H<sub>2</sub>S/H<sub>2</sub>O-Mixed Gases**  
Min Jung Kim, Dong Bok Lee  
*SCHOOL OF ADVANCED MATERIALS SCIENCE AND ENGINEERING, SUNGKYUNKWAN UNIVERSITY*
- 16:45 C1-P-63 **Effects of Water Vapor on the Structure and Composition of the Deposits Produced by Electron Beam Induced Deposition**  
<sup>1</sup>Ryo Hamada, <sup>2</sup>Miyoko Tanaka, <sup>2</sup>Konstantin Iakoubovskii, <sup>1</sup>Masayuki Shimojo  
*1 SHIBAURA INSTITUTE OF TECHNOLOGY, TOKYO*  
*2 NATIONAL INSTITUTE FOR MATERIALS SCIENCE, TSUKUBA*
- 16:45 C1-P-64 **Aluminum Matrix Texture in Al-Al<sub>3</sub>Ti Platelets Functionally Graded Materials Fabricated by a Centrifugal Solid-Particle Method**  
<sup>1</sup>P.D.Sequeira, <sup>1</sup>Yoshimi Watanabe, <sup>1</sup>Hisashi Sato, <sup>2</sup>Tomonari Inamura, <sup>2</sup>Hideki Hosoda  
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*2 PRECISION AND INTELLIGENCE LABORATORY, TOKYO INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-65 **Fabrications of AgNW and Al-Doped ZnO Hybrid Type Transparent Electrode**  
 Sslimsearom You, Hyung Wook Choi, Kyung Hwan Kim  
*DEPARTMENT OF ELECTRICAL ENGINEERING, GACHON UNIVERSITY*
- 16:45 C1-P-66 **Chemical Vapor Deposition Growth of Monolayer and Few-Layer WS<sub>2</sub>**  
<sup>1</sup>Yin-Chih Wang, <sup>2</sup>Wei-Jih Su, <sup>1</sup>Po-Hung Wu, <sup>3</sup>Hung-Pin Hsu, <sup>1,2</sup>Ying-Sheng Huang, <sup>1,2</sup>Kuei-Yi Lee  
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*2 GRADUATE INSTITUTE OF ELECTRO-OPTICAL ENGINEERING, NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY*  
*3 DEPARTMENT OF ELECTRONIC ENGINEERING, MING CHI UNIVERSITY OF TECHNOLOGY*
- 16:45 C1-P-67 **Defects and Surface Modifications in Nano-Fabrication Technique Using the Combination of High Dose Ion Implantation and Localized Heating**  
Hiroyuki Iwata, Hiroyasu Saka, Makoto Takagi, Yutaka Tokuda  
*DEPARTMENT OF ELECTRICAL ENGINEERING, AICHI INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-68 **Field-Effect Transistor Based on Few-Layered WS<sub>2</sub> for Dirac Point Measurement**  
<sup>1</sup>Wei-Qian Weng, <sup>2</sup>Wei-Jih Su, <sup>1</sup>Po-Hung Wu, <sup>3</sup>Hung-Pin Hsu, <sup>1,2</sup>Ying-Sheng Huang, <sup>1,2</sup>Kuei-Yi Lee  
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*2 GRADUATE INSTITUTE OF ELECTRO-OPTICAL ENGINEERING, NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY*  
*3 DEPARTMENT OF ELECTRONIC ENGINEERING, MING CHI UNIVERSITY OF TECHNOLOGY*

- 16:45 C1-P-69 **The Synthesis of Nano-Sized Dendrite Sn-Cu<sub>6</sub>Sn<sub>5</sub> Alloy by Electrodeposition and Its Characterization by Linear Sweep Voltammetry**  
<sup>1</sup>Jun Kang, <sup>2</sup>Jeun Jeong Hoon, <sup>3</sup>Hong Seong Hyeon  
*1 DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY*  
*2 SK INNOVATION GLOBAL TECHNOLOGY*  
*3 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, SEOUL NATIONAL UNIVERSITY*
- 16:45 C1-P-70 **Porous SnO<sub>2</sub> Structure Prepared by an Electrochemical Deposition and Its Gas Sensing Properties**  
<sup>1</sup>Jun Kang, <sup>2</sup>Jeun Jeong Hoon, <sup>3</sup>Hong Seong Hyeon  
*1 DIVISION OF MARINE ENGINEERING, KOREA MARITIME AND OCEAN UNIVERSITY*  
*2 SK INNOVATION GLOBAL TECHNOLOGY*  
*3 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, SEOUL NATIONAL UNIVERSITY*
- 16:45 C1-P-71 **Porous SnO<sub>2</sub> Foam Synthesized by an Electrodeposition and Its Ethanol Sensing Properties at Low Temperatures**  
<sup>1</sup>Jeun Jeong Hoon, <sup>2</sup>Jun Kang, <sup>3</sup>Hong Seong Hyeon  
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*3 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, SEOUL NATIONAL UNIVERSITY*
- 16:45 C1-P-72 **Fabrication of Porous SnO<sub>2</sub> Films via Anodic Oxidation and Reactive Ion Etching**  
<sup>1</sup>Jeun Jeong Hoon, <sup>2</sup>Jun Kang, <sup>3</sup>Hong Seong Hyeon  
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*3 DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, SEOUL NATIONAL UNIVERSITY*
- 16:45 C1-P-73 **Formation Process of Wear-Induced Layer with Nanocrystal Grains by Sliding Wear for Pure Cu**  
<sup>1</sup>Hisashi Sato, <sup>2</sup>Ryo Tsuzuki, <sup>1</sup>Yuya Kaneko, <sup>1</sup>Yoshimi Watanabe  
*1 GRADUATE SCHOOL OF ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY*  
*2 DEPARTMENT OF MECHANICAL ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-74 **Effects of Processing Temperature on Formation of Deformation-Induced Layer of Pure Cu**  
 Hiroyuki Hayashi, Hisashi Sato, Yoshimi Watanabe  
*GRADUATE SCHOOL OF ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-75 **Photocatalytic Activities of ZnO Photocatalyst with Different Morphologies Synthesized by Sonochemical Method**  
 Anukorn Phuruangrat  
*DEPARTMENT OF MATERIALS SCIENCE AND TECHNOLOGY, FACULTY OF SCIENCE, PRINCE OF SONGKLA UNIVERSITY*
- 16:45 C1-P-76 **Study of Morphology and Optical Property of ZnO Fabricated by Microwave-Assisted Synthesis**  
 Kai-Wei Chou, Chuan-Pu Liu  
*DEPARTMENT OF MATERIAL SCIENCE AND ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY*
- 16:45 C1-P-77 **Development of Novel Grain Refiner with Al Alloy Matrix for As-Cast Al Alloy**  
 Shoya Nakao, Hisashi Sato, Hideaki Tsukamoto, Yoshimi Watanabe  
*GRADUATE SCHOOL OF ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-78 **ZnO Nanostructures on TiO<sub>2</sub> Seed Layer via Solution-Immersion Method**  
<sup>1,2</sup>Nur Amierah Mohd Asib, <sup>1,2</sup>Noor Aadila Abd.Aziz, <sup>1,2</sup>Nurul Afaah Abdullah, <sup>4</sup>Tetsuo Soga,  
<sup>1,3</sup>Mohamad Rusop Mahmood, <sup>1,2</sup>Zuraida Khusaimi  
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*4 GRADUATE SCHOOL OF ENGINEERING, NAGOYA INSTITUTE OF TECHNOLOGY (NITECH)*



- 16:45 C1-P-79L **Thermal Degradation Resistance Study of Plasma Modified Nanosilica Reinforced Polyurethane Composite**  
<sup>1</sup>Ching Yern Chee, <sup>1,2</sup>Kuan Yong Ching  
*1 DEPARTMENT OF MECHANICAL ENGINEERING, FACULTY OF ENGINEERING, UNIVERSITY OF MALAYA*  
*2 FACULTY OF ENGINEERING AND THE ENVIRONMENT, UNIVERSITY OF SOUTHAMPTON*
- 16:45 C1-P-80L **Variable-Range-Hopping Conduction in Atomically Thin Bi<sub>2</sub>Sr<sub>2</sub>Co<sub>2</sub>O<sub>8</sub> Nanosheets**  
<sup>1</sup>Yang Wang, <sup>2</sup>Yu Sui, <sup>2</sup>Xianjie Wang  
*1 ACADEMY OF FUNDAMENTAL AND INTERDISCIPLINARY SCIENCES, HARBIN INSTITUTE OF TECHNOLOGY*  
*2 DEPARTMENT OF PHYSICS, HARBIN INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-81L **Porous Graphene Films for Room Temperature Detection of NH<sub>3</sub> and Organic Vapors**  
Yen-Chih Chen, Ching-Han Wu, Chia-Hao Tu, Chuan-Pu Liu  
*DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING, NATIONAL CHENG KUNG UNIVERSITY*
- 16:45 C1-P-82L **Ferroelectric Characteristics of Nanostructured Bilayer ZnO/MgO Based MFIM Capacitor**  
<sup>1</sup>Habibah Zulkefle, <sup>1</sup>Lily Nyl Ismail, <sup>1</sup>Mohamad Hafiz Mamat, <sup>2</sup>Mohamad Hafiz Mohd Wahid, <sup>2</sup>Rozana Dahan, <sup>3</sup>Salman A.H.Alrokayan, <sup>3</sup>Haseeb A.Khan, <sup>4</sup>Tetsuo Soga, <sup>1</sup>Mohamad Rusop  
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*2 FACULTY OF APPLIED SCIENCE, UNIVERSITI TEKNOLOGI MARA*  
*3 DEPARTMENT OF BIOCHEMISTRY, COLLEGE OF SCIENCE, KING SAUD UNIVERSITY*  
*4 DEPARTMENT OF FRONTIER, NAGOYA INSTITUTE OF TECHNOLOGY*
- 16:45 C1-P-83L **Fabrication of MEH-PPV: ZnO Nanocomposite Films for Organic Light-Emitting Diodes Application**  
<sup>1</sup>Najwa Ezira Ahmed Azhar, <sup>3</sup>Salman A.H.Alrokayan, <sup>3</sup>Haseeb A.Khan, <sup>2,3</sup>Mohamad Rusop  
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*2 NANO-SCITECH CENTRE, INSTITUTE OF SCIENCE (IOS), UNIVERSITI TEKNOLOGI MARA*  
*3 DEPARTMENT OF BIOCHEMISTRY, COLLEGE OF SCIENCE, BLDG. 5, KING SAUD UNIVERSITY (KSU)*
- 16:45 C1-P-84L **Formation and Characterization of High Density FeSi Nanodots on SiO<sub>2</sub> Induced by Remote H<sub>2</sub> Plasma**  
<sup>1</sup>Katsunori Makihara, <sup>1</sup>Hai Zhang, <sup>2</sup>Akio Ohta, <sup>1</sup>Seiichi Miyazaki  
*1 GRADUATE SCHOOL OF ENGINEERING, NAGOYA UNIVERSITY*  
*2 NAGOYA UNIVERSITY, VBL*
- 16:45 C1-P-85L **Characterization of Electron Field Emission from High Density Self-Aligned Si-Based Quantum Dots**  
<sup>1</sup>Daichi Takeuchi, <sup>1</sup>Katsunori Makihara, <sup>2</sup>Akio Ohta, <sup>3</sup>Mitsuhisa Ikeda, <sup>1</sup>Seiichi Miyazaki  
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