Poster session 5 March 20 (WED) 16:15-18:00	
20P5-01	Optoelectrical Properties of the GaZnO Fully Transparent Transistors Cheng-Hsun Li, Sheng-Po Chang and Shoou-Jinn Chang National Cheng Kung University
20P5-02	Synthesis, Optical Properties and Exciton Dynamcis of Au-Cdl-xZnxS Core-Alloyed Shell Nanocrystals <sup>1</sup> Ying-Chih Pu, <sup>2</sup> Wei-Ta Chen and <sup>2</sup> Yung-Jung Hsu <sup>1</sup> National University of Tainan <sup>2</sup> National Chiao Tung University
20P5-03	Sulfidation Process-dependent Structure and Photocatalytic Performance of ZnO-ZnS Nanorods  1Y. C. Liang and 1C. C. Wang National Taiwan Ocean University
20P5-04	Study of Irradiation Effect of and Kr <sup>+14</sup> Ions on Structural Properties of Zn Nanotubes  12.3 Maxim Zdorovets and 1.2 Artem Kozlovskiy  1 The Institute of Nuclear Physics of Republic of Kazakhstan 2 Eurasian National University 3 Ural Federal University named after the First President of Russia B.N. Yeltsin
20P5-06	Photocatalysis Investigation of Magnesium Tin Oxide Nanoparticles Mu-Tsun Tsai, Jian-Hao Chen and Chia-Wei Shih National Formosa University
20P5-07	Sputtering-induced Reduction of CeO <sub>2</sub> Nanoparticles and Layers on Substrate in Vaccum Ryo Kashima, Takashi Hattori, Masatomo Hattori and Masakuni Ozawa Nagoya University
20P5-08	Hydrogen Absorption Properties of Pd-based Nanoparticles by Solution Method Takamasa Matsubara, Ryosuke Makii, Masatomo Hattori and Masakuni Ozawa Nagoya University
20P5-09	Formation of Metallic Glass Derived Pd-Nanophase Dispersed Composite and Its Catalytic Behavior <sup>1</sup> Atsuhiko Masuda, <sup>1</sup> Maki Nakamura, <sup>1</sup> Masatomo Hattori, <sup>1</sup> Masakuni Ozawa, <sup>2</sup> Shin-ichi Yamamura and <sup>2</sup> Hidemi Kato <sup>1</sup> Nagoya University <sup>2</sup> Tohoku University
20P5-10	Effect of pH on the Formation of BiOIO <sub>3</sub> and Bi <sub>2</sub> O <sub>3</sub> and their Photocatalytic Activities <sup>1</sup> Panudda Patiphatpanya, <sup>1</sup> Somchai Thongtem, <sup>1</sup> Sukjit Kungwankunakorn, <sup>2</sup> Anukorn Phuruangrat and <sup>1</sup> Titipun Thongtem <sup>1</sup> Chiang Mai University <sup>2</sup> Prince of Songkla University
20P5-11	Cupric Oxide Nanostructures Prepared by Chemical Precipitation and Further Application in Enzyme-free Glucose Sensors

Jarrn-Horng Lin, Ya-Sin Huang and Pei-Lun Wang

National University of Tainan

# 20P5-12 Charge Carrier Dynamics and Photocatalytic CO2 Reduction of Cesium Lead Halide Perovskite/Graphene Based Nanocomposites Jin Kun Ye and Ying-Chih Pu National University of Tainan 20P5-13 Effect of Additives in Precursor Solution on ZnO Thin Films Deposited by Sol-gel **Dip-coating Method** Yasuhiro Morimoto, Koji Abe and Yuki Nanya Nagoya Institute of Technology 20P5-14 Interfacial Charge Carrier Dynamics of CsPbBr<sub>3</sub> Perovskite/Graphene Quantum Dot Nanoheterostructures Cheng-Fu Yang and Ying-Chih Pu National University of Tainan 20P5-15 Features of the Nanocomposite Track Membranes Synthesis with a Ti (N,O) **Hydrophobic Coating** <sup>1,2</sup>Nikolai Khlebnikov, <sup>1</sup>Ilia Kuklin, <sup>2</sup>Evgenii Polyakov, <sup>1,2</sup>Nikolai Baeashev, <sup>1,3</sup>Maksim Zdorovets and <sup>3</sup>Artem Kozlovskiy <sup>1</sup>Ural Federal University <sup>2</sup>Russian Academy of Sciences <sup>3</sup>Ministry of Energy of the Republic of Kazakhstan 20P5-16 The Electrical Conduction of Wide-bandgap P-doped NiO Thin-Film Fabricated by ICP-CVD Technique <sup>1</sup>Pi Chun Juan, <sup>2</sup>Hong Jun Lin, <sup>3</sup>Guo Ren Li, <sup>4</sup>Wei Fan Lin and <sup>5</sup>Cheng Li Lin <sup>1</sup>Ming Chi University of Technology <sup>2</sup>Feng Chia University 20P5-17 Fabrication of SiOx/ZnO Core/Shell Nanowires Yi-Min Wang and Da-Hua Wei National Taipei University of Technology 20P5-18 Effect of Heating Rate on the Magnetization of FePt Nanoparticles Ming-Ren Xie and Da-Hua Wei National Taipei University of Technology 20P5-19 Control Wetting Behavior of NiFe<sub>2</sub>O<sub>4</sub> Thin Films by Substrate Heating Temperature Yong-Han Hao and Da-Hua Wei National Taipei University of Technology 20P5-20 Effect of Third Element Addition on the Thermal and Mechanical Properties of Diamond Particle Dispersed Cu Matrix Composites Fabricated by SPS Motohiro Tanaka, Takashi Takeuchi, Shinji Yamada and Kiyoshi Mizuuchi Osaka Research Institute of Industrial Science and Technology 20P5-21 Microwave Assisted Synthesis and Enhanced Photocatalytic Properties of Bi<sub>2</sub>O<sub>2</sub>CO<sub>3</sub>

<sup>1</sup>Chiang Mai University <sup>2</sup>Prince of Songkla University

<sup>1</sup>Nitjawan Plubphon, <sup>1</sup>Somchai Thongtem, <sup>2</sup>Anukorn Phuruangrat and <sup>1</sup>Titipun Thongtem

# 20P5-22 Microwave-hydrothermal Synthesis and Visible-light-driven Photocatalysis of BiOCl/BiPO<sub>4</sub> composites

<sup>1</sup>Wachiraporn Maisang, <sup>1</sup>Somchai Thongtem, <sup>2</sup>Anukorn Phuruangrat, <sup>1</sup>Sulawan Kaowphong and

<sup>1</sup>Titipun Thongtem

<sup>1</sup>Chiang Mai University,

<sup>2</sup>Prince of Songkla University

#### 20P5-23 Tuning Wettability of ZnO Thin Films by Working Temperature Control

Ming-Ru Wu, Sheng-Kai Tong and Da-Hua Wei

National Taipei University of Technology

# 20P5-24 Tuning Density of Reactive Gas Enhanced Nanohardness and Surface Wettability of

CrN

Sheng-Kai Tong, Yong-Han Hao, Ming-Ru Wu and Da-Hua Wei

National Taipei University of Technology

# 20P5-25 Preparation and Catalytic Behavior of CeO<sub>2</sub>-based Nanoparticles with Some Additives

for Soot Combustion

Fukutaro Mizuno, Keita Nakamura, Masatomo Hattori and Masakuni Ozawa

Nagoya University

# 20P5-26 Investigation on Electroreduction of Cu(ll) using a Nanocomposite Track Membrane

Electrode

<sup>1</sup>Ilia Kuklin, <sup>1,2</sup>Nikolai Khlebnikov, <sup>2</sup>Evgenii Polyakov, <sup>1</sup>Nikolai Barashev and <sup>1,3</sup>Maksim Zdorovets

<sup>1</sup>Ural Federal University Named After the First President of Russia B.N. Yeltsin

<sup>2</sup>Russian Academy of Sciences

<sup>3</sup>Ministry of Energy of the Republic of Kazakhstan

# 20P5-27 Viable and Economic Synthesis of Porous ZnO Nanowire Arrays with Potential

#### Piezotronic Applications

Yu-Liang Hsiao and Chuan-Pu Liu

Cheng Kung University

# 20P5-28 Ar Plasma Treatment for Stable Functionalization of MoS<sub>2</sub>

Wonseok Seo, Daeki Kim and Joonhyub Kim

Korea University

#### 20P5-29 Synthesis of CaCO<sub>3</sub> Thin Film on Different Substrates by Chemical Vapour Deposition

Nurul Hidah Sulimai, Zuraida Khusaimi, Rozina Abdul Rani, Salifairus Muhamad Jaafar, Haseeb

Khan, Salman Alrokayan, Tetsuo Soga and Mohamad Rusop Mahmood

<sup>1</sup>Universiti Teknologi MARA

<sup>2</sup>King Saud University

<sup>3</sup>Nagoya Institute of Technology

#### 20P5-30 Spatial Distribution Change of Spherical Al<sub>3</sub>Ti Particles in Severe Plastic Deformed

Al-Al<sub>3</sub>Ti Composite Fabricated by Spark Plasma Sintering

Sarath Babu Duraisamy, Hisashi Sato, Tadachika Chiba and Yoshimi Watanabe

Nagoya Institute of Technology

#### 20P5-31 Effect of Different Annealing Temperature on the Electrochemical Performance of

Li<sub>2</sub>MnO<sub>3</sub>-LiMO<sub>2</sub> Cathode Material

Yi-Ting Lin, Bo-Liang Peng and Chuan-Pu Liu

National Cheng Kung University

#### 20P5-32 Microwave-Assisted Sintering and Characterization of Zirconia/ Titanium

**Functionally Graded Materials** 

Hideaki Tsukamoto, Shuta Kawasaki and Rei Masuda

Hosei University

### 20P5-33 Fabrication and Characterization of Carbon Nanotube Reinforced Aluminum Matrix

Composites

Junki Ueda, Tomoharu Suzuki, Genki Toma and Hideaki Tsukamoto

Hosei University

### 20P5-34 Effects of Base Pressure for Sputtering Deposition on (001) Preferred Orientation of

FePt Thin Film in Subsequent Rapid-annealing

<sup>1,2</sup>Shih-Nan Hsiao, <sup>1</sup>S. H. Liu, <sup>1</sup>C. L. Chou, <sup>1</sup>S. K. Chen, <sup>2</sup>M. Sekine and <sup>2</sup>M. Hori

<sup>1</sup>Feng Chia University <sup>2</sup>Nagoya University

# 20P5-35 Photoresponses of Gallium Zinc Tin Oxide Thin-Film Transistors Fabricated by Co-

sputtering Method

Ming-Hung Hsu, Sheng-Po Chang and Shoou-Jinn Chang

National Cheng Kung University

### 20P5-36 Resistive Switching Properties in Chlorophyll-based Device

Tzu-Fan Chen, Long-Hui Chen and Chun-Chieh Lin

National Dong Hwa University

#### 20P5-37 Wafer-level Fabrication of High Sensitvity CO Gas Sensor Chips

<sup>1</sup>Yu-Jen Hsiao, <sup>2</sup>Te-Hua Fang, <sup>3</sup>Liang-Wen Ji and <sup>4</sup>I-Tseng Tang

<sup>1</sup>Southern Taiwan University of Science and Technology <sup>2</sup>National Kaohsiung University of Science and Technology

<sup>3</sup>National Formosa University <sup>4</sup>National University of Tainan

### 20P5-38 Resistive Switching and Transparent Properties in Graphene-based Device

Chun-Chieh Lin, I-Chen Chiu, Long-Hui Chen and Tzu-Fan Chen

National Dong Hwa University

# 20P5-39 Performance Variation of Metal/NiO/ITO Resistance Switching Devices

Hsien-Heng Tang, Thou-Jen Whang and ,Yan-Kuin Su

<sup>1</sup>National Cheng Kung University

<sup>2</sup>Kun Shan University

#### 20P5-40 Thermoelectric Properties of ZnO-Grown Fabrics for Flexible Power Generator

¹Faizan Khan, ²Pandiyarasan Veluswamy, ¹Shota Sakamoto, ¹Misa Ohkubo, ¹Yuhei Suzuki,

<sup>3</sup>Navaneethan Mani, <sup>4</sup>Toshitaka Yamakawa, <sup>5</sup>Kazushi Ikeda, <sup>1</sup>Masaru Shimomura and

<sup>1</sup>Kenji Murakami

<sup>1</sup>Shizuoka University

<sup>2</sup>IIITDM, India

<sup>3</sup>SRM Institute of Science and Technology, India

<sup>4</sup>Kumamoto University

<sup>5</sup>NAIST, Japan

# 20P5-41 Layout-based Improvement of Performance in Thin Film ZnO SAW Devices <sup>1</sup>Gemma Rius, <sup>1</sup>Jordi Sacristan, <sup>2</sup>Hiroaki Ogura, <sup>2</sup>Shinji Takayanagi, <sup>2</sup>Koji Abe and <sup>2</sup>Masaki Tanemura <sup>1</sup>Spanish National Research Council <sup>2</sup>Nagoya Institute of Technology Fabrication of Alumina Nanofibers Decorated Screen Printed Electrode for 20P5-42 **Electrochemical Sensing of Heavy Metals** Jui-Yu Tung and Meng-Jiy Wang National Taiwan University of Science and Technology 20P5-43 Stacked Hybrid Type Nanosheet Channel Junctionless Field Effect Transistor Tsung-Yen Tu, Yi-Xuan Chen and Yu-Hsien Lin National United University 20P5-44 Stacked Nanosheet Channel with Multi-gate Junctionless Field Effect Transistor. Chen Yi-Xuan, Tu Tsung-Yen and Lin Yu-Hsien National United University 20P5-45 Enhanced Distribution of Nano-Ag Particles Inside Al-doped ZnO Layer to Apply on **Touch Sensor** Yong-Chow Tai James and Yen-Sheng Lin I-Shou University 20P5-46 Influence of Hf Addition on Magnetic Properties of CoFeSiB Amorphous Films <sup>1</sup>Tomoya Uwabe, <sup>1</sup>Shuhei Nozue, <sup>1</sup>Yuji Fujiwara, <sup>2</sup>Mutsuko Jimbo and <sup>1</sup>Tadashi Kobayashi <sup>1</sup>Mie University <sup>2</sup>Daido University 20P5-47 Facile Synthesis of Hydrous Ruthenium Oxide for Micro Supercapacitors Tzu-Kuan Chuang and Chien-Kuo Hsieh Ming Chi University of Technology 20P5-48 The Effect of the Active Layer Thickness on Performance of Indium Gallium Oxide Phototransistor Wei-Lun Huang, Sheng-Po Chang and Shoou-Jinn Chang National Cheng Kung University 20P5-49 Influence of Oxygen on the Performance of Indium Tungsten Oxide UV Sensors Sheng-Po Chang, Cheng-Hao Chou, Ming-Hung Hus, Kuan-Yin Chen and Shoou-Jinn Chang National Cheng Kung University 20P5-50 Clarification of Nucleation Promotion by Bubble Size Measured during Microwave Irradiation Atsuya Shibatani, Haruka Kan and Yusuke Asakuma University of Hyogo 20P5-51 Multi-Environmental Sensors Fabricated by Vertical Stacking Method with C2C <sup>1</sup>Lai, Li-Tsen, <sup>1</sup>Chang, Shoou-Jinn, <sup>2</sup>Wei, Chia-De, <sup>2</sup>Cheng, Tseng-Chieh and <sup>3</sup>Hsueh, Han-Ting

<sup>1</sup>National Cheng Kung University

<sup>3</sup>National Nano Device Laboratories

<sup>2</sup>National Kaohsiung University of Science and Technology

# 20P5-52 Optical Properties and Charge Carrier Dynamics of InP-ZnS Core-Shell Quantum

Dots

Hsiao-Chuan Fan and Ying-Chih Pu

National University of Tainan

# 20P5-53 Stability Improvement of Methylamine Lead Bromide Perovskites Nanocrystals by

SiO<sub>2</sub> Layer Modification

Ren-An Shih and Ying-Chih Pu

National University of Tainan

# 20P5-54 Influence of Various Applied Voltages on TiO<sub>2</sub> Nanotube Array via Electrochemical Anodization Method

<sup>1</sup>Najwa Ezira Ahmed Azhar, <sup>1</sup>Shafinaz Sobihana Shariffudin, <sup>1</sup>Rozina Abdul Rani,

<sup>2</sup>Salman A.H. Alrokayan, <sup>2</sup>Haseeb A. Khan, <sup>3</sup>Soga Tetsuo and <sup>1</sup>Mohamad Rusop Mahmood

<sup>1</sup>Universiti Teknologi MARA (UiTM)

<sup>2</sup>King Saud University (KSU)

<sup>3</sup>Nagoya Institute of Technology

### 20P5-55 Characterization of Nb<sub>2</sub>O<sub>5</sub>-doped TiO<sub>2</sub> Thin Films Prepared via Sol-gel Method

<sup>1</sup>Nur Munirah Safiay, <sup>1</sup>Rozina Abdul Rani, <sup>1</sup>Nur Amierah Asib, <sup>1</sup>Zuraida Khusaimi,

<sup>1</sup>Fazlena Hamzah, <sup>2</sup>Tetsuo Soga, <sup>3</sup>Salman A. H. Alrokayan, <sup>3</sup>Haseeb A. Khan and

<sup>1</sup>Mohamad Rusop Mahmood

<sup>1</sup>Universiti Teknologi MARA (UiTM)

<sup>2</sup>Nagoya Institute of Technology

<sup>3</sup>King Saud University (KSU)

#### 20P5-56 The Effect of Annealing Temperature on the Properties of Ag<sup>+</sup> Doped ZnO Thin Film

<sup>1</sup>Nurul Afaah Abdullah, <sup>1</sup>Nur Amierah Mohd Asib, <sup>1</sup>Noor Aadila Abd Aziz, <sup>2</sup>Tetsuo Soga,

<sup>3</sup>Salman A.H. Alrokayan, <sup>3</sup>Haseeb A. Khan, <sup>1</sup>Mohamad Rusop Mahmood and <sup>1</sup>Zuraida Khusaimi

<sup>1</sup>Universiti Teknologi MARA

<sup>2</sup>Nagoya Institute of Technology

<sup>3</sup>King Saud University (KSU)

# 20P5-57 Effect of Silver Doped Nano Zinc Oxide on Titanium Dioxide Seeded Substrate

<sup>1</sup>Siti Zulaikha Umbaidilah, <sup>1</sup>Nur Amierah Mohd Asib, <sup>2</sup>Soga Tetsuo, <sup>3</sup>Salman A.H. Alrokayan,

<sup>3</sup>Haseeb A. Khan, <sup>1</sup>Mohamad Rusop Mahmood and <sup>1</sup>Zuraida Khusaimi

<sup>1</sup>Universiti Teknologi MARA (UiTM),

<sup>2</sup>Nagoya Institute of Technology

<sup>3</sup>King Saud University

#### 20P5-58 Effect of the ZnO Nanoparticles and Glutinous Tapioca Flour to Inhibit Fungal Grow

<sup>1</sup>Nurfarhana Rosman, <sup>1</sup>Noor Asnida Asli, <sup>1</sup>Saifollah Abdullah, <sup>2</sup>Soga Tetsuo, <sup>3</sup>Salman A.H

Alrokayan, <sup>3</sup>Haseeb A. Khan and <sup>1</sup>Mohamad Rusop Mahmood

<sup>1</sup>Universiti Teknologi Mara (UiTM)

<sup>2</sup>Nagoya Institute of Technology

<sup>3</sup>King Saud University (KSU)

# 20P5-59 The Thickness of Ga-doped ZnO Thin Film is Optimized and Applied on the Work

Electrode of Dye-Sensitized Solar Cell

Yun-Qin Lin and Yen-Sheng Lin

I-Shou University

# 20P5-60 Enhanced Optoelectronic Property of Al Doped ZnO Thin Film Under Nitrogen Ambience Sputtering

Yu-Yang Huang and Yen-Sheng Lin

I-Shou University

# 20P5-61 Fluctuation Level Dependence on Growth of Nano-Particles in Amplitude Modulated RF Discharge

Kunihiro Kamataki, Ren Zhou, Hiroshi Ohtomo, Ryosuke Iwamoto, Daisuke Yamashita, Naho Itagaki, Kazunori Koga and Masaharu Shiratani

Kyushu University

# 20P5-63 Enhancing the Water Resistance Stability of CsPbBr<sub>3</sub> Perovskite Quantum Dots by

Encapsulation in Silica Aerogel for Light-Emitting-Diodes Applications

<sup>1</sup>Yi-Ting Hsieh, <sup>1</sup>Wei-Ren Liu and <sup>1</sup>Yi-Feng Lin

Chung Yuan Christian University

# 20P5-65 Optical Property and Structure of ZnO Thin Film Prepared by Reactive Electron

Beam Evaporation with Ion Assisted Deposition from Metal Zinc

<sup>1,2</sup>Hung Pin Chen, <sup>1</sup>Wen Hao Cho, <sup>1,3</sup>Yu Wei Lin, <sup>1</sup>Wei Chun Chen and <sup>2</sup>Cheng Chung Lee

<sup>1</sup>National Applied Research Laboratories

<sup>2</sup>National Central University <sup>3</sup>National Tsing Hua University

# 20P5-66 Mechanical Properties of DLC-Coated PEEK Prepared by ICP-Assisted Sputtering

<sup>1</sup>Shinsuke Kunitsugu, <sup>2</sup>Kosei Kubo, <sup>2</sup>Tatsuyuki Nakatani and <sup>2</sup>Ichiro Shimizu

<sup>1</sup>Industrial Technology Center of Okayama Prefecture

<sup>2</sup>Okayama University of Science