

# Saturday, October 1<sup>st</sup>

Oral Session A1 ♥ M101  
13:30-15:30 (Invitation Only)

## 5. Dimension Measurement & Metrology Technology

*Chairman: Hau-Wei Lee*

*-Industrial Technology Research Institute*

### A1-1. 13:30

5-347. Concept for an Optical CMM Probing System Development Based on Sphere Reflective Michelson Interferometry  
*Hau-Wei Lee, Jr-Rung Chen*

### A1-2. 13:45

5-348. FPGA based Absolute Distance Measurement by Dual Free-Running Mode-Locked Fiber Lasers  
*Tze-An Liu, Yuh-Chuan Cheng, Hau-Wei Lee, Jin-Long Peng*

### A1-3. 14:00

5-349. Influence on ISO 230-2/-6 Test Results for Squareness of Machine Tools Using a LaserTRACER  
*Jr-Rung Chen, Hau-Wei Lee, Po-Er Hsu, Shan-Peng Pan*

### A1-4. 14:15

5-350. Self-developed Evaluation System on Spindle Error Motion Analysis  
*Kuang-I Chang, Sheng-Hang Wang, Tsung-Hsien Tu, Jr-Rung Chen*

### A1-5. 14:30

5-351. Performance Investigation for the Scanning and Single Point Probing Measurement Modes of the Coordinate Measuring Machine  
*Po-Er Hsu, Jr-Rung Chen, Hau-Wei Lee*

### A1-6. 14:45

5-352. Using Spectral Reflectometry to measure the depth of high aspect ratio Through Silicon Via  
*Hsiang-Chun Wei, Chih-Shang Liu, Zhong-Lun Guo*

### A1-7. 15:00

5-297. Local thermochemical reaction by selective heating for manufacturing microscale sensors  
*Habeom Lee, Seung Hwan Ko*

# Saturday, October 1<sup>st</sup>

## SPINTECH Session

♦M102 ♦M103 ♦M104

13:30-15:30

### A. SPINTECH Technology Thesis Awards Section

A-370. Shearing interference microscope for step-height measurements

*Hung-Xuân Trịnh, Shyh-Tsong Lin, Liang-Chia Chen, Sheng-Lih Yeh*

A-392. A Miniature Automatic Feeding System for Microfluidic Samples Based On Piezoelectric Actuator and Position-Sensing IC

*Yi-Bin Jiang, Yu-Jen Wang, Guan-Long Lin, Jian-Lun Huang*

A-394. The Design and Implementation of a Spindle Motor Drive

*Tze-Yee Ho, Jun-Gu Lin, Ting-Yu Jian*

A-395. Angel Eye System of Vehicular Driver

*Da-Huei Lee, Wan-Jung Chang, Cheng-Chin Kuo, Yi-Zhan Qiu, Ruei-Zhe Liou*

A-396. System design of ultrahigh-speed spindle induction motor drive

*Ming-Jheng Wu*

A-401. Study of the Tribological Performance Improvement by Nano-Diamond Additive and the Multiscale Entropy Analysis of the Vibration Signals of the Toggle Bearing Tests

*Guan-Lin Chen , Hsiao-Yeh Chu*

A-402. Effect of Al addition on mechanical properties and fracture behavior of Cu-Zr-Al bulk metallic glasses

*Tao-Hsing Chen, Yang-Chi Luo*

A-403. Temperature Control Approach for a High Speed Spindle Cooler with Eco-friendly Refrigerant

*Wei-Ming Chiang, F.J. Wang, Y.C. Lin*

A-406. Magnetometer Calibration of Smartphone for Accuracy Improvement of Pedestrian Indoor Positioning

*Kai-Wei Chiang, Pei-Ching Hsu, Kuan-Yu Chou*

A-7891. A Study of Mixed-gas Electrochemical Micro Jet Machining

*Chou Jung Hung, Jheng Hong Liu*

A-7904. A New Meshfree Method for Solving Steady-state Modified Burgers' Equation in Transport Problems

*Chih-Wen Chang, Jin-Huang Huang, Chi-Chang Wang*

A-7912. Flexible Two-in-One Microsensor for Real-Time Monitoring of Charge and Discharge Conditions of Vanadium Redox Flow Battery

*Chi-Yuan Lee, Chin-Lung Hsieh, Chia-Hung Chen, Kin-Fu Lin, Shyong Lee, Yun-Min Liu, Yen-Pu Huang, Chong-An Jiang*

A-7926. Combined with Wavelet Transform and Edge Detector to Generate a Depth Map from a Single Image

*Der-Feng Huang, Yu-Hsiang Chen Chen, Ting-Wen Huang*

A-7930. Development of the Technology of Micro-diagnosis of the Internal State of the PEM Water Electrolysis System

*Chi-Yuan Lee, Chia-Hung Chen, Guo-Bin Jung, Yu-Chun Chiang, Shyong Lee, Yen-Ting Huang, Shih-Chun Li*

A-7948. Thermal analysis of motorized spindles and design of heat sink.

*Chi-Hung Cheng, Chi-Chang Wang, Kai-Chun Chan*

A-7989. Study of the Predictive Analysis and Molding Properties on PA66 Composites Backing Plate Molded Parts

*Hsin-Shu Peng, Po-Wei Huang, Kai-Fu Liew, Pai-Cheng Chien, Wei-Jie Su, Guan-Yu Chen*

A-8026. Development of an intelligent manufacturing quality and fault detecting system

*Ying-Chih Lai, Po-Yuan Yu*

# Sunday, October 2<sup>nd</sup>

Oral Session A1 ♥ M101  
09:00-12:00

**B. Computational and Mathematical Sciences**  
**E. Advanced analysis, design and manufacturing technology for precision Engineering**  
**F. Control and Automation Technology, Mechatronics, Robotics for Manufacture and Industry**  
**G. Sensing and Automation System**  
**L. Vibroengineering of dynamical systems**  
**D. Inventions/innovation in manufacturing technology and processes**

*Chairman: Dyi-Cheng Chen*

*-National Changhua University of Education*

*Chairman: Jui-Hung Liu*

*-Southern Taiwan University of Science and Technology*

## A1-1. 09:00

B-293. A Uniform Model for Triadic Association Rules

*Eung-Hee Kim, Hong-Gee Kim, Suk-Hyung Hwang*

## A1-2. 09:15

E-267. Application of Ductile Fracture Criterion for Tensile Test of Zirconium Alloy 702

*Dyi-Cheng Chen, Dong-Yao Chang, Fei-Hsiang Chen, Tsung-Ying Kuo*

## A1-3. 09:30

E-283. Rotary Ultrasonic-Assisted Milling of Hardened Stainless Mold Steel

*M.Y. Tsai, C. T. Chang, J.H. Yang*

## A1-4. 09:45

F-270. Cooperative Output Regulation for a Class of Nonlinear Multi-Agent Systems subject to Jointly Connected Switching Networks without Knowing the Control Directions

*Tao Liu, Jie Huang*

## A1-5. 10:00

F-271. Wind Turbine Operation under High-Turbulent Wind Flow

*Jui-Hung Liu, Rong-Mao Lee, Chia-Ming Chang, Jien-Chen Chen, Meng-Ru Wu, Chih-Hsun Peng*

## A1-6. 10:15

F-325. Development of a robot for storage tank bottom floor inspection using magnetic flux leakage technique

*Ho Chang, Chou-Wei Lan, Yu-Ting Hsieh*

## A1-7. 10:30

G-338. Low-Contrast Defect Detection for Anti-Reflective Glass

*Chin-Sheng Chen, Chi-Min Weng, Chien-Chuan Tseng*

## A1-8. 10:45

G-346. Establishment of Analytical Platform for Precision Machinery Using History of Power Consumption

*Wei-Huan Tsao, Chih-Chieh Lin*

**A1-9. 11:00**

G-404. Novel Edge Detection And  
Reconstruction For Accurate 3-D Surface  
Profilometry Using Digital Image Correlation  
*Liang-Chia Chen, Ching-Wen Liang, Dinh-  
Cuong Hoang, Shyh-Tsong Lin*

**A1-10. 11:15**

D-7973. Robust Extended Backstepping  
Sliding Controller Design and its Application  
for Servo Motor Control  
*Li-Hsin Chen, Chao-Chung Peng,  
Chung-Yung Wu*

**A1-11. 11:30**

D-8213. Particle swarm optimization method  
for spindle nose vibration simulation and  
measurement  
*Yu-Ting Tsai*

# Sunday, October 2<sup>nd</sup>

Oral Session B1 ♥ M102  
09:00-12:00

## C. Modeling, numerical simulation and optimization

*Chairman: Thien-M Vo*

*-Ho Chi Minh City University of Technology*

*Chairman: Shy-Leh Chen*

*-National Chung Cheng University*

### B1-1. 09:00

C-265. Measuring the Minimum Circumscribed Cone with an Innovative Computer Graphics Method

*Wei-Fang Chen*

### B1-2. 09:15

C-268. A Research of Optimal Polygon Turning

*Wei-Fang Chen, Zhi-Zhe Pan*

### B1-3. 09:30

C-277. Operation optimization of burners' operation style in coal-fired utility boilers by numerical simulation

*Fang-qin Li, Liang-fei Luo, Jian-xing Ren, He-nan Li*

### B1-4. 09:45

C-278. Performance analysis of a Concentric Tube Heat Exchanger using genetic algorithm approach

*M.C. Lin, C.W. Su, C.K. Yang*

### B1-5. 10:00

C-285. Modeling and Control of an Unbalanced Mass Bearingless Motor with 3-Pole Active Magnetic Bearing

*Shy-Leh Chen, Pei-Hua Lee*

### B1-6. 10:15

C-289. A node-based Smoothed Finite Element Method (NS-FEM) for Stability Analysis of Dual Square Tunnels in Cohesive-frictional Soil

*Thien-M Vo, An-N Chau, Tam-M Nguyen, Hoang-C Nguyen*

### B1-7. 10:30

C-330. Analysis of Wafer Level Chip Scale Package Subjected to Uniform Pressure

*Wan-Chun Chuang, Wei-Long Chen, Ben Tsai, Josh Su*

### B1-8. 10:45

C-339. Micro-channel Deep Drawing Process Analysis of Pin-type bipolar plates

*Tsung-Chia Chen, Jiang-Cheng Lin*

### B1-9. 11:00

C-382. A Study on Design and Analysis of Hydraulic System of Lattice Boom Crane

*Ji-Hye Kim, Gwi-Nam Kim, Chang-Kweon Jeong, Yong-Hwan Yoon, Young-Ju Kim, Yong-Gil Jung, Sun-Chul Huh*

# Sunday, October 2<sup>nd</sup>

Oral Session C1 ♥ M103  
09:00-12:00

**3. Advanced Materials and Manufacturing Technology**  
**4. Advanced Modeling and Control Technology in Mechatronic and Energy Systems**  
**H. Energy and Thermal/Fluidic Science**  
**B. Patent Based Inventions in Applied Science and Engineering**  
**F. Inventions/Innovation in Energy and Thermal/Fluidic Science**  
**G. Invention/Innovations in Biotechnology/Materials**

*Chairman: Shih-Chen Shi*

*-National Cheng Kung University*

*Chairman: Jenn-Kun Kuo*

*-National University of Tainan*

## C1-1. 09:00

3-269. Self-healing materials for ecotribology

*Shih-Chen Shi, Teng-Feng Huang*

## C1-2. 09:15

3-282. Railway Continuous Prestressed Concrete Bridge Design in Ballastless Track Turnout Zone

*Wen-Kuei Hsu, Neng-Hao Shih, Yu-Lin Lee*

## C1-3. 09:30

3-295. The Characteristics for Porous Oxide Layer of Aluminum Alloy T6061 after Anodizing by Oxalic Acid

*Wen-Shih Lin, Tsung-Chieh Cheng, Chang-Chun Lee, Tsung-Han Hsieh*

## C1-4. 09:45

3-304. Thermal Behavior of The Biodegradable Poly(L-lactic acid)/Amorphous Silica Nanocomposites

*Shu-Chuan Liao, Cheng-Fu Yang and Chean-Cheng Su*

## C1-5. 10:00

3-305. Effect of Fabrication Parameters of Nanosphere Lithography Method on the Results of Deposition Ag Nanoparticle Arrays for Localized Surface Plasmon Resonance

*Jing Liu, Haoyuan Cai, Chaoyang Chen, Guangsong Yang, Cheng-Fu Yang*

## C1-6. 10:15

4-274. Symmetrical Valve Controlled Asymmetrical Cylinder Based on Wavelet Neural Network

*Haitao Qi, Zilong Liu, Yan Lang*

## C1-7. 10:30

H-296. Modeling and Modal Analysis of the 9E Gas Turbine Blade

*Yanru Zhang, Rui Zhu, Jianxing Ren, Qingpeng Han, Xiaoxi Ma, Sumin Wang, Qunkai Niu*

## C1-8. 10:45

H-299. Numerical investigation into heat transfer performance of LED heat sink

*Jenn-Kun Kuo*

## C1-9. 11:00

F-8006. Positioning Accuracy Improvement of a Single Axial Moving Carrier Utilizing Environmental Control Technology

*Win-Jet Luo, Zheng-Jun Huang, Kun-Ying Li, Zhan-Yong Chao*

**C1-10. 11:15**

G-7915. Innovation of New Occlusion Devices for Cancers

*Han-Yu Lee, Chien-Erh Lin, Tzu-Yuan Lin, Shu-Wei Hsu, Chih-Han Yang, Hao-Ming Hsiao*

**C1-11. 11:30**

G-8003. Crystal structure effect on the luminescent properties of  $Tb^{3+}$ ,  $Ce^{3+}$  co-doped  $NaSrPO_4$  Phosphor prepared using microwave sintering

*Kun-Hsien Chen, Min-Hang Weng, Cheng-Tang Pan, Ru-Yuan Yang*



# Sunday, October 2<sup>nd</sup>

Oral Session D1 ♥ M104  
09:00-12:00

## 1. Applied Modelling, Numerical Simulation, Computation and Optimization

### I. Inventions/innovation in design/modeling/computing methods

Chairman: *Sung-Hua Wu*

- *National Kaohsiung First University of Science and Technology*

Chairman: *Shyh-Kuang Ueng*

- *National Taiwan Ocean University*

#### D1-1. 09:00

1-263. Computational Modeling of Fiber Reinforced Concrete Structural Walls under Earthquakes

*Chung-Chan Hung*

#### D1-2. 09:15

1-272. Overall Cutting Efficiency by Single Band-Saw Blade Coating-Layer Processing  
*Cheng-En Jhou, Sung-Hua Wu, Chin-Chung Wei*

#### D1-3. 09:30

1-300. Application of an Indoor Environmental System with Intelligent Control Technique  
*Cong-Hui Huang, Heng-Yau Pan, Xin-Rong Qiu, Tzu-Yuan Wang*

#### D1-4. 09:45

1-301. Stability Analysis and Control of Distributed Generation Microgrids by Hybrid Neural Network Control  
*Cong-Hui Huang, Chih-Ming Hong, Kuan-Chen Lin, Xin-Rong Qiu, Yu-Tang Su*

#### D1-5. 10:00

1-306. Scattering Reduction Using Bumps and Tapering Effect

*Shyh-Kuang Ueng, Yu-Wei Chen*

#### D1-6. 10:15

1-316. Vibration Control Design for a Structure with Electrorheological Sandwiches Using Interval Type-2 Fuzzy System

*Chih-Jer Lin, Chun-Ying Lee, Ying Liu*

#### D1-7. 10:30

1-381. The Inspection and Reconstruction of Metal-roof Deformation under Wind Pressure Based on the flex sensor

*Liman Yang, Langfu Cui, Chao An, Yunhua Li*

#### D1-8. 10:45

I-7986. Positivity Creation and its Effect on Idea Patentability: A Case of a New Faucet Invention

*Chi-Hua Wu, Ding-Bang Luh*

# Sunday, October 2<sup>nd</sup>

## Oral & Poster Session E1

MNHTE 2016 ♦ M105

09:00-12:00

### 2. Micro & Nanoscale Heat Transfer and Energy

Chairman: Yu-Bin Chen

- National Tsing Hua University

Chairman: Ming-Chang Lu

- National Chiao Tung University

#### E1-1.

2-315. Influence of Magnetic Forces on the Pendant Drop Surface Tension of Magnetic Fluids

*Huei Chu Weng, Jun-Yu Zhang*

#### E1-2.

2-335. Transport analysis and nanowire enhancement for microscale porous thin plate drying with solar energy

*Abdoul Karim Sekone, Yu-Bin Chen, Ming-Chang Lu, Ming-Tsang Lee*

#### E1-3.

2-355. Tunable Endothermic Plateau Obtained Using Binary Metal Alloy Particles

*Chih-Chung Lai, Shih-Ming Lin, Yuan-Da Chu, Chun-Che Chang, Yu-Lun Chueh, Ming-Chang Lu*

#### E1-4.

2-364. Die-bonding materials for light-emitting diode application

*Li-Chin Cheng, Tzu-Hao Wang, Chih-Ming Chen*

#### E1-5.

2-368. Thermal characteristics and

management of high power LED module

*Kai Shing Yang, Chih-Ting Yeh, Shih-Kuo Wu, Chih-Yung Tseng, Ming-Tsang Lee*

#### E1-6.

2-377. Dynamic Behaviors of H<sub>2</sub>S Nano-spray at Extremely Low Temperature

*Pei-Hsing Huang, Chung-Han Shieh, Cheng-Chen Pan, Jheng-Yu Luo*

#### E1-7.

2-378. Performance of Direct Formic Acid Microfluidic Fuel Cells with Different Pd/C Ratios

*Jin-Cherng Shyu, Po-Yan Wang*

#### E1-8.

2-386. Experimentally study on jet noise characteristics

*Weiwei Xu, Qiang Li*

#### E1-9.

2-387. The Study on Gas-liquid Two-equation turbulence Model for Small Bubbly Flow

*Xinyue Duan, Liang Gong, Runjie Shen, Minghai Xu*

#### E1-10.

2-388. The Development and Transport Phenomena Analysis of Laser Direct Synthesis and Patterning Microfabrication Technology

*Song-Ling Tsai, Chen-Jui Lan, Yi-Kai Liu, Chia-Feng Lin, Ming-Tsang Lee*

#### E1-11.

2.389. An experimental and analytical study of the thermal deformation of a 3-axis machining center spindle head

*Chia-An Liu, Chih-Cherng Ho, Ming-Tsang Lee*

# Sunday, October 2<sup>nd</sup>

Oral Session A2 📍 M101  
13:30-16:30

**K. Others**

**N. Electrical Engineering/  
Energy/Communications**

**K. Inventions and Innovation in  
Electrical Engineering/  
Energy/Communications**

*Chairman: Shang-Yuan Chen*

*- Feng Chia University*

*Chairman: Yao-Hua Chen*

*- Information and Communications Research  
Laboratories, Industrial Technology  
Research Institute*

## A2-1. 13:30

K-329. Effects of regular exercise on functional fitness of community elderly

*Tsui-Er Lee*

## A2-2. 13:45

K-374. A fast learning prognostics and health management system for organic light-emitting diode manufacturing process

*Yu-Tsung Hsiao, Hung-An Kao, Yi-Hung Liu,  
Shiuan Huang, Sung-Hua Yu*

## A2-3. 14:00

N-326. Up-to-N Write: An energy efficient write scheme for Phase Change Memory

*Yao-Hua Chen*

## A2-4. 14:15

N-383. Stability-Considered Density-Adaptive Routing Protocol with an Optimum Angle Value in Wireless Sensor Networks

*Young-Long Chen, Yu-Ling Zeng, Yan-Hao Ling*

## A2-5. 14:30

K-8001. Intelligent Maintenance Scheduling System for Maximum Performance of Solar Energy Generating System

*Chung-Chi Huang, Sheng-Fong Yang*

## A2-6. 14:45

K-8077. Smart Grid -based Home Energy Aware System

*Shang-Yuan Chen, Zhen Lun Hu*

## A2-7. 15:00

K-8092. A Geometry Classification Method and Device for Femtocell Positioning Networks

*Jeich Mar, Tsung Yu Chang, Yu Jie Wang*

# Sunday, October 2<sup>nd</sup>

Oral Session B2 ♥M103

13:30-16:30

**C. Inventions/innovation in devices, sensors and actuators**

**E. Inventions/innovation in sensing and automation System**

**L. Others related to Inventions**

*Chairman: Shao-Ming Yang*

*-Asia university*

*Chairman: Hao-Ting Lin*

*-Feng Chia University*

## B2-1. 13:30

C-7974. Sensitivity study of polysilicon nanowire based on scattering and quantum mechanics models

*Aanand, Gene Sheu, Syed Sarwar Imam, Shao Wei Lu, Shao-Ming Yang, Ming Jen Fan*

## B2-2. 13:45

C-7975. Analysis of Anti-JFET for 600V VDMOS and HCI Reliability

*Shao-Ming Yang, Gene Sheu, Chiu-Chung Lai, Ravi Deivasigmani*

## B2-3. 14:00

C-7988. An Innovated 80V-100V High-Side Side-Isolated N-LDMOS Device

*Shao-Ming Yang, Gene Sheu, Ting-Yao Chien, Chieh-Chih Wu, Tzu-Chieh Lee, Ching-Yuan Wu, Chiu-Chung Lai*

## B2-4. 14:15

C-7990. Design of a low on resistance novel high side 120V 3D NLDMOS with side isolation based on 0.35um BCD Process

Technology

*Shao-Ming Yang, Gene Sheu, Tzu-Chieh Lee, Ting-Yao Chien, Chieh-Chih Wu, Yun-Jung Lin*

## B2-5. 14:30

C-7995. 80-100V Low Side LDMOS device with Sided Isolation of 0.35um CMOS compatible Process

*Ravi DeivaSigamani, Gene Sheu, S. Selvendran, S. Krishna Sai, Chirag Aryadeep, Shao-Ming Yang*

## B2-6. 14:45

C-7997. 120V Low Side LDMOS device with Sided Isolation of 0.35um CMOS compatible Process

*DeivaSigamani, Gene Sheu, Chirag Aryadeep, S. Krishna Sai, S. Selvendran, Shao-Ming Yang*

## B2-7. 15:00

C-8004. Study of HCI Reliability for PLDMOS

*Ravi DeivaSigamani, Gene Sheu, Aanand, Shao-Wei Lu, Syed Sarwar Imam, Chiu-Chung Lai, Shao-Ming Yang*

## B2-8. 15:15

E-7966. The Real-time Path Tracking Servo Control of a Rod-less Pneumatic Cylinder System with an Asymmetrical Load by the Fourier Series-based Adaptive Sliding-mode Controller with H-inf Tracking Performance

*Hao-Ting Lin*

## B2-9. 15:30

E-8588. Robust Sliding Mode Observer Design for State Estimation and Unknown Input Reconstruction

*Chao-Chung Peng*

**B2-10. 15:45**

E-8390. Automated Defect Detection of  
composites by Infrared Thermography and  
Image Processing

*Terry Yuan-Fang Chen, Guan-Yu Lin, Jian-Lun  
Chen*

**B2-11. 16:00**

L-7969. The Novel Industrial and Business  
Models of Industry 4.0

*Hao-Ting Lin*

# Saturday, October 1<sup>st</sup>

Poster 1 📍 Corridor  
13:30-14:30

## Poster 1-1.

E-254. Material Property Assessment of Thermoplastic by Fused Deposition Modeling  
*Kai-Hsiang Yen, Carl Wang*

## Poster 1-2.

1-259. PSO-Based Voltage Control Strategy for Loadability Enhancement in Smart Power Grids  
*Heng-Yi Su, Yu-Liang Hsu, Yi-Chung Chen*

## Poster 1-3.

4-279. The Effect of CNC Controller Gains on Rigid Tapping  
*Chen Shao-Hsien, Liu Zhi-Xin, Lin Jian-Cheng, Lin Meng-Ying*

## Poster 1-4.

B-280. Nonlinear Modeling of Electrically-Actuated Circular Clamped Micro-Plate in presence of Squeeze-Film Effect  
*Chin-Chia Liu*

## Poster 1-5.

F-286. Fuzzy Control Design for Wheeled Mobile Robot with Laser-Range-Finder Localization  
*Chung-Hsun Sun, Yin-Tien Wang, Sheng-Kai Huang, Cheng-Wei Ye*

## Poster 1-6.

G-288. The Control System for Volatile Organic Compounds Catalytic Reduction Performance Analysis  
*Ming-Sen Hu, Liang-Hsiu Chen*

## Poster 1-7.

3-290. Investigation of process parameters on the structural, optical and electrical properties of Mo doped ZnO on PI flexible substrate  
*Tao-Hsing Chen, Bo-Luen Jiang*

## Poster 1-8.

C-292. Nonlinear Dynamic Performance Analysis of Cutting Vibration System  
*Chin-Tsung Hsieh, Her-Terng Yau, Zhen-Hong Liao, Cheng-Chi Wang*

## Poster 1-9.

3-298. Effect of Sintering Temperature on Microstructures and Microwave Dielectric Properties of Ba<sub>2</sub>CaWO<sub>6</sub> Ceramics  
*Yih-Chien Chen, Ruei-Yang Syu, Xiang-Fu Ding*

## Poster 1-10.

3-303. Stress-Induced Failure Estimation of Embedded Carrier Utilized in 3D-ICs Integrations  
*Chang-Chun Lee*

## Poster 1-11.

J-311. Highly Transparent and Conductive Multilayer IGZO/Ag/IGZO Films Deposited by Sputtering  
*Cheng-Fu Yang, Jing Liu, Chia-Ching Wu, Chao-Ming Hsu, Yu-Hsin Chen*

### Poster 1-12.

N-312. Effect of  $\text{Eu}_2\text{O}_3$  Concentration on the Properties of the  $\text{Sr}_{2-x}\text{Ca}_x\text{SiO}_4$  Fluorescent Materials

*Kun-Neng Chen, Chia-Ching Wu, Chien-Chen Diao, Cheng-Fu Yang, Lan-Sin Liou*

### Poster 1-13.

C-314. Effect of Notch Size on Nanocrystalline Au under Tensile Deformation at Low Temperature

*Cheng-Da Wu, Hsing-Wei Tsai*

### Poster 1-14.

J-317. Resonance Wavelength Dependence of the Absorbance in infrared on Anisotropic Metamaterials

*Bo-Hung Chen, Yu-Bin Chen, Ting-Xuan Huang*

### Poster 1-15.

J-318. The designing methods of energy saving glass

*Fu-Yuan Shih, Yu-Bin Chen, Mao-Chuan Cheng*

### Poster 1-16.

H-323. Transitions of natural convection flows in a differentially heated square cavity filled with nanofluids

*Chuan-Chieh Liao*

### Poster 1-17.

F-324. Swirling gas jet assisted laser percussion drilling for galvanometer scanned  $\text{CO}_2$  laser

*Chao-Ching Ho, Ke-Ying Shen, Yuan-Jen Chang, Jin-Chen Hsu, Chia-Lung Kuo*

### Poster 1-18.

I-327. Immunosensing for Bladder Cancer Cell Lysate in a Nanofluidic Preconcentrator

*Meng-Syuan Wu, Pin-Hsuan Chen, Ting-Feng Wu, Cheng-Hsin Chuang, Chun-Ping Jen*

### Poster 1-19.

H-332. A study on the Solid-Liquid Rotating Flow in an Inclined Annulus

*Sang-mok Han, Nam-sub Woo, Young-ju Kim*

### Poster 1-20.

N-333. None Operational Amplifier (OPA) Based: Design of Bandgap Reference Voltage

*Hao-Ping Chan, Yu-Cherng Hung*

### Poster 1-21.

C-340. Control Analysis for the influence of Toxin Producing Phytoplankton on the Aquatic System

*Cheng-Chi Wang, Tsui-Er Lee, Rong-Lin Horng*

### Poster 1-22.

H-353. The Cooling Effect of Heat Sink on LED's Optical Properties

*Tzer-Ming Jeng, Sheng-Chung Tzeng, Ya-Jing Liu*

# Saturday, October 1<sup>st</sup>

## Poster 2 ♥ Corridor

14:30-15:30

### Poster 2-1.

H-354. Technique Development and Performance Test of LED Finned Heat Sinks with Piezoelectric Blades

*Sheng-Chung Tzeng*

### Poster 2-2.

G-356. Automatic People Counting System Based on Face Detection in Video Surveillance

*Chien-Hao Tseng, Chung I Huang, Fang-Pang Lin, Tso-Chung Sung*

### Poster 2-3.

E-358. A Preliminary 2-D Finite Element Analysis of an Involute Flex Spline

*Yi-Cheng Chen, Yun-Hao Cheng, Jui-Tang Tseng, Kun-Ju Hsieh*

### Poster 2-4.

E-359. Effect of Bearing Preload on the Temperature Rises and Dynamic Characteristics of the Spindle Tool System

*Jui-Pui Hung, Yong-Run Chen, Shen-He Tsui, Kung-Da Wu*

### Poster 2-5.

B-385. A new algorithm of global tightly coupled transient heat transfer based on quasi-steady flow for conjugate heat transfer problem

*MENG Fanchao, DONG Sujun, JIANG Hongsheng, WANG Jun*

### Poster 2-6.

C-405. Study on UV LED Exposure system for Wafer-Level Camera Lenses

*Kuo-Tsai Wu, Sheng-Jye Hwang, Huei-Huang Lee*

### Poster 2-7.

B-7516. RP-Checker for Six-Axis Industrial Robot Arm Joints Angle Measurement

*Hau-Wei Lee, Chien-Hung Liu*

### Poster 2-8.

F-7879. Prototype development of a low-temperature fuel cell stack with four inner sensing function

*Chi-Yuan Lee, Chia-Hung Chen, Shyong Lee, Ten-Lom Chen, Ti-Ju Lee*

### Poster 2-9.

F-7880. Development of internal real-time wireless microscopic diagnosis tool for thin fuel cell stack and its application on electric motorcycle range extender

*Chi-Yuan Lee, Chia-Hung Chen, Shyong Lee, Jyun-Ting Lin*

### Poster 2-10.

C-7881. Application of real-time remote microscopic diagnostic technique for thin fuel cell stack performance decay and aging analysis to unmanned aerial vehicles

*Chi-Yuan Lee, Chia-Hung Chen, Shyong Lee, Chao-Hsuan Tsai, Yi-Chang Shiu*

### Poster 2-11.

K-7959. Hybrid organic-inorganic thiocyanate-based pseudohalide perovskite solar cells

*Yu-Hsien Chiang, Ming-Hsien Li, Peter Chen*

### Poster 2-12.

B-8005. Expert-System Based Path Planning for Self-Moving Robots

*Chun-Chieh Wang, Zhan-Xian Ye*



### Poster 2-13.

D-8035. Study on Machining Parameters of the Gear Hobbing

*Chuang-Kai Chang, Ruei-Hung Hsu*

### Poster 2-14.

G-8393. Innovative Y211F-Modified Iron Oxide Nanoparticles for Photothermally-Triggered Peptide Release and Therapy

*Ping-Shan Lai, Wei-Jhe Syu, Jo-Hua Hsu*

### Poster 2-15.

G-8412. Application of Mesoporous Silica Nanoparticles on Photothermally-Triggered Doxorubicin Release to Overcome Drug-Resistant MCF-7/ADR cells and Ultrasound Contrast Imaging

*You-Sin Jian, Chun-Wei Chen, Ping-Shan Lai*

### Poster 2-16.

G-8506. Enhanced In Vitro and In Vivo Photodynamic Therapy by Targetable C225-Conjugated Polymeric Micelles

*Chin-Ling Pai, Ying-Chen Chen, Hsiu-Ping Yu, Hsuan-Ying Chen, Chia-Yen Hsu, Hong-Lin Su, Alexander J. MacRobert, Ping-Shan Lai*

### Poster 2-17.

K-8476. Analyses and Control of Chaotic Behavior in DC-DC Convertors

*Kuo-Nan Yu, Her-Terng Yau, Yi-Hung Lin*

### Poster 2-18.

C-361. Modeling Method of Pump Geometry in the 2 stage Mixed Flow Pump for Seawater Lifting

*Nam-Sub Woo, Sang-Mok Han, Young-Ju Kim*

### Poster 2-19.

C-362. A Study on the Structural Analysis of Umbilical Winch for ROV LARS(Launch and Recovery System)

*Nam-sub Woo, Sang-mok Han, Hyun-Ji Kim, Young-ju Kim, Sun-Chul Huh*

### Poster 2-20.

K-262. Characteristics of hair cuticles after hair oil treatments

*Chia-Ling Chang, Tsung-Han Ho, Te-Hua Fang*

### Poster 2-21.

F-258. Comparisons of position control of valve-controlled and pump-controlled two-degree-of-freedom electro-hydraulic parallel robots

*Ray-Hwa Wong, Wei-Heng Wong*