

Saturday, December 17th

Oral Session A1 📍 Room A
13:30-15:45

A. Advanced Machining and Forming Processes Measurement
H. Additive Manufacturing Technology
I. Smart Manufacturing Technology for Industry 4.0

Chairman: Hsi-Fu Shih

-National Chung Hsing University

Chairman: Kuang-Jau Fann

- National Chung Hsing University

A1-1. 13:30

A-9185. Study on Grain Coarsening in Aluminum Alloy 6061 by Using Ring Compression Test

Kuang-Jau Fann, Chun-Chi Chen

A1-2. 13:45

H-8559. The Development of Tank Swapping for Powder Bed Additive Manufacturing

Jia-Chang Wang, Chia-Chen Wang, Wei-An Tsai

A1-3. 14:00

H-8560. Development of a customized assistive bite-pen for disabled people by using additive manufacturing

Jia-Chang Wang, Hsiang Hsieh, Yen-Hsun Lin

A1-4. 14:15

H-8562. The Development of Hybrid Manufacturing Systems for Skeleton Surface Object

Jia-Chang Wang, Mon-Lin Wu, Shao-Wei Chen

A1-5. 14:30

H-8563. The development of Slurry-based Ceramic Additive Manufacturing system with no solvent

Jia-Chang Wang, Yi-Min Jiang, Tsung-Han Wu

A1-6. 14:45

H-8567. The Design and Implementation of a FDM Type Additive Manufacturing System
Jia-Chang Wang, Ming-Qian Jiang, Sih-Hao Lin

A1-7. 15:00

H-8656. Ontology-Based Service Process and Patent Informatics for Collaborative Service Innovation: The Case of Orthodontic 3D Printing

Amy J.C. Trappey, Tong-Mei Wang, Charles V. Trappey, Jasmine T.C. Tung, Mark Y.L. Tang

A1-8. 15:15

H-9137. Fabrication of Zirconia Ceramic parts using Solvent Based Slurry by Stereolithography & Sintering process

Jia-Chang Wang, Hitesh Dommati

A1-9. 15:30

I-9053. Analysis of Workpiece-Clamp AE Signals for Tool Wear Monitoring System in the Milling of Inconel 718

Chen-Yu Liang, Ming-Chyuan Lu

Saturday, December 17th

Oral Session B1 ♥ Room B
13:30-15:45

**F. Precision Engineering
Measurement**

K. Others

**L. Military-civilian dual-use
technologies (invited session)**

Chairman: Jeich Mar

-Yuan-Ze University

Chairman: Sergei Alexandrov

*- Institute for Problems in Mechanics,
Moscow, Russia*

B1-1. 13:30

F-8457. Channel Parameter Measurements of Indoor LTE System for the Industrial Internet of Things

Jeich Mar, Guan-Yi Liu, Tsung-Yu Chang, Yu-Jie Wang, Yung-Chun Chiang

B1-2. 13:45

F-9820. Development of image processing setup for an auto-scraping machine

Szu-Lin Liu, Chun-Yuan Yeh, Po-Chun Chi, Shih-Chieh Lin

B1-3. 14:00

K-8952. A new method of finding stress solutions in plastically compressible solids

Sergei Alexandrov

B1-4. 14:15

K-9093. Multi Power Bank

Wei Bin Yang, Guan-Yu Chen

B1-5. 14:30

K-9124. A parameter identification method for structural systems using moving window Fourier Transform

Wenlung Li, Kuo-Ching Liu, You-Rong Lin

B1-6. 14:45

K-9734. An Adjustable Liquid-Liquid Extraction device for the Extraction of Pharmaceutical Compounds

Yu-Lung Chang, Chen-Han Chuang, Ya-Yu Chiang

B1-7. 15:00

L-8461. Applications of energy storage for family and community

Chih-Hsien Chung, Gwo-Huei You, Kuo-Sheng Fu, Kuo-Kuang Jen, Chien-Hao Chen, Chi-Sheng Wu, Shu-Hsien Wen, Wei-Min Hsiao, Tsung-Jung Wu, King Chen, Chen-Ho Huang

B1-8. 15:15

L-8485. Synthesis of Egg-shell Pd catalyst supported on Al₂O₃

Shu-Jen Chiang, Yu-Wen Chen

B1-9. 15:30

L-8551. Material analysis and electrical properties of nanostructured vanadium oxide (VO_x) thin films for microbolometer

Hsin-Chang Chen

Saturday, December 17th

Oral Session C1 ♥ Room C
13:30-15:45

B. Micro- and Nano-Fabrication
C. Tribology for Manufacturing
E. Bio-medical Manufacturing
G. Robotics and Automation

Chairman: Wen-Cheng Kuo

*- National Kaohsiung First University of
Science and Technology*

Chairman: Albert Wen-Jeng Hsue

*- National Kaohsiung University of Applied
Sciences*

C1-1. 13:30

B-8540. Accelerated-Lifetime-Soak-Test of flexible 3D wireless implantable biomedical system

Wen-Cheng Kuo, Huei-Jun Wang, Wei-Ching Wang, Kuan-Chiao Cheng

C1-2. 13:45

B-8700. Maskless Lithography Realized by Digital Projection Optics and Point Array Oblique Scanning Method

Hung-Liang Chien, Yung-Chun Lee

C1-3. 14:00

B-9041. Structural coloration polymer labels based on photonic crystal grating

Chang-Yi Peng, Ching-Wen Li, Che-Wei Hsu, Chien-Chung Jeng, Cheng-Chung Chang, Gou-Jen Wang

C1-4. 14:15

B-9953. Fabrication of floating image devices using a 3-D printer

Cheng-Yu Li, Hsi-Fu Shih

C1-5. 14:30

C-8570. Discharge Coating on Mold Steel Surface through Wire-EDM by Nickel-coated Wire and Conventional Brass Wire

Albert Wen-Jeng Hsue, Sheng-Hsuan Chiu, Yang-Lei Lin

C1-6. 14:45

C-9954. Friction Characteristics for Sliding Blocks with Micro Grooves

Hsin-Chih Wang, Jhy-Cherng Tsai, Pin-Lun Huang, Jhy-Ming Chen

C1-7. 15:00

E-8608. Study on Brain phantom in Surgical Training

Kuan-Ting Liu, Fu-Ren Xiao, Hong-Tsu Young, Chao-Yang Huang

C1-8. 15:15

G-8602. Robotic Surgical Assistant for minimally invasive cranial surgery

Ding-Yuan Chen, Fu-Ren Xiao, Hong-Tsu Young, Chao-Yang Huang

C1-9. 15:30

E-8932. Surface Treatment on Physical Properties and Biocompatibility of Orthodontic Power Chains

Yung-Kang Shen

Saturday, December 17th

Poster 1 📍 1F Corridor
13:30-14:30

Poster 1-1.

L-8131. The multi functional kitchenware with integrated wireless networking technology

Ming-Hung Lin, Tsung-Hao Yang, Jung-Chieh Chang

Poster 1-2.

A-8200. Production of Stainless Steel 316L Powder for Additive Manufacturing by Gas Atomization Processes

M. R. Wang, K. L. Lai, W. C. Tseng

Poster 1-3.

L-8466. Application of Vacuum Assisted Resin Transfer Molding in Highly Loaded Structures of Composite Bridge

Kuo-Wei Wu, Chih-Chia Chen, Tseng-Chung Ko

Poster 1-4.

L-8475. The thermal reliability analysis of metallized AlN substrate

C. T. Wu, Y. K. Kuo, P. S. Huang, C. H. Lin, M. Y. Tsai

Poster 1-5.

F-8480. Measuring and Compensating Methods for Spatial Positioning Accuracy of a Six-Axis Industrial Robot

Chien-Hung Liu

Poster 1-6.

G-8502. Investigations of the Force and Contour Tracking Control of the Robot Arm

in Polishing Operations

Liang-Kuang Chen, Ssu-Hsien Kuo

Poster 1-7.

I-8514. IEC 61499 Application in Leveling Production Line

Yi-Chih Fan, Cheng-Chen Yang, Jen-Yuan (James) Chang

Poster 1-8.

I-8522. Intelligent Coil Leveling Machine Development through Cyber-Physical Systems Integration

Brian Chen, Jen-Yuan (James) Chang

Poster 1-9.

H-8538. Impact test of 3D-printing photopolymer specimens

Fan-Chun Hsieh, Ping-Hung Lin, Hsu-Pin Pan

Poster 1-10.

I-8541. Intelligent Coil Leveling System based on Deep Learning methods

Sung-Yu Tsai, Jen-Yuan (James) Chang

Poster 1-11.

F-8543. The development and optimization of an optical autofocus system by adopting the dual-confocal configuration

Chien-Sheng Liu, Chia-Ming Jan, Jyun-Yi Yang

Poster 1-12.

B-8547. Self-Adjusting Blade Coating for Large-Sized Polymeric Light Emitting Diode Lighting

J.-W. John Cheng, Yo-Han Wu, Tzu-Ching Yang, Chuang-Hung Chiu, Yen-Yu Huang, Yeh-Min Lin, Chang-Pen Chen

Poster 1-13.

A-8590. An Investigation on Vibration-Assisted Glass Cutting

Jhy-Cherng Tsai, Yuan-Hung Tsai

Poster 1-14.

I-8625. Smart Manufacturing Study of the Innovative Mushroom Production Line

Rong-Yuan Jou, Trung-Hung Nguyen

Poster 1-15.

H-8646. Evaluation of the physico-mechanical properties of activated-carbon enhanced recycled polyethylene/polypropylene filament for 3D printing

Siewhui Chong, Guan-Ting Pan, Thomas C.-K. Yang, Yi-Fan Chen, Jaron Keng

Poster 1-16.

B-8688. Fabrication of Transparent Thin Film Transistor with Zinc Indium Tin Oxide Channel Layer

Sheng-Po Chang, Yi-Shiang Hsiao, Wen-Chen Hua, Jun-Yi Li

Saturday, December 17th

Poster 2 📍 1F Corridor

14:30-15:45

Poster 1-1.

A-8885. Sidewall Curl Reduction Using Active Drawbead with Advanced High Strength Steel

Yu-Ting Yeh, Sin-Liang Lin, Kai-Chieh Hsu, Kuan-Ming Li, Fuh-Kuo Chen, Yi-Kai Lin

Poster 1-2.

B-8913. Performances of nanostructures within InGaN-based Multiquantum-well Light-emitting Devices

Ya-Fen Wu, Jiunn-Chyi Lee

Poster 1-3.

K-8976. Impact Deformation Behaviour and Microstructural Evolution of AZ80 Magnesium Alloy under Different Temperatures

Woei-Shyan Lee, Cheng-Wen Chou, Ming-Chi Lu

Poster 1-4.

K-8982. Wireless Power Collection Using Radio Frequency Identification System

Chun-Hsi Su, Shih-I Huang

Poster 1-5.

D-9076. A Study on Maximum Effective Face Width without Tooth Pointing of Curvilinear Gears Generated by Male Fly Cutters

Yi-Cheng Chen, Zhi-Wei Li, Chien-Cheng Lo, Zhi-Gen Wang, Chien-Sheng Liu

Poster 1-6.

K-9095. Optimum Design of Bipod Flexures on a Spaceborn Primary Mirror under Different Conditions

Chia-Yen Chan, Shenq-Tsong Chang, Yi-Kai Huang, Ting-Ming Huang

Poster 1-7.

A-9106. The optimal blank shape of the oil pan deep drawing

Yen-Liang Yeh, Hsien-Jung Hsu, Ming-Jyi Jang, Hung-Pu Yeh

Poster 1-8.

E-9190. The Study of Optimal Parameters on Metal Surgical Guide Tubes Structure Design for Spinal Fusion Surgery

Chia-Hung Yeh, Fuh-Yu Chang, Yi-Tse Chang, Hong-Tsu Young

Poster 1-9.

A-9193. Countersunk Studs Hot Forged in Core-Shell Type Metal Composite

Kuang-Jau Fann, Wei-Ang Lai

Poster 1-10.

K-9254. Development of a Safe and Energy Efficiency Water Heater by Induction Heating

Huy-Tien Bui, Sheng-Jye Hwang, Huei-Huang Lee, Durn-Yuan Huang, Zen-Jie Wang

Poster 1-11.

A-9303. Reduction of Sidewall Curl in Sheet Metal Forming of Advanced High Strength Steels via Blank Holder Force

Meng-Chieh Wang, Sin-Liang Lin, Chun-Kai Hsu, Kuan-Ming Li, Fuh-Kuo Chen, Yi-Kai Lin

Poster 1-12.

F-9426. Development of A Computer-Aided Analysis System for Assembly Precision of A Machine Tool

Zing-Ping Liu, Jhy-Cherng Tsai, Chun-Jung Su

Poster 1-13.

K-9510. Tolerance and Motion Analysis of Antenna Mast

Jau-Liang Chen, Ming-Hong Shih, Chen-Yang Hong, Xun-Yao Lin, Chih-Wei Chao, Jhy-Cherng Tsai, Chi-Hang Lin

Poster 1-14.

F-9714. Fiber Bragg Grating Interrogation System for Angular Velocity Measurement

Ming-Chang Shih, Ying-Hong Lin, Ying-Hong Lin, Ming-Chang Shih

Poster 1-15.

K-9740. EEG Coherence of Recognition Memory: Inter Hemispheric Connectivity Analysis

Li-Pen Chao, Jiin-Po Wu

Poster 1-16.

K-9744. Simulation on Geological CO₂ Storage in the Western Taiwan Basin

Neng-Chuan Tien, Cai Li, Keni Zhang, Chun-Ping Jen

Saturday, December 17th

Chiuan-Yan Thesis Award

◆ 1F-Recreation Center

13:30-15:45

Poster 01.

Z-T 平台之驅動暨應用於熱沉之動態熱傳量測

作者：呂祈旻、楊博堯、李宏銘

指導教授：曾憲中、鄭澤明

Poster 02.

運用數位影像相關法量測 XXY 精密對位平台的運動軌跡並開發即時追跡技術

作者：王盛儀、黃右年

指導教授：馬劍清、張敬源

Poster 03.

精密對位雷射誘發大氣電漿透明導電薄膜成形系統

作者：陳文凱、黃佩君、藍辰睿

指導教授：莊嘉揚、李明蒼

Poster 04.

自動孔徑檢測校正平台

作者：江韋勳、吳俊陞、陳宏輔

指導教授：陳俊仁

Poster 05.

雙自由度雷射光學尺量測技術

作者：孫柏彥、李柏緯

指導教授：謝宏麟

Poster 06.

應用 XXY 平台於影像檢測方法之研究-以 IC 焊接於 PCB 之品質檢測為例

作者：李孟軒、李冠德

指導教授：蕭瑛星

Poster 07.

磁共振耦合之無線電能傳輸暨其迴圈共振天線之效率改善研究

作者：劉俊呈、巫德彥

指導教授：陳華明、林憶芳

Poster 08.

不同退火溫度對 $\text{Ag}_{0.6}\text{Pb}_{18}\text{Sb}_5\text{Te}_{20}$ 之熱電性能與微觀結構之影響

作者：曾廷揚

指導教授：陳道星

Poster 09.

鋁元素對銅基金屬玻璃之機械性質與微觀結構影響

作者：林宜君

指導教授：陳道星

Poster 10.

應用立體數位影像相關法於結構承受動態加載的三維變形量測與損傷檢測

作者：陳亮至

指導教授：馬劍清、張敬源

Poster 11.

大行程精密平台之定位控制

作者：王國安、彭奕愷

指導教授：王富正

Poster 12.

Nano-imprinting of structural coloration polymers

作者：彭長毅、李靜雯

指導教授：王國禎、鄭建宗

Poster 13.

自適應模糊滑模 PI 控制在 XY 平台軌跡應用

作者：林庭煥、劉冠佑

指導教授：毛偉龍

Poster 14.

應用 XXY 對位平台發展高效率六軸微陣
列晶片點印平台
作者：莊凱文、楊孟晨、賴仁斌
指導教授：陳瑄易

Poster 15.

應用位置感測器於 XXY 平台閉迴路控制
作者：蔡秉桓、胡瑋倫、鄭亦翔
指導教授：劉晉嘉

Poster 16.

光強比對式平板對位裝置
作者：劉翰揚、蔡朥懊、陳雅君
指導教授：林瑞璋、王永成

Poster 17.

地震儀應用於平台震動量測
作者：蕭宇傑、許俊智
指導教授：李朱育

Poster 18.

新式泛用撓性陣列夾具之設計與夾持穩固
度分析驗證
作者：曾一中、林洋磊
指導教授：許文政