
 On-demand video presentation

- [ODVP-01] Study on estimation of skin scratch intensity by scratch sound analysis
*Takeshi Okuyama¹, Mami Tanaka¹ (1. Tohoku University)
- [ODVP-02] Digital Image Based Characterization of a Silicone Composite Vaginal Tissue Analog
*Yu Ming Li¹, Po-Han Chen¹, Rafaela Simoes-Torigoe¹, Shengfan Hu¹, Karcher Morris¹, Gabrielle Scott¹, Raphaelle Paracuellos¹, Jyoti Mayadev¹, Milan Makale¹, Frank E Talke¹ (1. UC San Diego)
- [ODVP-04] A Soft Robotic Closed-Loop System for the Treatment of Vaginal Stenosis
*Shengfan Hu¹, Karcher Morris², Po-han Chen¹, Rafaela Simoes-torigoe¹, Yu Li¹, Milan Makale³, Jyoti Mayadev³, Frank E. Talke¹ (1. Center for Memory and Recording Research, UC San Diego, 2. Department of Electrical and Computer Engineering, UC San Diego, 3. Moores Cancer Center, UC San Diego)
- [ODVP-05] Investigation of two wearable methods for measuring surgeon neck motion using inertial and hybrid measurement devices
*David Bian¹, Darell Chua Yun Da¹, Christina Mai¹, Yonghua Li¹, Shanglei Liu², Karcher Morris¹ (1. Department of Electrical and Computer Engineering, UC San Diego, 2. Department of Surgery, UC San Diego Health System)
- [ODVP-06] Study on the development of a wearable braille reading sensor system by finger vibration measurement
*Haruka Mitsugi¹, Mami Tanaka¹, Takeshi Okuyama¹ (1. Tohoku univ.)
- [ODVP-07] Augmented Reality Assisted Surgical Site Location With Non-Invasive Markers
*Darin Tsui^{1,2}, Mitsuhiro Jo^{1,2}, Bryan Nguyen^{1,2}, Farshad Ahadian³, Frank E Talke^{1,2} (1. University of California San Diego, 2. Center for Memory and Recording Research, 3. University of California San Diego Medical Center)
- [ODVP-08] Novel Design of a Linear Actuator using a SMA Wire in Hexagonal Architecture
*Hussein Fouad Mohamed Ali^{1,2}, Youngshik Kim² (1. Benha university, Benha, Egypt, 2. Hanbat National Univeristy, South Korea)
- [ODVP-09] Small-Scale Knee Exoskeleton using SMA Springs
*Hussein Fouad Mohamed Ali^{1,2}, Youngshik Kim² (1. Benha university, Benha, Egypt, 2. Hanbat National Univeristy, South Korea)
- [ODVP-10] A conceptual proposal for muscle injection robot into artificial deltoid utilizing 3D depth camera
*Koichi Sagawa¹, Natsuho Suzuki¹, Yoshitaka Ishii¹, Ryosuke Kowatari¹ (1. Hirosaki University)
- [ODVP-11] End-group analysis of perfluoropolyether used as hard disk lubricant using mass spectrometry
*Toshiji Kudo¹, Yoshifumi Mori¹, Aya Inoue², Tsuyoshi Shimizu², Hiroshi Tani³ (1. Bruker Japan K.K., 2. MORESCO Corporation, 3. Kansai University)
- [ODVP-12] Cam function design to damp surging of a valve spring approximated by 2 or 3DOF
*Shohei Hibino¹, Shigeo Kotake¹ (1. Mie Univ.)
- [ODVP-13] Real-time measurement of the curing process of nanometer-thick photocurable liquid films using the fiber wobbling method
*Yong Bum Park¹, Shintaro Itoh^{1,2}, Kohei Aratani¹, Fengchang Lin¹, Kenji Fukuzawa¹, Naoki Azuma^{1,3}, Hedong Zhang¹ (1. Nagoya University, 2. JST PRESTO, 3. JST ACT-X)
- [ODVP-15] Iterative Learning Control-Based Ripple Compensation in Web Handling Systems
*Tomoya Homan¹, Kenta Seki¹ (1. Nagoya Institute of Technology)
- [ODVP-16] Application of Multi-objective Optimization to Front-loading Washer/Dryer using Monte Carlo Method
*Yasuyuki Joko¹, Shinya Honda², Ryo Takeda², Katsuhiko SASAKI² (1. Hitachi, Ltd., 2. Hokkaido Univ.)
- [ODVP-17] Influence of the placement of multilayer ceramic capacitors on the vibration of printed circuit board
*Wheejae Kim¹, Youngjin Park¹, No-Cheol Park¹ (1. Yonsei Univ.)

- [ODVP-18] Design and Analysis of Piezo driven Fast Steering Mirror Using FE Analysis Model
*Seonbin Lim¹, Junsun Yoo¹, Seoung-Han Lee², No-Cheol Park¹ (1. Yonsei University, 2. LIG Nex1)
- [ODVP-19] Development of Optical Coherence Tomography system based on Telecentric F-Theta Imaging Optics With Wide Image Width for In-Situ Surface Defect Detection
Seungseok Lee¹, Hyun Choi², *Wanchin Kim³, Eunseo Choi¹ (1. Chosun Univ., 2. Gyeongsang National Univ., 3. Hanbat National Univ.)
- [ODVP-20] A study on the improvement of the temperature uniformity of the FDM method 3D printing chamber capable of printing high melting point materials
*Seungye Heo¹, Yurim Kim¹, Seong-jin Cho², Sangwook Lee², Wanchin Kim¹ (1. Hanbat National Univ., 2. WonKwang Univ.)
- [ODVP-21] Design of Pendulum-type Induction Device for Calligraphy Handwriting Training
*Naoaki Tsuda¹, Shotaro AMINO¹, Yasutomo NAKABAYASHI¹, Yoshihiko NOMURA², Norihiko KATO³ (1. National Institute of Technology, Wakayama College, 2. Mie Prefecture Industrial Research Institute, 3. Mie University)
- [ODVP-22] Study on human-robot ensemble : Experiments on Performance Timing Detection and Pure Chord Playing
*Kazuteru Tobita¹, Ryusuke Ishikawa¹, Kazuhiro Mima¹ (1. Shizuoka Institute of Science and Technology)
- [ODVP-23] Untethered Electromagnetic Tube Climbing Robot
*Chi-Yi Tsai¹, Jia-Yang Juang¹ (1. National Taiwan Univ.)
- [ODVP-25] A bi-directional soft pneumatic climbing robot
*Yan-Ting Lin¹, Jia-Yang Juang¹ (1. National Taiwan University)
- [ODVP-26] Gravity compensation mechanism using permanent magnets for rotating joint
*Weizheng Zhu¹, Leimeng Shan¹, Buhyun Shin², Kyung-min Lee¹ (1. Chungnam Nat'l Univ., 2. Hanbat Nat'l Univ.)
- [ODVP-27] Design of a Mobile Robot with 2-DOF Wheel-Legs
Sewoong Oh¹, Hyuntae Kim², Buhyun Shin³, Bongjo Ryu³, *Youngshik Kim³ (1. Cuchen Company, 2. ShineX Company, 3. Hanbat National University)
- [ODVP-28] Experiments on Obstacle Avoidance and Load Sway Suppression in 2 Dimensional Overhead Traveling Crane under Open-loop Finite-time Settling Control
*Kengo Ikunishi¹, Shigeo Kotake¹, Takumi Nishimura¹ (1. Mie University, Graduate School of Engineering)
- [ODVP-29] Closed-loop Finite-time-settling Control of One-dimensional Cart-type Inverted Pendulum by Using Vibration Manipulation Function
*Shota Hamaguchi¹, Shigeo Kotake¹ (1. Mie University. Graduate school of engineering)
- [ODVP-30] Design of a Wearable Robot for Sign Language Education using Machine Learning
Hyeon-Jun Kim¹, *Soo-Whang Baek¹ (1. Sangmyung University)
- [ODVP-31] Design of a soft crawling robot by using SMA springs in an antagonistic configuration
*Hangyeol Baek¹, Yurak Im¹, Sangmin Jeon¹, Youngshik Kim¹ (1. Department of Mechanical Engineering, Hanbat National University, Daejeon, 34158 South Korea)
- [ODVP-32] Sound measurement-based study on SMA actuator characteristics for application of audio devices
Hiroyuki Harada¹, *Nozomi Akiyama¹, Yusuke Tajima², Koichi Suwada¹, Yuto Nozawa¹ (1. Hokkaido University, 2. Hokkaido University of Science)
- [ODVP-33] An inclined-legs actuator inspired by *Setaria viridis*
*Hotaka Tsuboi¹, Shinji Koganezawa¹, Hiroshi Tani¹, Renguo Lu¹, Shohei Kawada¹ (1. Kansai university)
- [ODVP-36] Structural design consideration of solar panel cleaning robot
*Murshiduzzaman .¹, Ismarrubie Z.N.¹, Hanafiah Yussof², Wan Zuha Wan Hasan³ (1. Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, Universiti Putra Malaysia, 2. School of Mechanical Engineering, College of

- Engineering, Universiti Teknologi MARA, 3. Department of Electrical and Electronic Engineering, Faculty of Engineering, Universiti Putra Malaysia)
- [ODVP-38] Optimal Design based on Deep Learning to Improve the Efficiency of IPMSM for 30kW Class Traction for Ultra-small Electric Vehicles
*Soo-Whang Baek¹ (1. Sangmyung University)
- [ODVP-39] Dependence of lubricant viscosity on molecular structure revealed by measuring temperature dependence of dielectric relaxation
*Kyosuke Uchida¹, Shintaro Itoh^{1,2}, Kenji Fukuzawa¹, Naoki Azuma^{1,3}, Hedong Zhang¹ (1. Nagoya University, 2. JST PRESTO, 3. JST ACT-X)
- [ODVP-40] High haze Ga and Zr co-doped zinc oxide transparent electrodes preparation by atmospheric pressure plasma jet for photovoltaic applications
*Cheng Yang Wu¹, Li Ching Chiu¹, Jia Yang Juang¹ (1. National Taiwan University)
- [ODVP-41] Stability of superlubricity in atomistic friction model
*Rentaro Shimizu¹, Hirotaka Inoue¹, Yusaku Kubota¹, Motohisa Hirano¹ (1. Department of mechanical Engineering Faculty of Science and Engineering Hosei University)
- [ODVP-42] Using oblique angle deposition to form transparent conductive GZO films with uniform ultrahigh haze in single-step process
*Yun Chung Lee¹, Jia-Yang Juang¹ (1. National Taiwan University)
- [ODVP-43] Friction Force Distribution Measurements on Strained Surfaces
*Yasuhisa ANDO¹, Yuto SHIINA¹, Miki NAKANO² (1. Tokyo University of Agriculture and Technology, 2. National Institute of Advanced Industrial Science and Technology)
- [ODVP-44] Characterization of Surface Topography of Antimicrobial Urinary Catheter Coating
*Evan Johnston^{1,2}, Rafaela Simoes-Torigoe^{1,2}, Capalina Melentyev^{1,2}, Karcher Morris^{1,2}, Frank E Talke^{1,2} (1. University of California, San Diego, 2. Center for Memory and Recording Research)
- [ODVP-45] Fabrication of polymeric nanopillars and their application to antibacterial materials
*Ikki Shingeya¹, Natsuki Ogawa¹, Tomohiro Shimizu¹, Shoso Shingubara¹, Takeshi Ito¹ (1. Graduate School of Science and Engineering, Kansai Univ.)
- [ODVP-46] Simulating Mechanisms Underlying the Film Formation and Friction of Contact with Nano-meter-thick Lubricant Film
*William Woei Fong Chong¹, Yurun Li², Hedong Zhang² (1. Automotive Development Centre (ADC), Institute of Vehicle Systems and Engineering (IVeSE), Universiti Teknologi Malaysia (UTM), Johor Bahru, Johor 81310, Malaysia, 2. Department of Complex Systems Science, Graduate School of Informatics, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8601, Japan)
- [ODVP-48] A Study on Haptic Reaction Force for SBW for Sharing Control
*Ryo Kasakawa¹, Tosio Ota², Jianming Yang³ (1. Ryo Kasakawa/Meijo University, 2. Tosio Ota/Meijo University, 3. Jianming Yang/Meijo University)
- [ODVP-49] Higher-order structure estimation of polymer melt for soft-material sensor using molecular simulation and persistent homology and prediction of dielectric constant by machine learning
*Yohei Shimizu¹, Hitoshi Washizu^{1,2} (1. University of Hyogo, 2. Kyoto University)
- [ODVP-50] Intelligent equipment maintenance and diagnosis method based on VS-Harmogram method
*kun Zhang¹, Ling Shi², Peng Chen¹ (1. Mie University, 2. Harbin University of Science and Technology)
- [ODVP-51] Design and Implementation for the High Efficiency Hardware Accelerator applied to the AI Model of OLED Degradation Prediction
*I-Feng Chang¹, *Hao-Ren Chen¹, Paul C.-P. Chao¹ (1. National Yang Ming Chiao Tung University)
- [ODVP-52] The Finite Element Analysis of the Wheelchair Elevation Support Unit (WES)

*Khairi Azri Bin Kamal Arifin¹, Mohammad Azzeim Bin Mat Jusoh¹, Sukarnur Bin Che Abdullah¹, Helmi Bin Rashid¹, Siti Aishah binti Jaafar¹ (1. Universiti Teknologi MARA (UiTM))

- [ODVP-54] Estimation of tire wear using multiple tribocharge sensors mounted inside tire
*Koki Hosoda¹, Hiroshi Tani², Renguo Lu², Shinji Koganezawa², Shohei Kawada², Norio Tagawa², Takahiro Fujiwara³, Kyota Sugioka³, Kenichi Kuroda³, Mutsuki Sugimoto³, Yukio Nakao³ (1. Kansai University Graduate School, 2. Kansai University, 3. Sumitomo Rubber Industries ,Ltd.)
- [ODVP-55] Development of counting system of people passing on floor mat using triboelectric power generation
*Ryo Kawakami¹, Hiroshi Tani², Shohei Kawada², Rengo Lu², Shinji Koganezawa², Norio Tagawa² (1. Kansai University Graduate School, 2. Kansai University)
- [ODVP-56] Monitoring radial load force of rolling bearing using triboelectric sensor
*Yuya Tone¹, Hiroshi Tani¹, Shinji Koganezawa¹, Renguo Lu¹, Shohei Kawada¹ (1. Kansai Univ.)
- [ODVP-57] A New ECC based on High-Radix Architecture in GF(p) Implemented by FPGA with Favorable Combined Performance of Speed and Area
JunLin Lin¹, *Paoying Zheng¹, Paul C.-P Chao¹ (1. National Yang Ming Chiao Tung University)
- [ODVP-58] Improvement of self-powered vibration sensing device for structural health monitoring
*Saho Ikeda¹, Masaya Hatanaka¹, Shinji Koganezawa¹, Shohei Kawada¹, Renguo Lu¹, Hiroshi Tani¹, Norio Tagawa¹ (1. Kansai University)
- [ODVP-59] Application of triboelectric nanogenerator as a sensor for bicycle monitoring
Ichihiro Fukushima¹, *Masataka Yamamoto¹, Junho Choi¹ (1. Tokyo Univ.)
- [ODVP-60] Availability of piezoelectric films by contact fired in high-temperature environments
*Mako Nakamura¹, Kei Nakatsuma¹, Makoto Kumon¹, Keiko Kobayashi¹ (1. Kumamoto

University)

- [ODVP-61] A Study on Web Wrinkle Detection Using Image Processing in Web Handling Systems
*Rina Shintaku¹, Kenta Seki¹ (1. Nagoya Institute of Technology)