

Address by the President

The Japan Society for Precision Engineering—Learning from the
Past to Continuously Innovate Kazuto YAMAUCHI 1

Special Issue

10 Years Until the Society's 100th Anniversary -Advance for Young Researchers

Lecture

- Trends and Future of Shape Modelling Research and Development Yukie NAGAI 7
- Technical Trend and Future Works in Additive Manufacturing Ryo KOIKE 12
- Towards the Future in 10 Years: The Path Young Researcher Forges for Societal Implementation
Isamu NISHIDA 17
- Efforts for Actuator Miniaturization and Lightweight Design Shimpei TANAKA 22
- Precision Measurement So ITO 27
- Breakthroughs to a New Frontier in X-Ray—Sub-10 Nanometer Focusing of X-Ray Free-Electron
Lasers— Jumpei YAMADA 32
- Development of Surgical Assistance Method Using 3D CT and VR
Yoshiyuki KAGIYAMA 36
- Oxide Printable Micro/Nanofabrication and Thin-Film Transistor-Type Sensors with AI Analysis
Daisuke HIROSE 40

■ My Experience in Precision Engineering
Toshiyuki OBIKAWA 50

■ Gravure & Interview
Lasertec Corporation 3
Genichiro KAMIYAMA/Raiji HANASHIMA
Interview : Hideki TAKEZAWA/Koki JIMBO/Shogo NAKASHIMA

■ Student Forum
Unsung Hero: Glass Cloth Supporting Modern Society 44

■ Introduction of Laboratories
YOSHIDA Laboratory, Department of Mechanical Engineering, Faculty of Science and Engineering, HOSEI University
..... 51

■ Visit to Corporate Members
DMG MORI CO., LTD. 58

- Information 56
- JSPE Affiliate News 53
- JSPE Membership Guidance 61
- From the Lecture Committee 告 1-1
- Editor's Note 告 1-8

Paper

- **Anomaly Detection Algorithm Using a Handcrafted Feature Specialized in a Specific Category** ————— 62
Soichiro KAWAKAMI , Kengo ISHIDA and Gosuke OHASHI
- **Introducing “Edge Region” and Proposing a New Scheme of Edge Detection from Digital Images** ————— 67
Masato SHIMIZU, Hayato IGARASHI, Kimiya AOKI and Hiroyasu KOSHIMIZU
- **Annotation-Free Wire Tracking Method Using LSTM for Three-Dimensional Shape Estimation of Wires from 3D X-Ray
CT Images of Electrical Cables** ————— 74
Kanon SATO, Shiori UEDA, Hideo SAITO and Yutaka HOSHINA
- **Efficient Training of Lightweight Multimodal Models and Their Application to Downstream Tasks** ————— 81
Kazuya YANASE, Keisuke JIKUYA, Hideaki OMOTE, Hiroto TSUCHIDA and Kunihito KATO
- **Adversarial Training with Misclassification Risk in Image Classification** ————— 89
Norikoe MURAKAMI, Tomoaki YAMAZAKI, Seiya ITO and Kouzou OHARA
- **Development of a 3D Measurement System for Aquaculture Fish Using Spherical Stereo Camera** ————— 97
Yoshihisa KOMODA, Koichiro ENOMOTO, Masashi TODA, Minefumi ITO and Osamu SAKAI
- **One-Shot Calibration of RGB-D Camera Networks Based on the Novel Design of Cubic Reference Marker with Unique
Shape Features** ————— 104
Atsushi OSHIRO, Kunimitsu AIHARA, Yonghoon JI, Kazunari TSUKIYAMA, Tetsuya AKAGI and Sofia BARILLARO
- **Acceleration of 3D Gaussian Splatting with Quality Preservation Under Sparse Viewpoint Conditions** ————— 111
Kenji IWATA, Tomomi SATO and Yutaka SATOH

※The journal papers listed above are published on J-STAGE (Japan Science and
Technology Information Aggregator, Electronic).

<https://www.jstage.jst.go.jp/browse/jjspe/-char/en/>