

December 6 (Mon)

Opening Remarks

Plenary hall

Chairperson: *Fumihito Arai, The University of Tokyo*

9:00-9:20 *Prof. Toshio Fukuda, Meijo University, Japan (Honorary Chair)*
Prof. Fumihito Arai, The University of Tokyo, Japan (General Co-Chair)
Prof. Koichi Suzumori, Tokyo Institute of Technology (General Co-Chair)
Prof. Jun Ota, The University of Tokyo, Japan (General Co-Chair)

Plenary Talks

Plenary hall

Chairperson: *Yasuhisa Hasegawa, Nagoya University*

9:20-10:05 **Plenary Talk 1**
A Mechanism-Based Approach to Rehabilitation Engineering for Safe and Independent Mobility in Older Adults
Jason R. Franz
NC State University and University of North Carolina at Chapel Hill

10:05-10:20 **Break**

Session MA1-1: (Organized Session 1-1) :

Advanced Micro-Nano Systems for Biomedical Applications

Room 1

Chairperson: *Hisataka Maruyama, Nagoya University*

10:20-10:50 **Keynote Talk 1**
MEMS for electron microscopy of liquid samples
Tadashi Ishida
Tokyo Institute of Technology

10:50-11:05 **Force Measurement by QCR Force Sensor on Eye Surgical Simulator for ILM Peeling Surgery**
Yuta Taniguchi¹, Hirotaka Sugiura¹, Toshiro Yamanaka¹, Shiro Watanabe¹, Seiji Omata², Kanako Harada¹, Mamoru Mitsuishi¹, Tomoyasu Shiraya³, Koichiro Sugimoto³, Takashi Ueta³, Kiyohito Totsuka³, Fumiyuki Araki³, Muneyuki Takao³, Makoto Aihara³ and Fumihito Arai¹
¹*Department of Mechanical Engineering, The University of Tokyo*
²*Kumamoto University*
³*Department of Ophthalmology, The University of Tokyo*

- 11:05-11:20 Evaluation of Scleral Incision Force for Simulating Glaucoma Surgery
Takayuki Hiejima¹, Seiji Omata¹, Toshiro Yamanaka², Kanako Harada², Mamoru Mitsuishi², Koichiro Sugimoto³, Takashi Ueta³, Kiyoto Totsuka³, Tomoyasu Shiraya³, Fumiya Araki³, Muneyuki Takao³, Makoto Aihara³, Yasuyuki Morita¹ and Fumihito Arai²
¹*Kumamoto University*
²*Department of Mechanical Engineering, The University of Tokyo*
³*Department of Ophthalmology, The University of Tokyo*
- 11:20-11:35 Force Measurement of Microcapillary Pipette Plunged into Oocyte Using QCR Force Sensor
Yudai Fujimoto, Shiro Watanabe, Tomoki Takiguchi, Yuta Taniguchi, Shingo Kaneko, Satoshi Amaya, Hirotaka Sugiura and Fumihito Arai
The University of Tokyo
- 11:35-11:50 Microgripper Using Photochromic Material with Solid-Liquid Phase Transition
Kazuya Honjo¹ and Hisataka Maruyama²
¹*Department of Mechanical Systems Engineering, Nagoya University*
²*Department of Micro-Nano Mechanical Science and Engineering, Nagoya University*
- 11:55-12:05 Adhesion Control of Microgel Robot Based on a Molecular Recognition
Natsuki Watanabe¹, Yoshiyuki Yokoyama² and Takeshi Hayakawa¹
¹*Chuo University*
²*Toyama Industrial Technology Research and Development Center*

Session MA2-1: (Organized Session 2 + Regular Session)

Cognitive Robotics+Regular session

Room 2

Chairperson: *Naoyuki Kubota, Tokyo University of Agriculture and Technology*

- 10:20-10:35 Ground Reaction Force Evaluation during a Baseball Practice Swing Movement
Masahiro Isogai¹, Hoshi Kashiwazaki², Kouta Takahashi² and Kazuto Miyawaki²
¹*Aichi University of Technology*
²*National Institute of Technology, Akita College*
- 10:35-10:50 Multicopter system for bridge inspection with transformable functions
Hideyuki Yamaguchi¹ and Kenichi Ohara²
¹*Department of Mechatronics Engineering, Graduate School of Science and Technology, Meijo University*
²*Faculty of Science and Technology, Meijo University*

- 10:50-11:05 A Study of Human State Pattern Acquisition Method for Partner Robots
Nao Yamada, Yani Mohamad, Naoyuki Kubota
Tokyo Metropolitan University
- 11:05-11:20 Real-time Estimation of Human Reaching Motion for Human Assist Robots
Yue Hou, Satoshi Nishikawa and Kazuo Kiguchi
Kyushu University
- 11:20-11:35 Topological Feature Extraction based on Multi-scale Batch-learning Growing Neural Gas for Robot Partn
Chenghui Liu, Fernando Ardilla, Yani Mohamad and Naoyuki Kubota
Tokyo Metropolitan University
- 11:35-12:05 Keynote Talk 2
Exploring measurement of a human internal condition by sensor network toward natural human-robot communication
Eri Sato-Shimokawara
Tokyo Metropolitan University

12:05-13:00 **Lunch**

Plenary Talks

Plenary Hall

Chairperson: *Toshiyuki Kondo, Tokyo University of Agriculture and Technology*

- 13:00-13:45 Plenary Talk 2
Motor Synergy Emergence in Redundancy through Deep Reinforcement Learning
Mitsuhiro Hayashibe, Tohoku University

13:45-14:00 **Break**

Session MPI-1: (Organized Session 1-2)

Advanced Micro-Nano Systems for Biomedical Applications

Room 1

Chairperson: *Hisataka Maruyama, Nagoya University*

- 14:00-14:15 Wide-range Force Sensor Probe Using Quartz Crystal Resonator
Shiro Watanabe, Hirotaka Sugiura and Fumihito Arai
The University of Tokyo

- 14:15-14:30 Laser Scanning Drive of Peristaltic Micro-Gelrobot
Shunnosuke Kodera¹, Yuha Koike¹, Yoshiyuki Yokoyama² and Takeshi Hayakawa¹
¹*Chuo University*
²*Toyama Industrial Technology Research and Development Center*
- 14:30-14:45 Evaluation of Mechanical Properties of Muscle Fiber Made of Myoblasts with Magnetic Ends
Zhaoyu Wang, Taisuke Masuda and Fumihito Arai
The University of Tokyo
- 14:45-15:00 Composite Fluorescent Microsensor with a Reference Function for pH Measurement in the Microenvironment
Hisataka Maruyama and Wang Jianyu
Nagoya University

Session MP2-1: (Organized Session 4-1)
Hyper-Adaptability

Room 2

- Chairperson: *Toshiyuki Kondo, Tokyo University of Agriculture and Technology*
- 14:00-14:30 Keynote Talk 4
 Understanding the role of neurotransmitters in human postural control using a neuromusculoskeletal model
Kohei Kaminishi
The University of Tokyo
- 14:30-14:45 A Computational Model of Human Postural Control Considering the Vestibulospinal Tract
Yuichiro Omura¹, Kohei Kaminishi², Ryosuke Chiba³, Kaoru Takakusaki³ and Jun Ota²
¹*Department of Precision Engineering, School of Engineering, The University of Tokyo*
²*Research into Artifacts, Center for Engineering (RACE), School of Engineering, The University of Tokyo*
³*Division on Neuroscience, Department of Physiology, Asahikawa Medical University*
- 14:45-15:00 Synergy Analysis of Musculoskeletal Model for Adaptation Mechanism of Monkey with Tendon Transfer
Natsumi Uchida¹, Kazuhiko Seki², Naomichi Ogihara³, Tomomichi Oya² and Tetsuro Funato¹
¹*The University of Electro-Communication*

²National Center of Neurology and Psychiatry³The University of Tokyo15:15-15:30 **Break****Session MP1-2: (Organized Session 3)****Functional Interfaces and Hydro-Electrochemical Mechatronics****Room 1**

Chairpersons: *Yoko Yamanishi, Kyushu University*
Shingo Maeda, Shibaura Institute of Technology

15:30-16:00 Keynote Talk 3
 Origami Mechatronics Composed of a Self-folded Paper
Hiroki Shigemune
Shibaura Institute of Technology

16:00-16:15 Dynamic characteristics of a dielectric elastomer actuator fabricated using a stretchable CNT powder electrode
Ardi Wiranata^{1,2}, Abdulsalam Mohammed Abdullah Haidar³, Taichi Murakami¹, Ayato Minaminosono¹, Zebing Mao¹ and Shingo Maeda^b
¹*Shibaura Institute of Technology*
²*Universitas Gadjah Mada*
³*UCSI University*

16:15-16:30 Polymer surface characterization by air-jet mediated wet/dry transitions
Nobuyuki Tanaka¹, Asako Sato¹, Nobuko Fujita¹, Aifang Han¹, Risa Katayama², Akikazu Matsumoto², Chie Kojima², Nasu Hiromitsu³, Yoshihide Haruzono³ and Yo Tanaka¹
¹*RIKEN*
²*Osaka Prefecture University*
³*Kitagawa Corporation*

16:30-16:45 Adjustment of deterioration rate for PLA structures using plasma irradiation
Akira Yamada and Asahi Yonezawa
Aichi Institute of Technology

16:45-17:00 3D Electrical Patterning Utilizing Micro-plasma-bubbles
Yu Yamashita, Sakuma Shinya and Yoko Yamanishi
Kyushu University

17:00-17:15 Evaluations of Acoustic Amplitudes in Microfluidic Chip under Temperature Variation

*Hayato Yamaki, Koju Yoshikoshi and Takeshi Hayakawa
Chuo University*

17:15-17:30 Evaluation of Acoustic Streaming Around Microstructures
*Koju Yoshikoshi, Hayato Yamaki and Takeshi Hayakawa
Chuo University*

**Session MP2-2: (Organized Session 4-2)
Hyper-Adaptability**

Room 2

Chairperson: *Toshiyuki Kondo, Tokyo University of Agriculture and Technology*

15:30-15:45 The Effect of the Coefficient of Viscosity on the Reaching Movement in
Virtual Space Using VR
*Keisuke Saitoh, Isao Nambu and Yashiro Wada
Nagaoka University of Technology*

15:45-16:00 The Regret Motivated Reinforcement Learning
Wu Yihao¹ and Izawa Jun²
¹School of Integrative and Global Majors, University of Tsukuba
²Faculty of Engineering, Information and Systems, University of Tsukuba

16:00-16:15 A Grid-Based Estimation of Transformation of Partial Dynamics using
Genetic Algorithm for Motor Learning
*Sota Nakamura and Yuichi Kobayashi
Shizuoka University*

16:15-16:30 Motor planning caused by a real time visual force feedback affects the
event-related desynchronization
*Kosei Nakayashiki¹, Yoshikatsu Hayashi², Tamami Sudo¹, Toshiyuki
Kondo¹*
¹Tokyo University of Agriculture and Technology
²University of Reading

December 7 (Tue)

Plenary Talks**Plenary hall**Chairperson: *Kenjiro Tadakuma, Tohoku University*

9:00-9:45 Plenary Talk 3
 Shape-shifting soft robots that adapt to changing tasks and environments
Rebecca Kramer-Bottiglio, Yale University

9:45-10:00 **Break**

Session TA1-1: (Organized Session 9-1)**Science of Soft Robots****Room 1**Chairperson: *Kohei Nakajima, The University of Tokyo*

10:00-10:30 Keynote Talk 9-1
 Underwater propulsion of penguins with flexible wings
Hiroto Tanaka
Tokyo Institute of Technology

10:30-10:45 Object Recognition Using the Deformation Dynamics of Polyurethane Foam
Yasumichi Wakao¹, Ryo Sakurai¹, Hajime Kitano¹ and Kohei Nakajima²
¹*Bridgestone Corporation*
²*The University of Tokyo*

10:45-11:00 Physics-informed reservoir computing with autonomously switching readouts: a case study in pneumatic artificial muscles
Wentao Sun, Nozomi Akashi, Yasuo Kuniyoshi and Kohei Nakajima
The University of Tokyo

11:00-11:15 Speech recognition by chromatophores of squid via reservoir computing
Ruki Sho¹, Toma Yamagawa¹, Honoka Moribe¹, Hiroshi Ito¹ and Kohei Nakajima²
¹*Kyushu University*
²*The University of Tokyo*

11:15-11:30 Evaluations of Dynamic Response of Water-Pre-Stretched Dielectric Elastomer Actuator
Asahi Tsujino and Takeshi Hayakawa
Chuo University

Session TA2-1: (Organized Session 8)**New Materials and Processing for Micro/nano Devices****Room 2**

- Chairpersons: *Junpei Sakurai, Nagoya University*
Mizue Mizoshiri, Nagaoka University of Technology
Yuki Toku, Nagoya University
- 10:00-10:15 Investigation of mechanical properties of Ni-Nb-Zr thin film amorphous alloys after structural relaxation
F. Haga, T. Yamazaki, C. Oka, S. Hata and J. Sakurai
Nagoya University
- 10:15-10:30 Combinatorial search of new Ti-Ni-Hf high formable shape memory alloys
S. Inoue, T. Yamazaki, C. Oka, S. Hata and J. Sakurai
Nagoya University
- 10:30-10:45 Cu electrodes fabricated using femtosecond laser reductive sintering and nanosecond laser surface treatment
Kyohei Yoshidomi¹, Susumu Nakamura², Makoto Hirai², Mizue Mizoshiri¹
¹*Nagaoka Univ. of Tech.*
²*National Inst. of Tech., Nagaoka College*
- 10:45-11:15 Keynote Talk 7
 Fabrication and application of metallic micro/nanocoils
Xu Zhao
Akita University
- 11:30-13:00 **Lunch**

Plenary Talks**Plenary hall**

- Chairperson: *Kenji Fukuzawa, Nagoya University*
- 13:00-13:45 Plenary Talk 4
 Hydrogel surface engineering for soft robotics
Aya M. Akimoto, The University of Tokyo
- 13:45-14:00 **Break**

Session TP1-1: (Organized Session 9-2)**Science of Soft Robots****Room 1**Chairperson: *Kenjiro Fukuda, RIKEN*

- 14:00-14:30 Keynote Talk 9-2
Actual Process of Inventing Soft Robot Mechanisms and Embodying as Actual Real Prototypes
Kenjiro TADAKUMA
Tohoku University
- 14:30-14:45 Bidirectional Tether Less Soft Actuator with Expeditious Position Control
Jayant Unde and Jacinto Colan and Yasuhisa Hasegawa
Nagoya University
- 14:45-15:00 Design of a Compliant 7-DoF Power Soft Robot driven by Hydraulic Artificial Muscles
Yunhao Feng¹, Tohru Ide¹, Hiroyuki Nabae¹, Gen Endo¹, Ryo Sakurai², Shingo Ohno² and Koichi Suzumori¹
¹*Tokyo Institute of Technology*
²*Bridgestone Corporation*
- 15:00-15:15 Fabrication of Three-Dimensional Dielectric Elastomer Actuator with Dip Molding
Shun Nakano and Takeshi Hayakawa
Chuo University

Session TP2-1: (Organized Session 7-1)**Micro/nano Technologies for Spatiotemporal Cell Analysis****Room 2**Chairperson: *Shinya Sakuma, Kyushu University*

- 14:00-14:15 Fabrication of microfluidic chip using cyclo-olefin polymer
Hiroki Kumon¹, Shinya Sakuma², Sou Nakamura³, Koji Eto³ and Fumihito Arai⁴
¹*Nagoya University*
²*Kyushu University*
³*Kyoto University*
⁴*The University of Tokyo*
- 14:15-14:30 Measurement of Dynamic Deformation of Single *Synechocystis* sp. strain PCC 6803 Using Microfluidic Chip with Integrated Liquid Exchange
Xu Du¹, Di Chang², Shingo Kaneko², Hisataka Maruyama¹, Hirotaka Sugiura², Masaru Tsujii³ Nobuyuki Uozumi³ and Fumihito Arai^{1,2}

¹*Nagoya University*²*The University of Tokyo*³*Tohoku University*

- 14:30-14:45 A sample fixation method utilizing micropillar array toward tensile characterization of thin and small biomembrane
Kosuke Narayama, Yoko Yamanishi and Shinya Sakuma
Kyushu University
- 14:45-15:00 Non-Uniform Swelling of Gel Actuator Made from Temperature Responsible Gel under Mechanical Constraint
Hiroki Wada¹, Yuha Koike¹, Yoshiyuki Yokoyama², Takeshi Hayakawa¹
¹*Chuo University*
²*Toyama Industrial Technology Research and Development Center*
- 15:00-15:30 Keynote Talk 7
In vitro assays of cytoskeleton
Daisuke Inoue
Kyushu University
- 15:30-15:45 **Break**

Session TP1-2: (Organized Session 9-3)**Science of Soft Robots****Room 1**Chairperson: *Keung Or, The University of Tokyo*

- 15:45-16:15 Keynote Talk 9-3
Soft clock: fabrication and control of biological clock
Hiroshi Ito
Kyushu University
- 16:15-16:30 Controllable liquid lenses driven by EHD pump
Taichi Murakami, Yu Kuwajima, Ardi Wiranata, Ayato Minaminosono, Hiroki Shigemune, Zebing Mao and Shingo Maeda
Shibaura Institute of Technology
- 16:30-16:45 Whole Body Direction and Velocity Prediction from Leg Movements in Insect Walking Using Recurrent Neural Network
Yuchen Wang, Mitsuhiro Hayashibe and Dai Owaki
Tohoku University

16:45-17:00 Electrostatic Generator evaluated by a Leaf Electroscope
Shota Kamiyauchi, Yuki Yokoyama, Yu Kuwajima, Yumeta Seki, Satoshi Awaki, Shingo Maeda and Hiroki Shigemune
Shibaura Institute of Technology

Session TP2-2: (Organized Session 7-2)

Micro/nano Technologies for Spatiotemporal Cell Analysis

Room 2

Chairperson: *Shinya Sakuma, Kyushu University*

15:45-16:00 Continuous On-Chip Multi-Sorting System Using On-Chip Dual Membrane Pumps
Shota Iwakawa¹, Makoto Saito², Yoko Yamanishi¹, Fumihito Arai³ and Shinya Sakuma¹
¹*Kyushu University*
²*Nagoya University*
³*The University of Tokyo*

16:00-16:15 High-throughput Raman-activated on-chip cell sorting
Matthew Lindley¹, Julia Gala de Pablo¹, Akihiro Isozaki¹, Kotaro Hiramatsu¹⁻³, and Keisuke Goda^{1,4,5}
¹*Department of Chemistry, The University of Tokyo*
²*Research Centre for Spectrochemistry, The University of Tokyo*
³*PRESTO, Japan Science and Technology Agency*
⁴*Institute of Technological Sciences, Wuhan University*
⁵*Department of Bioengineering, University of California*

16:15-16:30 Asymmetric Flow Resistors for Bidirectional On-chip Pumping
Makoto Saito¹, Fumihito Arai², Shinya Sakuma³
¹*Nagoya University*
²*The University of Tokyo*
³*Kyushu University*

16:30-16:45 Design of a single point ultra-sound microscope toward non-contact mechanical indexing of microparticles
Yuki Goto, Yoko Yamanishi and Shinya Sakuma
Kyushu University

16:45-17:00 High-throughput system for real-time single-cell secretion imaging with optical waveguide chip
Zhuohao Yang¹, Mai Yamagishi², Nubutake Suzuki², Mamoru Hirafuji³, Kazuyo Moro⁴, Tetsuro Kobayashi⁴, Tsuyoshi Kiniwa⁴, Takashi Funatsu¹

and Yoshitaka Shirasaki¹

¹The University of Tokyo

²Live Cell Diagnosis, Ltd.

³YODAKA Co., Ltd.

⁴RIKEN Center for Integrative Medical Sciences

17:00-17:15 Flow Control toward Parallel Cell Manipulations by Using Integrated Gel Actuators

Yuha Koike¹, Hiroki Wada¹, Shunnosuke Kodera¹, Yoshiyuki Yokoyama², Takeshi Hayakawa¹

¹Chuo University

²Toyama Industrial Technology Research and Development Center

17:15-17:30 **Break**

Plenary Talks

Plenary hall

Chairperson: *Seiichi Hata, Nagoya University*

17:30-18:15 Plenary Talk 5
Ultrasound-engineered micro-tumors for immunotherapy and chemotherapy screening
Martin Wiklund, KTH Royal Institute of Technology

December 8 (Wed)

Session WAI-1: (Organized Session 6-1)**Micro/Nano Functional Devices for in Vivo/vitro Applications****Room 1**

- Chairpersons: *Masaru Takeuchi, Nagoya University*
Tadayoshi Aoyama, Nagoya University
- 9:00-9:30 Keynote Talk 6
Artificial Cell Membrane Systems Leading to a Cell-Machine Interface
Kan Shoji
Nagaoka University of Technology
- 9:30-9:45 Variable Stiffness Actuator Using Shape Memory Materials for
Microrobot
Hiroataka Sugiura, Shoma Nakatani, Shingo Kaneko, Satoshi Amaya and
Fumihito Arai
The University of Tokyo
- 9:45-10:00 Pickup Microtool with Adjustable Tip Shape Using Shape Memory
Polymer
Satoshi Amaya, Shoma Nakatani, Shingo Kaneko, Hiroataka Sugiura,
Fumihito Arai
The University of Tokyo
- 10:00-10:15 Simulations of Actomyosin-Based Molecular Shuttles Controlled by
External Force
Samuel Macharia Kang'iri¹, Andrew Salem², Dan V. Nicolau² and
Takahiro Nitta¹
¹Gifu University
²McGill University
- 10:15-10:30 Development of Cultured Muscles with High Cell Density by Centrifugal
Force in Three-dimensional Cell Culture
Takuto Nomura¹, Masaru Takeuchi¹, Eunhye Kim², Toshio Fukuda²,
Yasuhisa Hasegawa¹
¹Nagoya University
²Meijo University
- 10:30-10:45 Electrical Stimulation of Nerves Synchronized with Voluntary Movements
towards Gait Reconstruction
Naoyuki Ito¹, Masaru Takeuchi¹, Katsuhiro Tokutake², Tadayoshi
Aoyama¹, Sota Saeki², Shigeru Kurimoto², Hitoshi Hirata², Yasuhisa
Hasegawa¹

¹*Department of Micro-Nano Mechanical Science and Engineering,
Nagoya University*

²*Department of Hand Surgery, Nagoya University*

Session WA2-1: (Organized Session 10-1)

Human Assistive Technology

Room 2

Chairperson: *Jian Huang, Huazhong University of Science and Technology*

9:15-9:30 Model-Free Prescribed Performance Control of Lower-Limb Exoskeleton
Driven by Pneumatic Muscles
Mengshi Zhang, Yu Cao and Jian Huang
Huazhong University of Science and Technology

9:30-9:45 Parametric Design Optimization of a Universal Supernumerary Robotic
Limb
Jun Huo, Bo Yang, Hongge Ru and Jian Huang
Huazhong University of Science and Technology

9:45-10:00 A Novel Soft Pneumatic Hand-assisting Supernumerary Robotic Limb
Hongge Ru, Jian Huang, Runzhe Zhang and Jun Huo
Huazhong University of Science and Technology

10:00-10:15 Human vision-guided assistive robotic system
Bo Yang, Student Member, Jian Huang and Xiaolong Li
Huazhong University of Science and Technology

10:15-10:45 Keynote Talk 10
Human-Centred Assistive Strategies for Lower Limb Exoskeletons
Weiguang Huo
Imperial College London

10:45-11:00 **Break**

Session WA1-2: (Organized Session 6-2)

Micro/Nano Functional Devices for in Vivo/vitro Applications

Room 1

Chairpersons: *Masaru Takeuchi, Nagoya University*
Tadayoshi Aoyama, Nagoya University

11:00-11:15 3D Rotation of A Cell Based on A Vibration-Induced Flow
Hiroyasu Kobayashi, Yuha Koike and Takeshi Hayakawa
Chuo University

- 11:15-11:30 Analysis of Particle Movements Around a Micropillar Based On
Vibration-Induced Flow
Kohei Morita, Takuya Iizawa and Takeshi Hayakawa
Chuo University
- 11:30-11:45 Evaluation of Vibration-Induced Flow Patterns Around Microstructures
towards Fabrication of Cell Spheroids
Takuya Iizawa and Takeshi Hayakawa
Chuo University
- 11:45-12:00 Accuracy Evaluation of Microinjection Using Real-time 3D Image
Presentation System
*Toshiki Fujishiro¹, Tadayoshi Aoyama^{1,2}, Masaru Takeuchi¹ and Yasuhisa
Hasegawa¹*
¹Nagoya University
²PRESTO

Session WA2-2: (Organized Session 10-2)**Human Assistive Technology****Room 2**Chairperson: *Jian Huang, Huazhong University of Science and Technology*

- 11:00-11:15 Unconstrained Pulse Measurement Using QCR Load Sensor with Pressure
Propagation Mechanism Installed in Handle of Walk Training Robot
*Mikito Ogusu¹, Hisataka Maruyama², Shiro Watanabe³, Hirotaka
Sugiura³ and Fumihito Arai³*
¹Department of Mechanical Systems Engineering, Nagoya University
*²Department of Micro-Nano Mechanical Science and Engineering,
Nagoya University*
³Department of Mechanical Engineering, The University of Tokyo
- 11:15-11:30 Exoskeleton Assisted Wheelchair Robot for Integration of Locomotion
and Leg Rehabilitation
Zhihao Zhang, Gao Huang, Fei Meng, Weimin Zhang and Qiang Huang
Beijing Institute of Technology
- 11:30-11:45 Identification of Dynamic Hand Gestures with Force Myography
*Eric Fujiwara, Matheus Kaue Gomes, Yu Tzu Wu and Carlos Kenichi
Suzuk*
University of Campinas
- 12:00-12:15 **Break**

Plenary Talks

Plenary hall

Chairperson: *Fumihito Arai, The University of Tokyo*

12:15-12:45 Plenary Talk 6
Elastin-inspired protein nanofibers and hydrogels with tailored functionalities
Ayae Sugawara-Narutaki, Nagoya University

18:00- *Award Ceremony and Closing*