Saturday, March 4th: 13:20－15:20

Room A Technical Session 1: Innovative System Design

Chairs: Dr. Karol Wrobel and Prof. Hisayoshi Muramatsu

TS-1-1 **Balance Gait Controller for a Bipedal Robotic Walker with Foot Slip**
Marko Mihalec, Jingang Yi

TS-1-2 **Development of Prototype for In-Link Actuator for High-Speed Safety Manipulator**
Kazuma Morikawa, Seiichiro Katsura

TS-1-3 **Kinematics Analysis and Control of the parallel robot with the Rotational Joint at the Base**
Shunichi Sakurai, Seiichiro Katsura

TS-1-4 **Bilateral Control by Transmitting Force Information with Application to Time-delay Systems and Human Motion Reproduction**
Yuki Nagatsu, Hideki Hashimoto

TS-1-5 **Controller Design Considering Intrinsic Wave System for Four-Channel Bilateral Teleoperation**
Kosuke Shikata, Seiichiro Katsura

TS-1-6 **Energy Propagation Based on Mass Switching Control in Spring-Motor Coupling System**
Ken Miyahara, Seiichiro Katsura

Saturday, March 4th: 15:40－17:40

Room A Technical Session 2: Data Robotics and Mechatronics

Chairs: Dr. Eiichi Saito and Prof. Yuki Nagatsu

TS-2-1 **Separation and Estimation of Periodic/Aperiodic State**
Hisayoshi Muramatsu

TS-2-2 **Non-expert to Expert Motion Translation Using Generative Adversarial Networks**
Yuki Tanaka, Seiichiro Katsura

TS-2-3 **Implementing Fourier Holographic Reduced Representations for Spiking Neural Networks**
Vidura Sumanasena, Daswin De Silva, Sachin Kahawala, Evgeny Osipov, Dilantha Haputhanthri, Damminda Alahakoon

TS-2-4 **Dynamic Force Estimation of Robot Finger Pad Using Element Description Method**
Kosuke Egawa, Seiichiro Katsura

TS-2-5 **Multi-Degree-of-Freedom Manipulator Using Gearless Tendon-Driven Mechanism**
Mariko Sato, Seiichiro Katsura

TS-2-6 **Motion-Copying System with Spatio-Temporal Coupling for Environmental Changes**
Ryotaro Kobayashi, Seiichiro Katsura

Sunday, March 5th: 10:00－11:40

Room A Technical Session 3: Human Support and Super Human

Chairs: Prof. Hiroshi Yoshizawa and Prof. Yoshihiro Itaguchi

TS-3-1 **Force Estimation by Surface-EMG with Bilateral AI**
Daiki Sodenaga, Seiichiro Katsura

TS-3-2 **Servo Control of Finger Metacarpophalangeal Joint by Functional Electrical Stimulation of Lumbrical and Extensor Digitorum Muscle**
Issei Ikura, Seiichiro Katsura

TS-3-3 **Force Control of Wrist Joint by Functional Electrical Stimulation in Static Condition**
Akinori Shimomura, Seiichiro Katsura

TS-3-4 **Knee Exoskeleton-Enabled Balance Control of Human Walking Gait with Novel Foot Slip**
Chunchu Zhu, Jingang Yi

TS-3-5 **Improvement of Operationality of Force Control System Using Positive Acceleration Feedback and Gain in Frequency Domain**
Kairi Morita, Seiichiro Katsura

Sunday, March 5th: 15:40－17:00

Room B Teaser & Poster Presentation

Chairs: Dr. Issei Takeuchi and Dr. Yukiko Osawa

TP-1-1 **Bilateral and Unilateral Motor Imagery of Complex Movements**
Kazuya Umeno, Yoshihiro Itaguchi

TP-1-2 **Exploring the Interactive Effect of Gravity and Movement Speed on the Accuracy of Human Motor Control**
Suguru Goto, Yoshihiro Itaguchi

TP-1-3 **EMG-Force Relationship for Ankle Joint in the Constant Posture Using a Filter in the Optimal Frequency Band**
Yuki Futami, Daiki Sodebaga, Wataru Yamanouchi, Seiichiro Katsura

TP-1-4 **Ankle Height Measurement System during Walking**
Kenta Kara, Yoshihiro Itaguchi, Seiichiro Katsura

TP-1-5 **Shoe-type Wearable Device for Measuring Ground Reaction Force and Center of Pressure**
Ryuichi Kawasaki, Seiichiro Katsura

TP-1-6 **Design of a Robotic Hand using a Motion-Copying System for Agricultural Applications**
Isabella Grossart, Kosuke Egawa, Seiichiro Katsura, Sophie Sakka

TP-1-7 **Passive Tension Adjustment of Tendon-Driven Mechanism for Improvement of Drivavility**
Kei Ueda, Seiichiro Katsura

TP-1-8 **Agile Attitude Control for Stabilization of Biped Robot with Sudden Impact**
Takuya Shimura, Seiichiro Katsura