2024 The 7th Jc-IFToMM International Symposium Program (ver. 20240613)

June 22, Saturday		
9:15-10:15	Registration	
10:20-10:30	Opening	
Session I: Sensing & Signal Processing **Chair: Ming Jiang (Tokyo Institute of Technology)**		
10:30-10:45	A Pressure Imaging Approach Using Copper Foil Grids and Electromagnetic Field Variations	Zhinan Zhang (The University of Tokyo); Shunsuke Yoshimoto; Akio Yamamoto
10:45-11:00	Vibration Inspection by Robot Hand : Influence of grasping position	Yukihiro Magara (Hokkaido University); Hideto Okura; Shunsuke Komizunai; Taku Senoo; Atsushi Konno
11:00-11:15	Brunnstrom Stage Evaluation for Upper Limbs Based on Motion Capture System	Yuyao Li (Waseda University); Shun Zhang; Keisuke Osawa; Megumi Shimodozono; Eiichiro Tanaka
11:15-11:30	Proximity Sensing by Integration of Capacitive and Optical Sensors Using a Switching Unscented Kalman Filter	Daichi Yamamoto (The University of Tokyo); Akira Okuno; Akio Yamamoto
11:30-11:45	Feature Point Selection and Segmentation of Specular Surfaces in Moving Cameras Using SLAM Camera Principle and DBSCAN Clustering	Xiaohan Du (Waseda University); Shanshan Wang; Jianan Xie; Yilin Zhang; Kenji Hashimoto
	General Assembly & Lunch break	
Session II: Biomedical Applications **Chair: Nobuyuki Iwatsuki (Tokyo Institute of Technology)**		
13:00-13:15	Development of Watering Device Capable of Temperature Measurements for Pigs	Teruyuki Yamane (University of Miyazaki); Geunho Lee; Yusuke Iki; Atsushi Takahashi
13:15-13:30	Design of Ankle Rehabilitation Device Using Fan-shaped Pneumatic Soft Actuator	So Shimooka (Okayama University); Rui Suzuki; Takenori Uehara; Shun Shiomi; Takahiro Hirayama
13:30-13:45	Proposing an Ultrasonic Transducer Exciting In-plane Vibration on a Glass Culture Surface	Soki Eto (The University of Tokyo); Chikahiro Imashiro; Takeshi Morita
13:45-14:00	Development of a Quantitative Evaluation System for Surgical Skill in Endoscopic Sinus Surgery	Kaito Yamada (Hokkaido University); Masanobu Suzuki; Kou Miyaji; Koki Ebina; Kazuya Sase; Teppei Tsujita; Xiaoshuai Chen; Takashige Abe; Shunsuke Komizunai; Yuji Nakamaru; Taku Senoo; Akihiro Homma; Atsushi Konno
14:00-14:15	Design and Evaluation of a Force-Torque Sensor for Minimal Invasive Pathological Autopsy	Kewei Zuo (The university of Tokyo); Yi Wu; Kenzo Yamamoto; Kazuaki Hara; Ichiro Sakuma; Etsuko Kobayashi; Kunihiro Inai
	break	
Session III: Human Assist Technologies **Chair: Naoyuki Takesue (Tokyo Metropolitan University)**		
14:35-14:50	Improvement of Operability of Walking Assist Device driven by Cane Movement	Jun Nango (Yamagata University); Taisei Konno, Ryuya Yamasuge
14:50-15:05	A Passive Type Assistive Device for the Upper Limb with Remote Center of Motion Mechanism	Nakamura Seishiro (Waseda University); Sun Yi; Osawa Keisuke; Eiichiro Tanaka
15:05-15:20	Muscle Activity and Postural Evaluation of Passive Assistive Suit that Interlocks the Knees, Back, and Arms with a Belt	Sota Oyama (Waseda University); Keisuke Osawa; Toshifumi Ishioka; Kenji Kodama; Eiichiro Tanaka
15:20-15:35	Conceptual design of a powered rear add-on assistant for wheelchairs	Stefano Pastorelli (Politecnico di Torino); Valerio Cornagliotto; Michele Polito
15:35-15:50	Development of a Mobility Platform Aiming to Achieve User-Friendly Functionality	Lorenzo Baglieri (Politecnico di Torino); Daisuke Matsuura; Tsune Kobayashi; Giuseppe Quaglia
	break	
Session IV: Machine Design **Chair: Atsushi Konno (Hokkaido University)**		
16:10-16:25	The Design of 1-DOF Multi-fingered Adaptive Hand Mechanism with Multiple Phalanxes	Soichiro Shikanai (Tokyo Institute of Technology); Nobuyuki Iwatsuki; Kotaro Hoshiba
16:25-16:40	Prototype of Force-Controlled Tool Electrode Holder for Lathe-Type Electrochemical Discharge Machine	Katsushi Furutani (Toyota Technological Institute); Toshiki Irie
16:40-16:55	Motion Control of Parallel Link Robot with 3-DOF in Posture	Takafumi Shimizu (Tokyo Metropolitan University); Naoyuki Takesue
16:55-17:10	Cane robot with spherical wheels adaptable to the multi-legged robot	Daigo Tokunaga (Kyushu University); Satoshi Nishikawa; Kazuo Kiguchi
17:10-17:25 online	Fostering Mechanisms, Mechatronics and Robotics Education in The Smart Mini Factory Laboratory of The Free University Of Bozen-Bolzano (I)	Chiara Nezzi (Free University of Bozen-Bolzano); Matteo De Marchi; Matteo Manzardo; Davide Galli; Luca Gualtieri; Erwin Rauch; Renato Vidoni
Special Session: IFToMM Italy and Jc-IFToMM Collaboration **Chair: Masaharu Komori (Kyoto University)**		
17:30-18:00	An Illustrated History of Japan-Italy Collaboration in IFToMM Frames over Time	Marco Ceccarelli (University of Rome Tor Vergata); Yukio Takeda
18:00-19:30	Reception	

June 23, Sunday			
8:45-9:15		Registration	
Session V: Affective Robotics **Chair: Akio Yamamoto (University of Tokyo)**			
9:15-9:30		Development of Motion Control Program to Improve the Effectiveness of Robot Therapy Using aibo®	Mingxuan Zhu (Kanto Gakuin University); Tohru Kanada
9:30-9:45		Shooting-based MPC for Biped Humanoid Robot to Imitate Human Dances	Hongming Chen (Waseda University); Zhen Xu; Hai Hu; Jianan Xie; Yue Yi; Kenji Hashimoto
9:45-10:00		Verification of Effect of Robotic Therapy by AIBO® Using Biological Signals (Effect of Motion Control on Salivary Amylase and Heart Rate)	Michi Suenaga (Kanto Gakuin University); Ruocheng Guo; Itsuki Sugio; Tohru Kanada
10:00-10:15	online	Exploring Non-Video-Based Methodologies for Visual Behavioral Analysis of Child-Robot Interaction Group Studies in the Wild	Xela N Indurkhya (Tokyo University of Agriculture and Technology); Gentiane Venture
		break	
Session VI: Human Interface **Chair: Daisuke Matsuura (Tokyo Institute of Technology)**			
10:35-10:50		Modeling for Rheological Properties of Magnetorheological Fluid & Estimation for Torque Characteristics of Fine Haptic Device	Rino Matsushita (Oita Univ.); Asaka Ikeda; Isao Abe; Takehito Kikuchi
10:50-11:05		Study on Making aibo Intelligent Using Natural Language Processing	Ruocheng Guo (Kanto Gakuin University); Tohru Kanada
11:05-11:20		A Novel Teleoperation Approach Based on MediaPipe and LSTM	Jianan Xie (Waseda University); Zhen Xu; Jiayu Zeng; Xiaohan Du; Yilin Zhang; Shanshan Wang; Hongming Chen; Kenji Hashimoto
11:20-11:35		Ability Mining of Toe Manipulation -Input Device that Applies Force in the Direction of Toe Extension-	Masaharu Komori (Kyoto Univeristy); Toshiki Watanabe; Tatsuro Terakawa
11:35-11:50		Developments of Mechanical Structures to Induce Vivid Kinesthetic Illusion of Wrist Joint	Koki Honda (The University of Tokyo); Yasutaka Nakashima; Motoji Yamamoto
		break	
Session VII: Actuators **Chair: Kenji Hashimoto (Waseda University)**			
13:00-13:15		Design of Miniature MR Fluid Device for Wireless Haptic Gripper	Asahi Higashiguchi (Oita Univ.); Isao Abe; Takehito Kikuchi
13:15-13:30		Experimental evaluation of 3-DOF Parallel Continuum Robot capable of twisting motion	Itsuki Uera (Tokyo Institute of Technology); Yuhang Lei; Ming Jiang; Yukio Takeda
13:30-13:45		Miniaturization and Characterization of Pneumatic Wobble Motor Driven by Polyimide Air Chamber	Yuto Nakai (Okayama University); Daisuke Yamaguchi; Takefumi Kanda; Shuichi Wakimoto
13:45-14:00		Dynamic Characteristics of Back-Stretchable McKibben Muscles	Shoma Tanaka (Tokyo Institute of Technology); Hiroyuki Nabae; Koichi Suzumori
		break	
Session VIII: Modelling and Simulation **Chair: Tatsuro Terakawa (Kyoto University)**			
14:20-14:35		Creation of Dance Steps for a Partner Robot to be Used Indoors in the Lunar Base Utilizing the Central Pattern Generator	Zhi Geng (Kanto Gakuin University); Tadashi Komatsu
14:35-14:50		Underwater Propulsion Mechanism Mimicking Shrimp's Swimming Motions	Kazuki Takeshita (University of Miyazaki); Geunho Lee
14:50-15:05		Kinematic modelling of swerve-drive-based mobile robots	Luigi Tagliavini (Politecnico di Torino)*; Andrea Botta; Giovanni Colucci; Lorenzo Baglieri; Simone Duretto; Giuseppe Quaglia
15:05-15:20		Prototype of tongue muscle mimicking soft robot	Yuta Ishikawa (Tokyo Institute of Technology); Hiroyuki Nabae; Gen Endo; Koichi Suzumori
15:20-15:35		From Walking to Jumping Precise Gait Control in Bipedal Robots via Model Predictive Control	Zhen Xu (Waseda university); Jianan Xie; Hongming Chen; Hai Hu; Xiaohan Du; Kenji Hashimoto
15:40-16:00		Award Ceremony & Closing	