



3. Workshop 3

August 21st (Sunday) 13:00-17:45 / Room 519

Title	Advancing Hand Wearable Robotics through novel design, actuation, sensing, and control algorithm
Organizers	Kyu-jin Cho, Lamercy Olivier, and Byungchul Kim
Abstract	Despite impressive advances in the design of hand wearable robots over the past 10 years, most hand wearable robot studies have concentrated on simply grasping and releasing objects. It seems evident to be a difference between a human hand and the hand wearable robots in the number of actuators and sensors; the hand wearable robots have only limited functions due to the restriction of the actuators and sensors. This is challenged by the trade-off between robot simplicity and functional benefit, as well as by difficulties in designing the high-level controllers (e.g., intention detection, grasp strategy, estimating human state, in-hand manipulation). This workshop aims to bring together engineers to discuss these topics, demo recent developments and identify ways to develop the next generation of hand wearable robots.

List of Talks

First Slot (130 min)

1	12:50-13:00 (10 min)	Workshop organizers	Opening Remarks
2	13:00-13:30 (30 min)	Donghyun Kim, Ph.D. <i>Samsung Research</i>	Hand Rehabilitation via a High-DOF Soft Wearable Robot
3	13:30-14:00 (30 min)	Natalie Tanczak, Ph.D Researcher Olivier Lamercy, Senior Researcher <i>ETH Zurich</i>	Tenoexo - a wearable soft hand exoskeleton for therapy and assistance
4	14:00-14:30 (30 min)	Hannah Stuart, Assistant Professor <i>University of California at Berkeley</i>	Grasp Assistance at the Intersection of Body-powered and Robotic Exoskeletons
5	14:30-15:00 (30 min)	Daekyum Kim, Postdoc Researcher <i>Harvard</i>	Intention detection methods for soft wearable hand robots

Coffee Break (15:00-15:30)

Second Slot (130 min)

1	15:30-16:00 (30 min)	Seokhwan Jeong, Assistant Professor <i>Sogang University</i>	Toward Advancing Hand functionality for Robotic Prosthetic Hands and Soft Hand Exoskeletons
2	16:00-16:30 (30 min)	Carlos Cifuentes, Associate Professor <i>University of the West of England</i>	Presentation about Prosthetic Hand and Hand Exoskeleton (TBD)
3	16:30-17:00 (30 min)	Byungchul Kim, Postdoc Researcher <i>Seoul National University</i>	Building Simple Yet Competent Soft-Rigid Hybrid Hand Wearable Robots
4	17:00-17:30 (30 min)	Yongseok Lee, Ph. D. <i>Samsung Research</i>	Haptic glove
5	17:30-17:40 (10 min)	Workshop organizers	Closing

