



***International Symposium  
on Human Movement Studies:  
From Perspectives of Sport Science, Engineering,  
and Medicine***

Organized by  
***Human Performance Laboratory***  
and  
***Comprehensive Research Organization***  
***Waseda University***

**27 July 2023 (Thursday)**  
**10:20 - 17:30**  
**The National Museum of Emerging Science and Innovation**  
**(Miraikan)**  
Aomi 2-3-6, Koto-ku, Tokyo, Japan

Registration required (free of charge, TBA)

Contact:  
Human Performance Laboratory  
Waseda University  
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## Program

- 10:20 – 10:40 Human performance transcendence: An approach from sport science, engineering, and medicine  
*Yasuo Kawakami* (Faculty of Sport Sciences & Human Performance Lab., Waseda University, Japan)
- 10:40 – 11:05 Humanoid robots mimicking humans' anatomical and functional features  
*Takuya Otani* (Faculty of Science and Engineering & Human Performance Lab., Waseda University, Japan)
- 11:10 – 11:35 Multiscale modeling to predict progression of knee osteoarthritis  
*Amir Esrafilian* (Department of Technical Physics, University of Eastern Finland, Finland)
- 11:35 – 12:00 Finite Element Analysis used in the biomechanical studies of internal fixation of fractures in lower extremities  
*Harvey Hu* (Department of Orthopedic Surgery and Orthopedic Biomechanical Laboratory, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, Shanghai, China)
- 12:00 – 13:00 Lunch Break
- 13:00 – 13:25 Moving single fingers requires co-contraction  
*Huub Maas* (Faculty of Behavioural and Movement Sciences, Vrije Universiteit Amsterdam, the Netherlands)
- 13:25 – 13:50 Effect of aging and exercise habits on morphological property of human deep fascia  
*Shun Otsuka* (Department of Anatomy, Aichi Medical University & Human Performance Lab., Waseda University, Japan)
- 13:55 – 14:20 Unique shape of human biceps femoris aponeurosis: *in vivo* and *in situ* findings  
*Carmela Julia Mantecón Tagarro* (Faculty of Sport Sciences, Waseda University, Japan & Faculty of Behavioural and Movement Sciences, Vrije Universiteit Amsterdam, the Netherlands)
- 14:20 – 14:45 Beyond the sagittal plane: *In vivo* quantification of human skeletal muscle 3D structure by diffusion tensor imaging  
*Katsuki Takahashi* (Faculty of Health and Sports Science, Doshisha University, Japan)
- 14:45 – 15:00 Coffee Break

- 15:00 – 15:25 Subjective and objective evaluations of sitting-induced sustained low-intensity muscle fatigue  
*Hui Lyu* (International School of Design, Zhejiang University, China)
- 15:25 – 15:50 Near-infrared spectroscopy for *in vivo* measurement of human musculoskeletal tissue properties  
*Adam Kositsky* (Department of Technical Physics, University of Eastern Finland, Finland)
- 15:55 – 16:20 Eccentric exercise and muscle damage in the lower limb – muscle protection and adaptation  
*Patricio Pincheira Miranda* (School of Human Movement and Nutrition Sciences & School of Health and Rehabilitation Sciences, The University of Queensland, Australia)
- 16:20 – 16:45 The effect of chronic joint constraints on the neural control of gait  
*Carlos Cruz Montecinos* (Departamento de Kinesiología, Facultad de Medicina, Universidad Chile, Chile)
- 16:45 - 17:30 Discussion & Lab Tour

Networking Party (18:00 - 20:00, venue TBA)