



## The 22nd Symposium on Theory of Machines and Mechanisms

Date: July 30, 2016 (Sat)

Place: Conference Room, 1<sup>st</sup> Floor, No.55 North Bldg.,  
Waseda University (Nishiwaseda Campus)  
4-4-1 Ookubo, Shinjuku-ku, Tokyo 169-8555  
(0 min. walk from Nishiwaseda Station, Tokyo Metro Fukutoshin-line)

### Program:

12:55 Opening Address by Haruo HOUJOH  
President, Jc-IFTOMM (Tokyo Tech.)

Session 1 : Application of Motion Mechanisms (13:00-13:40)  
Chair: Wataru TAKANO (Univ. of Tokyo)

13:00 Kinematic Characterization of the Origami Spring Based on Spatial 6R Linkages – A Workspace Analysis –  
\*Hiroshi MATSUO (School of Engineering, Tokyo Tech.), Daisuke MATSUURA,  
Yusuke SUGAHARA and Yukio TAKEDA

13:20 Conceptual Design of a Cable Driven Parallel Mechanism for Planar Earthquake Simulation  
Daisuke MATSUURA(Tokyo Tech, School of Engineering), Shota ISHIDA,  
Muhamad AKRAMIN, \*Emek Bariş KÜÇÜKTABAK, Yusuke SUGAHARA, Yukio TAKEDA,  
Nobuo FUKAWA(Nagoya Univ.) and Minoru YOSHIDA(Hakusan Corp.)

14:00  
Special Lecture (14:00-14:50)  
Past and Future of Robotics  
Lecturer: Dr. Masaru UCHIYAMA (Prof. Emeritus, Tohoku Univ.)  
Chair:Yukio TAKEDA (Tokyo Tech.)

Session 2 : Legged Robot (15:00-16:00)  
Chair: Haruo HOUJOH (Tokyo Tech.)

15:00 3-Dimensional Motion Analysis of Rising Action by Humanoid Robot  
\*Hiroaki HANAI (Graduate School, Kogakuin Univ.), Takayuki MATSUZAWA,  
Hideaki TAKANOBU (Kogakuin Univ.), Kenji SUZUKI and Hirofumi MIURA

15:20 Gait of Thermobot on Heated Slope  
\*Takeru NEMOTO (Graduate School, Univ. of Tokyo) and Akio YAMAMOTO

15:40 Research on Biped Running Robot Utilizing Pelvic Movement

- 12<sup>th</sup> Report: Angular Momentum Control in Yaw Direction Using Upper Body -

\*Takuya OTANI (Waseda Univ.), Shunsuke MIYAMAE (Graduate School, Waseda Univ.),  
Kenji HASHIMOTO (Waseda Institute of Advanced Study/Humanoid Robotics Institute,  
Waseda Univ.), Masanori SAKAGUCHI (Univ. of Calgary), Yasuo KAWAKAMI  
(Faculty of Sport Science, Waseda Univ.), Hun-Ok LIM (Kanagawa Univ.) and  
Atsuo TAKANISHI (Waseda Institute of Advanced Study/Humanoid Robotics Institute,  
Waseda Univ.)

Session 3 : Interaction between Human and Robot

(16:20-17:00)

Chair: Yusuke SUGAHARA (Tokyo Tech.)

16:20 Eye Motions of the Patient Robot

\*Junya ISHII (Graduate School, Kogakuin Univ.), Hideaki TAKANOBU (Kogakuin Univ.),  
Kenji SUZUKI and Hirofumi MIURA

16:40 Study on Human-Robot Interaction through Laughter

- 4<sup>th</sup> Report: Development of a Rib-Tickling Robot -

\*Tatsuhiko KISHI (Waseda Univ.), Takashi NOZAWA (Mejiro Univ.),  
Daisuke KUROIWA (Graduate School, Waseda Univ.), Souichirou SHIMOMURA,  
Tingting ZHONG, Mao KAWAI, Kazuhiro NITTO, Kouki NOMURA,  
Hiroya YOKOYAMA, Salvatore SESSA (Waseda Univ.), Kenji HASHIMOTO  
(Waseda Institute of Advanced Study/Humanoid Robotics Institute, Waseda Univ.)  
and Atsuo TAKANISHI

17:00 Closing Address by Atsuo TAKANISHI

Vice President, Jc-IFTtoMM (Waseda Univ.)

17:10 Annual Meeting 2016

(17:10-18:00)

Address from president:

Haruo HOUJOH (Tokyo Tech.)

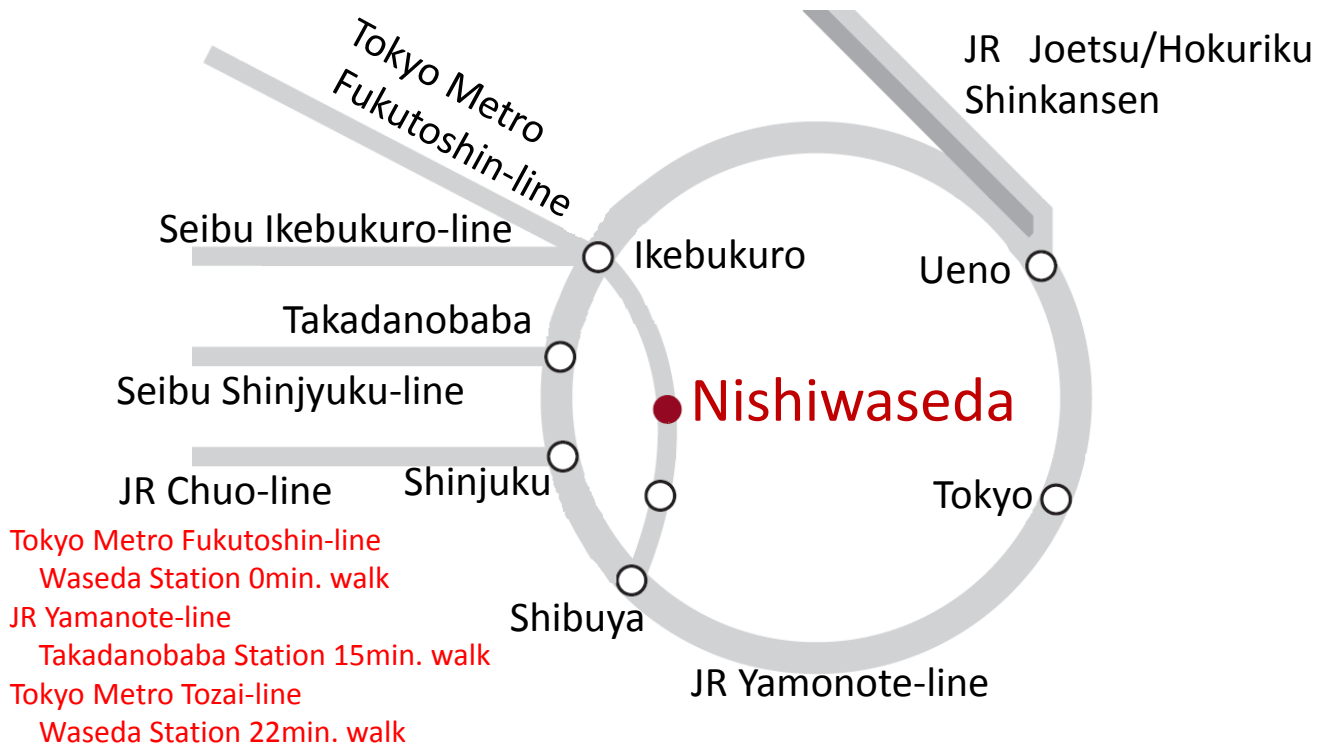
Chair : Yukio TAKEDA (Tokyo Tech.)

18:30 Wine party

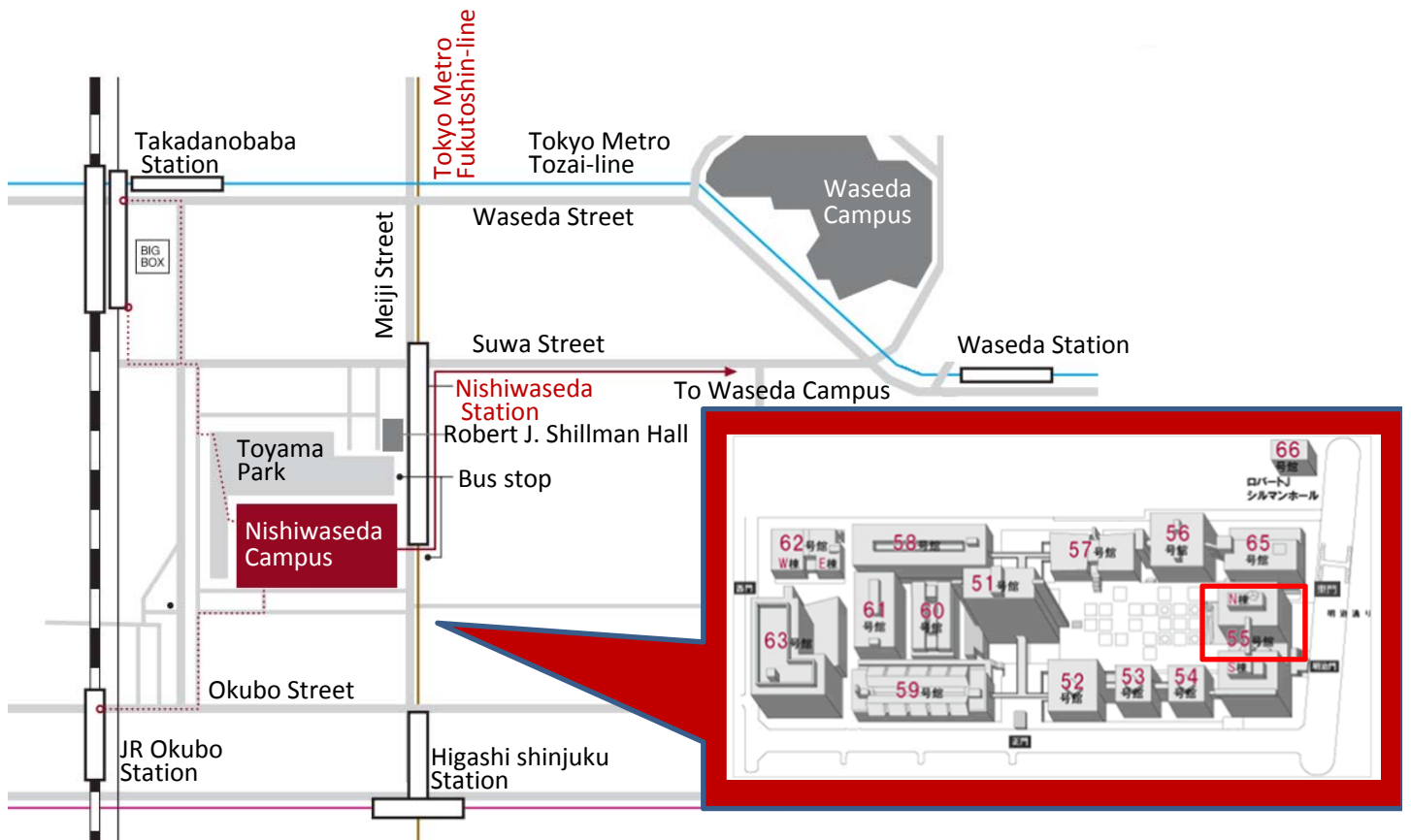
(18:20-20:00)

at Conference Room, 1<sup>st</sup> Floor, No.55 North Bldg.

The fee is 5,000 Jpn yen and free for students.



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