The 20th Symposium on Theory of Machines and Mechanisms

Date: May 24, 2014

Place: Conference Room 304, 3rd Floor, Ishikawadai 3 Bldg., Tokyo Institute of Technology (Ohokayama Campus)

Program:

9:55 Opening Address by Haruo HOUJOH
   President, Jc-IFToMM (Tokyo Tech)

Session 1: Human Support
Chair: Ken SASAKI (The Univ. of Tokyo)

10:00 Higher-order Spectral Analysis and Experimental Identification of Non-linear Magnetic Spring Model
   *Takayuki NAKANO (Kogakuin Univ.), Hiroyuki MATSUMOTO (Institute of Technologists), Hisami OHISHI (Kogakuin Univ.) and Shinji YAMAKAWA

10:20 Individual Examination of Accelerometers and Integrated Displacement Calculation from Acceleration Data
   *Hitoshi KIMURA (Tokyo Tech.), Koudai KATO, Norio INOU and Minoru YOSHIDA (Hakusan Corp.)

10:40 Basic Research on Swarm Intelligence
   *Yuta SHIMIZU (Kogakuin Univ.), Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA and Yoshinobu INADA (Tokai Univ.)

Session 2: Humanoid Robots
Chair: Yukio TAKEDA (Tokyo Tech.)

11:20 The Altered Physical Condition in a Dental Patient Robot
   *Shota HAMAGUCHI (Kogakuin Univ.), Hideaki TAKANOBU, Kenji SUZUKI, Hirofumi MIURA, Kotaro MAKI (Showa Univ.), Yoshikazu MIYAZAKI, Takeshi TANZAWA, Kenichi MIYAMOTO (Tmsuk CO. Ltd.), Yoichi TAKAMOTO, Atsuo TAKANISHI (Waseda Univ.)

11:40 Dynamics Identification of the Foot Flexible DOF of a Humanoid Robot
   *Yuya MIKAMI (Tokyo Univ. of Agriculture and Technology), Gentiane VENTURE, Thomas MOULARD (CNRS-AIST JRL) and Eiichi YOSHIDA

12:00 Research in Biped Running Robot Utilizing Pelvic Movement
   *5th Report: Hopping Robot Using Pelvic Movement and Leg Elasticity of Multi-Joint Leg*
   *Takuya OTANI (Graduate School, Waseda Univ.), Masaaki YAHARA, Kazuhiro URYU,
Akihiro IIZUKA, Shinya HAMAMOTO, Shunsuke MIYMAE, Kenji HASHIMOTO, Masanori SAKAGUCHI (Univ. Calgary), Yasuo KAWAKAMI (Waseda Univ.), Hun·Ok LIM and Atsuo TAKANISHI

12:20-13:50 Luncheon

Special Lecture

Why Do Robots Resemble Creatures?
Lecturer: Prof. Koichi SUZUMORI (Tokyo Tech)
Chair: Yukio TAKEDA (Tokyo Tech)

Session 3: Mechanisms and Accuracy
Chair: Atsuo TAKANISHI (Waseda Univ.)

15:00 Positioning-repeatability Improvement Based on Ultrasonic Vibration for Kinematic Coupling
*Takaaki OIWA (Shizuoka Univ.), Hirokuni SHIBAZAKI, Kenji TERABAYASHI and Junichi ASAMA

15:20 Precise Pipe-Bending by 3-RPSR Parallel Mechanism Considering the Effect of Springback and Dies Clearances
*Shohei KAWASUMI (Graduate School, Tokyo Tech.), Yukio TAKEDA and Daisuke MATSUURA

Session 4: Identification of Human Motion and Training Systems
Chair: Haruo HOUJOH (Tokyo Tech.)

16:00 Feature Extraction of EEG and Motion Data Using Canonical Correlation Analysis
*Emiko UCHIYAMA (The Univ. of Tokyo), Jyunya OBARA, Ikuo KUSAJIMA, Akihiko MURAI, Wataru TAKANO and Yoshihiko NAKAMURA

16:20 Research of Hand Rehabilitation Device System Which Incorporated Visual and Tactile Feedback
Takashi MORI (Graduate School, Shibaura Institute of Technology), *Takaya SEKI, Yukio SAITO (Shibaura Institute of Technology) and Takashi KOMEDA

16:40 Feature Extraction of Motion by Correlation Analysis for Task Execution
*Keisuke UMEZAWA (The Univ. of Tokyo), Wataru TAKANO and Yoshihiko NAKAMURA

17:00 Closing Address by Atsuo TAKANISHI
Vice President, Jc-IFToMM (Waseda Univ.)

17:20 Annual Meeting 2014
Address from president:
Haruo HOUJOH (Tokyo Tech.)
Chair: Yukio TAKEDA (Tokyo Tech.)

18:30 Technical networking event
at Room 305, 3rd Floor, Ishikawadai 3 Bldg.
The fee is 5,000 Jpn yen and free for students.