# PROGRAM

## Day 1 (November 19)

### Opening Remarks (Main Hall)  Chair: K. Osuka (Osaka Univ.)

13:30-13:45 Introduction of the Mobiligence Program: Emergence of Adaptive Motor Function through Interaction among the Body, Brain and Environment - A Constructive Approach to the Understanding of Mobiligence -

H. Asama (Director of Mobiligence Project, Univ. of Tokyo)

### Organized Symposium by Research Group A (Main Hall)  Chair: T. Kondo (Tokyo Univ. of Agriculture and Technology)

13:45-14:25 Research Report of Group A: Adaptation to Environment

K. Ito (Tokyo Institute of Technology)

14:25-14:35 The Effect of Motivated Observation on Human Motor Learning

T.Kondo, K.Nakamura and T.Nozawa (Tokyo University of Agriculture and Technology)

14:35-14:45 Mind your neighbors: Risk, impulsiveness and “biological motion” in domestic chicks

H. Amita, M. Miura, A. Kawamori and T. Matsushima (Hokkaido University)

14:45-14:55 Recalibration of Time to Contact

Y. Koike, K. Yoneyama, H. Kambara (Tokyo Institute of Technology)

14:55-15:05 Neural Mechanisms underlying Trial-and-error Behaviors in the Macaque Prefrontal Cortex

A. Fujimoto, T. Tanaka and T. Ogawa (Kyoto University)

15:05-15:15 Why the Hand Motion Preceeds the Target in Tracking Experiment?

Y. Hayashi (Tohoku Institute of Technology), Y. Tamura, K. Sugawara (Tohoku Gakuin University), Y. Sawada (Tohoku Institute of Technology)

15:15-15:25 Object-centered position coding for hand manipulation action in the parietal cortex of the monkey

A. Murata, W. N. Shein and H. Sakata (Kinki University School of Medicine)

15:25-15:35 Inference of Other's Sensorimotor Patterns based on Symbolic Query with Motion Performance

K.Okuno (The Graduate University for Advanced Studies) and T. Inamura (National Institute of Informatics)

15:35-15:45 A Neuro-dynamical Model for Understanding Mechanisms of Goal-directed Action Imitation

H. Arie (RIKEN Brain Science Institute), T. Endo, T. Arakaki, S. Sugano (Waseda University) and J. Tani (RIKEN Brain Science Institute)

15:45-16:00 Coffee Break

16:00-17:15 Poster Session (P101-P115)

## Invited Talk 1 (Main Hall)　Chair: H. Asama (Univ. of Tokyo)

17:15-18:15 Adaptive Interfaces to Damaged Nervous Systems
Joel W. Burdick (California Institute of Technology)

18:15-19:30 Welcome Reception (Reception Hall B)

## Day 2 (November 20)

## Organized Symposium by Research Group B (Main Hall)　Chair: K. Tsuchiya (Doshisha Univ.)

09:00-09:10 Overview of Research Activities of Group B
K. Tsuchiya (Doshisha Univ.)

09:10-09:40 Central mechanisms of Adaptive Locomotor Control in Mammals
K. Takakusaki (Asahikawa Medical College), F. Mori (Yamaguchi Univ.), K. Nakajima, M. Inase (Kinki Univ.), D. Yanagihara (Univ. of Tokyo), K. Yoshimi, T. Nakazato, S. Kitazawa (Juntendo Univ.), T. Okumura (Asahikawa Medical College), K. Matsuyama (Sapporo Medical Univ.) and Y. Koyama (Fukushima Univ.)

09:40-10:10 System biomechanics of bipedal walking in the Japanese macaque: Exploration of principal mechanism for adaptive locomotion
N. Ogihara (Keio Univ.), S. Aoi (Kyoto Univ.), Y. Sugimoto (Osaka Univ.), T. Funato, H. Makishima, M. Nakatsukasa (Kyoto Univ.) and K. Tsuchiya (Doshisha Univ.)

10:10-10:30 Anthropomorphic Monopod Bouncing Equipped with Biarticular Muscles
K. Hosoda, Y. Sakaguchi, and H. Takayama (Osaka Univ.)

10:30-10:50 Toward the Development of Low-Invasive Brain Machine Interface for Reflex walking Assist
H. Yokoi (Univ. of Electro-Communications), K. Kita, T. Uejima, and M. Takita (Univ. of Tokyo)

10:50-11:05 Coffee Break

11:05-12:20 Poster Session (P201-P228)

12:20-13:30 (Lunch)

## Invited Talk 2 (Main Hall)　Chair: N. Ogihara (Keio Univ.)

13:30-14:15 Evolution of Limbs: The Interaction of Intelligent Mechanics and Control
Martin S. Fischer (Friedrich-Schiller-Universitaet)

14:15-14:30 Coffee Break

## Organized Symposium by Research Group C (Main Hall)　Chair: K. Kawabata (RIKEN)

14:30-15:00 Understanding Social Adaptive Functions in Animals

H. Aonuma (Hokkaido Univ.), J. Ota (Univ. of Tokyo), K. Kawabata (RIKEN), D. Kurabayashi (Tokyo Tech), R. Kanzaki, H. Asama (Univ. of Tokyo)

15:00-15:20 Understanding Adaptive behavior Selection of a Micro Brain through Bio-machine Hybrid System
D. Kurabayashi (Tokyo Tech) and R. Kanzaki (Univ. of Tokyo)

15:20-15:35 Novel Approach for Analyzing Multi-dimensional Data
N. Fujii (RIKEN)

15:35-15:50 Observations and Computer Simulation of the Social Behavior in the Honeybee
R. Okada (Tokushima Bunri Univ.), H. Ikeno, M. Ohashi, T. Kimura (Univ. of Hyogo), and E. Ito (Tokushima Bunri Univ.)

15:50-16:00 A Mathematical Model for Caste Differentiation in Termite Colonies by Hormonal and Pheromonal Regulations
Y. Ikemoto (Univ. of Tokyo), Y. Ishikawa (Hokkaido Univ.), T. Miura (Hokkaido Univ.), H. Asama (Univ. of Tokyo)

## Invited Talk 3 (Main Hall) Chair: J. Ota (Univ. of Tokyo)

16:00-16:30 Universal Laws of Behavioral Organization in Mice and Humans and the Breakdown in Depression
Y. Yamamoto (Univ. of Tokyo)

16:30-16:45 Coffee Break

16:45-18:00 Poster Session (P301-P321)

19:00-21:00 Banquet (Plants Musium of Miracle Planet)

## Day 3 (November 21)

## Organized Symposium by Research Group D (Main Hall) Chair: X.Z Zheng (ASTEM)

09:00-09:45 Implicit Control Law: A Common Principle of Mobiligence
K. Osuka (Osaka Univ.), A. Ishiguro (Tohoku Univ.), X.Z. Zheng (ASTEM), Y. Sugimoto(Osaka Univ.) and D. Owaki (Tohoku Univ.)

09:45-10:15 A Collective Behavioral Approach to Understanding Mobiligence
A. Ishiguro and M. Shimizu (Tohoku Univ.)

10:15-10:45 Voluntary Movements Controlled by “Mi-Nashi” Created in the Motor Cortices
M. Yano, Y. Yoshihara, N. Tomita, Y. Makino (Tohoku University)

10:45-11:00 Coffee Break

11:00-12:15 Poster Session (P401-P417)

12:15-12:30 Closing Address