Session 9: Neuro-Robotics

Date: January 25, 2019

Venue: AP Convention Room Chayamachi, Umeda, Osaka

"Interactive Robots as Multistable Dynamical Systems"

Bulcsú Sándor (Babes-Bolyai University)

Robotic locomotion may arise by generating attracting states in the combined phase space of the robot and environment. Interactive robots can hence make use of coexisting attractors corresponding to different motion primitives. Considering simple neuro robots we propose here a dynamical systems framework for understanding and controlling intelligent systems.

"Body-Brain Interactions for Emergent Behavior"

Yuji Kawai (Osaka University)

How do brain networks produce bodily behavior even though the neural activity and body movements have different dynamical properties? Our simulations show that the neural activity changes to be suitable for movements through body-brain interactions. Such adaptability enables the neural networks to produce diverse behavioral patterns and to facilitate behavioral learning.