



Title:

Blind Spot of Biomimetic Approach

Summary of the talk:

Living things provide us with a good hint in designing robot. The fact of their long history in life implicitly proves a kind of optimization in their bodies. Therefore, it is quite natural for us to learn from living things in developing robots. Based on this concept, many projects concerning with bio-inspired robot have been launched all over the world and a number of successful results have been obtained so far. However, we have to be very careful that this approach does not always lead to success. This talk starts by introducing a couple of successful examples and non-successful ones in biomimetic approach. While generally current robots are far behind compared with human in dexterity, we introduce a couple of keys for enhancing the dexterity by reviewing the design concept of robot.

Short Bio.

1981 PhD from The University of Tokyo

1981-1990 Mechanical Engineering Laboratory (MITI)

1990-1993 Associate Professor of Kyushu Institute of Technology

1993-2006 Professor of Hiroshima University

2006- Professor of Osaka University

Dr. Kaneko's research encompasses high speed hyper human technology which supports to develop a system capable of exceeding human capability. Especially, he is interested in dynamic active sensing by utilizing a high speed camera and a high speed actuator, and their implementation into medical system for exploring a new direction of medical diagnosis. He served as the Editor-in-Chief of Journal of Robotics and Mechatronics and an editorial member of Robotics and Automation Magazine. Dr. Kaneko served as a part editor of international handbook of robotics where he was responsible for manipulation and interfaces. He was the Project Leader of the 21st century COE on "Hyper Human Technology toward the 21st Century Industrial

Revolution” . He was a Vice President of IEEE Robotics and Automation Society during 2004 through 2005. He published over 170 journal papers and 180 conference papers. He got 23 awards including Humboldt Research Award, IEEE Best Conference Paper Awards (ICIA, ICRA, ISATP) and IEEE RAS Best Transactions Paper Award.