International Lectures from Japan

Physiological Anthropology, Perceptual Psychology, and Applied Mathematics and Computer Science

10:00 - 10:30   Opening:
Introduction of the Human Science International course
(Professor Hideyuki Takagi)

10:30 - 11:30   **Interactive Evolutionary Computation**
(Professor Hideyuki Takagi)

11:30 - 13:00   lunch

13:30 - 14:00   **An Introduction to Physical Ergonomics**
(Assistant Prof. Ping Yeap Loh)

14:00 - 15:00   **An Introduction Human Perception and Brain Research**
(Associate Prof. Gerard B. Remijn)

15:00 - 15:15   Q&A for whole lectures and studying in Japan for those who have questions and Closeing

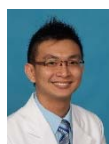Lecture 1: **Interactive Evolutionary Computation**

Following basic introduction of fuzzy systems, neural networks, and evolutionary computation (EC), we learn one of EC applications, interactive EC (IEC) which optimizes a target system based on human subjective evaluations. Through many IEC applications in wide variety of application areas, we learn its wide applicability and consider how to apply IEC to our research. Related slides and a tutorial paper are downloadable from the "downloadable files" menu at http://www.design.kyushu-u.ac.jp/~takagi/

Lecture 2: **An Introduction to Physical Ergonomics**

This lecture will provide the audience with a basic understanding of physical ergonomics, its definition, and its application in everyday-life situation. Additionally, the integration of physiological anthropology and ergonomics approaches in work-related musculoskeletal disorder research will be introduced.

Lecture 3: **An Introduction Human Perception and Brain Research**

In this lecture we will look at the structural and functional organization of the human brain, and discuss the workings of the brain in relation to human perception. The examples of neuroscientific research will mostly relate to human hearing and vision.

Ping Yeap Loh (Malaysia) is an Assistant Professor of the Faculty of Design, Kyushu University. He is interest in assistive technology in daily life activities and users' adaptation from the perspective of physiological anthropology. His research interests also includes applied ergonomics in prevention of work-related musculoskeletal disorders.

Gerard B. Remijn (the Netherlands) is an Associate professor of the Faculty of Design, Kyushu University. He is mainly interested in perceptual processes in the human brain, with research on a wide variety of topics related to auditory perception, visual perception, and time perception. Research in his laboratory focuses on psychophysics and brain research.

Hideyuki Takagi is a professor of Faculty of Design, Kyushu University and has worked on computational intelligence for a quarter century. He is especially interested in combining human factors and computational intelligence, so called Humanized Computational Intelligence. His lab is the center of interactive evolutionary computation research in the world.