



23 November 2016

Ruang Sidang Utama, Lantai 2, Gedung 3,  
Fakultas Teknik, Universitas Sebelas Maret, Surakarta

## International Lectures from Japan

Sponsored by: Human Science International Course, Graduate School of Design, Kyushu University, Japan

### Antro-Fisiologi, Psikologi Perseptual, dan Matematika Terapan dan Ilmu Komputer

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

- 10:30 - 10:40 Opening:  
Seminar objectives and introductions  
(Prof. Hideyuki Takagi)
- 10:40 - 11:00 Opening from the Dean of Faculty of engineering,  
UNS (Pembukaan dari dekan fakultas teknik)
- 11:00 - 11:25 "My Study & Research Experience in Japan" (\*)  
(Dr. Lulu Purwaningrum)
- 11:25 - 11:55 **An Introduction to research in Biomechanics  
an Ergonomics for All Ages and Abilities(\*)**  
(Pengantar penelitian biomekanik dan ergonomi  
untuk semua umur dan kemampuan)  
(Dr. Lulu Purwaningrum)
- 11:55 - 13:00 (lunch and pray)
- 13:00 - 13:30 **Interactive Evolutionary Computation**  
(Intraktif Komputasi Evolusioner)  
(Prof. Hideyuki Takagi)
- 13:30-14:00 **An Introduction to Brain Research and Human  
Perception** (Pengantar Penelitian Otak)  
(Prof. Gerard B. Remijn)
- 14:00-14:40 Q&A for whole lectures and studying in Japan for  
those who have questions
- 14:40 - 14:50 Closing

#### Lecture 1: **An Introduction to research in Biomechanics and Ergonomics for All Ages and Abilities**

Applying of biomechanical and ergonomics principles for designing products which consider all ages and ability will be improve quality of live. In this lecture will be presented some biomechanics and eergonomics research examples that conduct in the ergonomics for all ages and ability laboratory of Human Science International Course, Kyushu University.

#### Lecture 2: **Interactive Evolutionary Computation**

We learn one of evolutionary computation (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 3: **An Introduction to Brain Research and Human Perception**

We will look at some research examples that show the workings of the brain in relation to human perception. We perceive the world around us through our sensory systems. Information that enters our eyes and ears, or other sense organs, needs to be interpreted by our brain. We will discuss some research techniques that give us insight into the workings of our brain and our behavioral responses to sensory information.

(\*)These talks will be given in Bahasa Indonesia.



**Lulu Purwaningrum** is a Lecturer of Interior Design Department, Sebelas Maret University. She obtained the doctoral degree from Kyushu University in September, 2016.

Her research interests include ergonomics and product design.



**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.