



2 November, 2017

Universitas Muslim Indonesia

# International Lectures from Japan

Sponsored by: Human Science International Course, Graduate School of Design, Kyushu University, Japan  
Organized by: Dept. Teknik Industri, Universitas Muslim Indonesia

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

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

- 10:00 - 10:10 Opening,  
Seminar objectives and introductions  
(Prof. Hideyuki Takagi)
- 10:10 - 10:25 My Study & Research Experience in Japan \*  
(Dr. Irma Nur Afiah)
- 10:25 - 10:30 (break)
- 10:30 - 12:00 **Pengantar Biomekanika dan Ergonomi untuk Segala Usia dan Kemampuan**  
(An Introduction to Biomechanics and Ergonomics for All Ages and Abilities)\*  
(Dr. Irma Nur Afiah)
- 12:00 - 13:15 (lunch and pray)
- 13:15 - 14:45 **An introduction to brain research and human perception**  
(Sebuah Pengantar tentang Penelitian terkait Otak)  
(Prof. Gerard B. Remijn)
- 14:45 - 15:00 (break and pray)
- 15:00 - 16:30 **Interactive Evolutionary Computation**  
(Komputasi Interaktif Evolusioner)  
(Prof. Hideyuki Takagi)
- 16:30 - 16:45 Q&A for whole lectures and studying in Japan for those who have questions

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

### Lecture 1: Pengantar Biomekanika dan Ergonomi untuk Segala Usia dan Kemampuan

Biomekanika merupakan salah satu ilmu dasar dalam penelitian terkait gerakan manusia, dengan beberapa pendekatan yang dapat dipertimbangkan, seperti: jenis kelamin, usia, kemampuan tubuh, dan lain-lain. Hal ini juga berkaitan dengan ilmu Ergonomi untuk segala usia dan kemampuan. Pada sesi kuliah ini, akan dijabarkan pemahaman terkait implementasi dasar ilmu Biomekanika dan Ergonomi untuk segala usia dan kemampuan, serta pentingnya pengembangan dalam suatu desain untuk meningkatkan kualitas hidup manusia.

### Lecture 2: 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.

### Lecture 3: 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.



**Irma Nur Afiah** received Bachelor and master degrees from Hasanuddin University and Sepuluh Nopember Institute of Technology, respectively, and is a doctoral student of Kyushu University since October, 2012. She is an awardee of Excellence Scholarship-Directorate of Higher Education of Republic Indonesia. She is interested in gait motion, biomechanics engineering and ergonomics.



**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.



**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.