



20 March, 2014
 Room E6, 3rd Floor, Department of Electrical Engineering & Information
 Technology, Gadjah Mada University

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

- 08:40 - 08:50 Opening,
Seminar objectives and introductions
(Prof. Yoshitaka Nakajima)
- 08:50 - 09:05 My Study & Research Experience at Kyushu
University *
(Dr. Titis Wijayanto)
- 09:05 - 10:20 **Environmental ergonomics: Human-thermal
environments**
(Ergonomi Lingkungan: Manusia dan lingkungan
termal)*
(Dr. Titis Wijayanto)
- 10:20 - 10:30 (break)
- 10:30 - 12:00 **Interactive Evolutionary Computation**
(Intraktif Komputasi Evolusioner)
(Prof. Hideyuki Takagi)
- 12:00 - 13:30 (lunch and pray)
- 13:30 - 15:00 **Auditory Illusions**
(Ilusi Pendengaran)
(Prof. Yoshitaka Nakajima)
- 15:00 - 15:30 (break and pray)
- 15:30 - 16:50 **Practical Use of Statistical Tests**
(Penggunaan Praktis Dalam Pengujian Statistik)
(Prof. Hideyuki Takagi)
- 16:50 - 17:10 Q&A for whole lectures and studying in Japan for
those who have questions

Lecture 1: Environmental ergonomics: Human-thermal environments

Human responses to thermal environment and to internal heat production, physiological and behavioral responses, serve to maintain internal body temperature around 36-38C. In this lecture, human adaptation to thermal environment will be discussed, particularly on how people from tropical area adapted to hot environment considering their heat balance and behavioral responses.

Lecture 2: 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/>

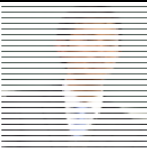
Lecture 3: Auditory Illusions

Some newly discovered auditory illusions will be demonstrated, and their implications to the study of auditory mechanisms will be explained. The roles of auditory perception in our everyday life will be also discussed. Mutual discussion based on perceptual experiences and step-by-step reasoning will be encouraged.

Lecture 4: Practical Use of Statistical Tests

Correct use of statistical tests is essential to show the significant superiority of your proposed methods to other methods. We learn which statistical test we should choose for which conditions, and how to use it. Slides are downloadable from the "downloadable files" menu at <http://www.design.kyushu-u.ac.jp/~takagi/>

(*These talks will be given in Bahasa Indonesia.



Titis Wijayanto is an academic staff from Dept. of Mechanical and Industrial Engineering, UGM. He obtained his PhD from Human Science International course, Graduate School of Design, Kyushu University in March 2013. His research interests are physical ergonomics and environmental ergonomics. He is currently working on human-thermal environments as a Research Fellow in Kyushu University.



Yoshitaka Nakajima is a distinguished professor of Faculty of Design, Kyushu University. He is recently interested in the relationship between auditory perception and language universals. He teaches perceptual psychology, subjective evaluation, auditory psychology, time perception, etc. His students are encouraged to study anything related to these areas.



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.