



## EMINENT SCIENTIST OF THE YEAR 2007

ASIA



Dr. Ippeita Dan

*Dr. Ippeita Dan, an emerging brain scientist and a expert in the field of neuroimaging, is presently working as a research scientist at National Food Research Institute (NFRI) in Tsukuba Science City, Japan. He was born on July 12, 1969 in Tokyo and is a native of Japan.*

*Dr. Dan enjoyed a spirit of liberal art education as an undergraduate student at International Christian University (ICU) Tokyo, spent his junior year at University of Illinois, Urbana-Champaign as a Japan Illini Club scholarship awardee, and graduated ICU in 1993 with a senior thesis on a photosynthesis research.*

*Then, after spending a year as a research technician at Chem-Bio-Informatics Lab at National Institute of Hygienic Sciences in Tokyo, Dr. Dan entered School of Arts and Sciences at Graduate School of the University of Tokyo as a graduate student, and received a Ph. D. degree in 2002. While he was still doing his Ph.D., he joined Japan Society for the Promotion of Science and Research Fellow of Japan Science and Technology Agency as a Junior Research Associate.*

*During this period, Dr. Dan's first major academic contribution was in the field of molecular biology and bioinformatics, when he presented an extensive comparative genomic analysis on a group of signal transduction molecules called "Ste20 group kinases", and his article published in Trends in Cell Biology has received more than one hundred citations till date.*

*In the next stage, Dr. Dan joined National Food Research Institute as a Research Scientist, and entered the field of human brain mapping with the grand mission to introduce neuroimaging techniques into the food science research with an emphasis on functional near-infrared spectroscopy (fNIRS), an emerging non-invasive optical technique to monitor cortical activity, also known as optical topography or diffused optical imaging. At that time, he realized that there were no established spatial analysis methods for stand-alone fNIRS, which meant that he had to incur additional expenses on acquiring the subject's structural image, therefore his first aim was to develop a spatial analysis method for fNIRS without having to acquire the structural image.*

*In a series of articles published in NeuroImage, Dr. Dan described novel methods to probabilistically register fNIRS data to the standard Montreal Neurological Institute (MNI) space, which serves as the most common stereotaxic platform for tomographic functional brain mapping methods, such as functional magnetic resonance imaging (fMRI) and positron emission tomography (PET), and to report fNIRS spatial information in a manner compatible with other neuroimaging studies.*

*Dr. Dan, in his current role as a principle investigator at Brain Research Group in NFRI, directs a team of research staff from various background including, molecular biology, cognitive science, statistics, software development and dietary science, and employs a multidisciplinary approach to broaden the research perspectives. He is also leading an Industrial Technology Research Grant Program, "Development of the probabilistic transcranial registration method of NIRS data", from the New Energy and Industrial Technology Development Organization (NEDO) of Japan from 2003 to 2006.*

*Dr. Dan has published about 20 peer-reviewed scientific papers in international journals including NeuroImage, Nucleic Acids Research, Journal of Biological Chemistry, Nature Immunology and Trends in Cell Biology. He has also applied for three patents, published several scientific critiques and essays, and presented approximately 30 scientific communications or invited lectures in international or national scientific meetings. He is an active member of Organization for Human Brain Mapping (USA), Society for Psychophysiological Research (USA), Japan Neuroscience Society and Japan Human Brain Mapping Association. In 2006, Dr. Dan received Momofuku Ando Research Encouragement Award from the Shokusokai (Food Innovation Society) of the Ando Foundation for his contribution in methodological development of fNIRS and its application to gustation research.*

*Dr. Dan is also a founder and board member of the Non-profit organization (NPO), Science Communication Japan that is dedicated for the promotion of interactive communication among scientists, science writers, science communicators and citizens.*

*Dr. Ippeita Dan has been selected by the World Scientist Forum for "Eminent Scientist of the Year 2007" International Award in the field of neuroimaging based on his unique academic and research contributions in molecular biology, bioinformatics, human brain mapping, research innovations and academic excellence in Neuroimaging.*