



INTERNATIONAL UNION FOR PHYSICAL AND
ENGINEERING SCIENCES IN MEDICINE

2015 IUPEM AWARD OF MERIT (BIOMEDICAL ENGINEERING)

*This award recognizes an outstanding individual who has established
a distinguished career in Biomedical Engineering*



Presented to:

Professor Fumihiko Kajiya, MD. Ph.D.

Special Appointed Professor,
Kawasaki University of Medical Welfare

**Improvement of Health Care Quality by Medical and Biological Engineering (MBE) with
the collaboration of Academia, Industry, the Government and the People**

Kajiya Fumihiko
Kurashiki Japan

The American Institute for Medical and Biological Engineering (AIMBE) has highlighted nearly 30 medical technologies since the Hall of Fame began in 2005. In subsequent years new technologies were added as the key innovations of the 20th century until now. For example, artificial kidneys, X-ray, ECG, pacemakers, cardiopulmonary bypass, antibiotic production technology and defibrillators up to the 1960's, and since the 1990's genomic sequencing and micro-arrays, PET, image-guided surgery and optical coherence tomography (see AIMBE home page). Virtually, every person has benefitted from these key technical innovations in receiving better health care. For instance, more than 2 million people have hemodialysis treatment in the world (3 hundred thousand in Japan). However, the development of each technology doesn't progress in a straightforward way. As for artificial kidneys, it is well known that many crucial technological developments, such as dialysis-circuits, pumps, vascular access, anticoagulant measures and high performance membranes have been achieved. These are a result of fusion technology from many disciplines. Personally, I have been engaged as a co-chair (2004-13) in the Medical Engineering Technology and Industrial Technology (METIS) in Japan, i.e., Cooperative organization of academia, industry and government. The scope of METIS includes not only medical devices but also science and engineering in health care. From my small experiences, I would like to emphasize the possible improvement of health care quality by future contributions of MBE in the interdisciplinary fusion with the collaboration of academia, industry, the government and the people.

To promote President Obama's Precision Medicine Initiative, cohort study of genome together with MBE, IT and other fields with the participation of the majority of people is very important. For MBE to walk along with society worldwide will be effective route to our goal.