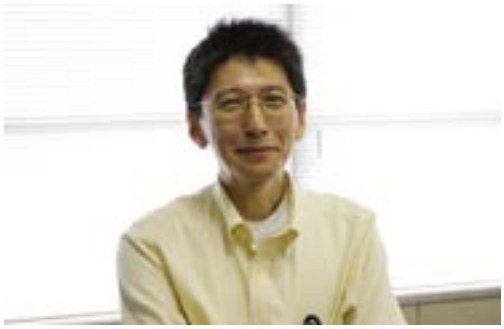
Professor Emeritus Inokuchi's Scientific Achievement

Professor Hiroo Inokuchi, the former Director-General of IMS (1987–1993), was awarded the Kyoto Prize of 2007 for his pioneering and fundamental contributions to organic molecular electronics. The Kyoto Prize is an international award to honor those who have contributed significantly to the scientific, cultural, and spiritual betterment of mankind. The Prize is presented annually in each of the following three categories: Advanced Technology, Basic Sciences, and Arts and Philosophy. Professor Inokuchi was honored in the field of Materials Science and Engineering in the category of Advanced Technology. Professor Inokuchi initiated pioneering research on electrical conduction between molecules in aromatic hydrocarbons which had been believed to be a typical insulator, and established the scientific foundation for studying the electrical conductivity of organic materials. Further, he systematically elucidated an electronic structure of a wide variety of organic materials by photoelectron spectroscopy. Through a series of such studies, he established the academic base essential for studying the electronic properties of organic solids, making fundamental contributions to the subsequent development of organic molecular electronics.

Mr. Suzui's Technical Achievements

Mr. Mistukazu Suzui, the leader of the machine group of Equipment Development Center, has received The CSJ Award for Technical Achievement from The Chemical Society of Japan, by his work "Design and fabrication of advanced experimental systems using the precision machine technologies." Mr. Suzui has developed many equipments necessary for molecular science experiments through the cooperation with scientists who need the instruments, and attained a great contribution to the molecular science. His main achievements awarded are "High mass TOF mass spectrum analyzer," "High density oriented molecular beam generator," "Microchip laser system," and "Biosensor and biochip," *etc*. All these instruments and devices require fine machinery design and fabrication technologies to make. Not only these recent works, he also contributed to the construction of many kinds of monochromators in the synchrotron radiation facility of IMS, UVSOR. We expect him continuing important contribution to molecular science research field.



Professor Suzuki's Scientific Achievement

Professor Toshinori Suzuki, Chief Scientist of Chemical Dynamics Laboratory, RIKEN (Institute of Physical and Chemical Research), a former associate professor of Department of Electronic Structure, IMS, received the 20th IBM Japan Science Prize in 2006 for his contribution to "development and accomplishment of the ultrafast photoelectron imaging spectroscopy to directly observe the change of quantum states of reacting molecules, or activated complexes." This prize was founded by Japan IBM Co. at 1987 in order to commemorate the 50th anniversary of the founding of the company. Candidates of the award are researchers who conduct outstanding studies in the extensive field of physics, chemistry, computer science and electronics at universities and public institutes. He received the prize in the chemistry division.

Professor Suzuki had studied chemical reaction dynamics by means of molecular beam technique, laser spectroscopy as well as photoion and photoelectron imaging at IMS since 1992. He moved to RIKEN in 2002 and presides over the Chemical Dynamics Laboratory.

The observation of the change of quantum states was hitherto believed to be impossible, so that the state-to-state chemistry, in which electronic states of reactant (entrance) and product (exit) were determined, were regarded as the most precise science of chemical reactions. The ultrafast photoelectron imaging spectroscopy exploded this belief. This spectroscopy allows us to measure changes of energy and angular distributions of photoelectrons from reacting molecules. Changes of shapes of electron orbitals and wave packet motions of molecular vibration and rotation can be obtained from the analysis of the photoelectron images. This spectroscopy enables us to experimentally investigate how chemical reactions proceed with accuracy which has not been fulfilled by existing techniques.