



Institute for Molecular Science (IMS) is one of the world's core research facilities for molecular science and is also a center for inter-university joint research in Japan. It sets an extremely wide range of research goals, from understanding the behavior of individual molecules to that of collective molecular systems. These molecular systems have close relation to scientific understanding of biology, engineering and space sciences. Currently, IMS is engaged in six (four plus two) areas of research: Theoretical and computational molecular science, Photo-molecular science, Materials molecular science, and Life and coordination-complex molecular science. Research Center of Integrative Molecular Systems (CIMoS), the fifth research division of IMS, has started from April, 2013 to develop the highly functional molecular systems such as molecular rhythms, sensing and response, and even self-repair. Starting from April 2017, Center for Mesoscopic Sciences (CMS) is launched to develop innovative methodology of studying mesoscopic molecular systems, covering from theoretical methods to leading-edge measurement methods. In addition to these research divisions, IMS has three research facilities; UVSOR Synchrotron Facility, Instrument Center facilitated with various molecular detectors, and Equipment Development Center. IMS also operates the Research Center for Computational Science and Okazaki Institute for Integrative Bioscience (OIIB), jointly with National Institute for Physiological Sciences and National Institute for Basic Biology in the same campus.

Annual Review 2017 is a summary of research activities performed in IMS during September 2016–August 2017. The individual research groups at IMS are making steady progress in basic research on molecular structures, reactions and functions demonstrating “novel molecular capabilities,” as reported in this Review. In addition to these individual activities, IMS conducts the six special programs in the institute basis: (i) Computational molecular materials simulation science project for the post-K computer; (ii) Nano science project, called Nanotechnology Platform from July 2012; (iii) MEXT Photon Frontier Network program for Photon Science and Technology in collaboration with Osaka University, Kansai Photon Science Institute, and Kyoto University; (iv) Inter-University Network for Common Utilization of Research Equipments cooperated with 72 Japanese National Universities; (v) Project on trans-hierarchical studies of materials and biological systems with molecular observations, as a joint program of NINS; (vi) IMS runs several international collaboration programs and also owns two fellowship and internship programs for young scientists: Institute for Molecular Science International Internship Program (IMS-IIP) and IMS-IIP in Asia (IMS-IIPA). IMS-IIPA provides the opportunity of internship for young researchers (*e.g.*, master's and doctoral students and postdoctoral researchers) from Asian countries to stay in IMS laboratories related to the basic research for environmental and energy problems.

There were some moves in our young faculty members in the period of September 2016–August 2017. Research Associate Professor Yutaka Shikano left for Research Center for Advanced Science and Technology, the University of Tokyo. Assistant Professors Shuhei Higashibayashi left for Keio University and Atsushi Nagai for Delft University. Assistant Professors Koji Yamamoto moved to Tokyo Institute of Technology, Shuntaro Takeda to the University of Tokyo. We deeply thank Prof. Shikano, Prof. Higashibayashi, Prof. Nagai, Prof. Yamamoto and Prof. Takeda for their important contributions to IMS and wish their success in their new environments.

IMS will continue to contribute to lead the Molecular Science together with many young promising and well-established senior scientists. This institute has been most benefited with your constant support and we do expect your further support and advice for creating this new era of molecular science.

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