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## Retirement

Professor KANEHISA, Minoru  
Bioinformatics Center  
– Chemical Life Science –



On March 31st 2012, Dr. Minoru Kanehisa retired from Kyoto University after 26 years of service and was honored with the title of Professor Emeritus of Kyoto University. Dr. Kanehisa was born in Nagasaki Prefecture on January 23rd 1948 and has dedicated his life to the noble pursuit of science and its dissemination. After receiving his PhD in physics in 1976 at the University of Tokyo under the supervision of Professor Akira Ikegami, Dr. Kanehisa travelled to the US, conducting post-doctoral research at Johns Hopkins University, Los Alamos National Laboratory, and the National Institutes of Health where he worked as a senior scientist. He was appointed an Associate Professor at the Institute for Chemical Research, Kyoto University in 1985 and promoted to Professor in 1987. In 2001 Dr. Kanehisa established the Bioinformatics Center in the Institute for Chemical Research, serving as its director until 2011. He has also held a position of adjunct Professor at the University of Tokyo (1991 to 1995, then again in 2002) and Boston University (2005).

Throughout his academic career, Dr. Kanehisa devoted himself to computational aspects of molecular and cellular biology; especially to the development of database and analysis systems for biologists and biochemists. While working at Los Alamos National Laboratory he was one of the core members responsible for initiating the GenBank database, a database of DNA sequences to which every researcher must submit new DNA sequences before publication.

Dr. Kanehisa also developed a database retrieval and analysis system called IDEAS (Integrated Database and Extended Analysis System for nucleic acids and protein). After starting his career at Kyoto University, Dr. Kanehisa established the GenomeNet database service by extending IDEAS to various molecular biology databases and computer platforms; its basic concept is still used in the current database services at GenomeNet.

In 1995, Dr. Kanehisa initiated the KEGG (Kyoto Encyclopedia of Genes and Genomes) project, one of the most important achievements of his academic career. KEGG is now widely used as a reference database by researchers from a variety of fields including omics, bioinformatics, systems biology, systems pharmacology, and

more. Together with GenomeNet, KEGG receives about 50 million accesses from 200,000 unique addresses per month.

Another contribution of Dr. Kanehisa to the institute was the introduction of a supercomputer system in 1991. It serves as a home for KEGG and GenomeNet services and developments and also provides chemical modeling applications for organic and inorganic chemists at Kyoto University. As of January 2012 its fifth update has been completed.

In addition to his own research interests, Dr. Kanehisa has served as a project leader for several national projects regarding bioinformatics research and education; *e.g.* the Genome Informatics Project supported by the Ministry of Education, Science, Sports and Culture during the very early stages of the human genome project (1991–2000), the 21st Century COE program for Genome Science (2003–2007), and the Education and Research Organization for Genome Information Science (2002–2006).

Dr. Kanehisa has provided his strong leadership to academic societies as well, especially within the bioinformatics community. Along with the initiation of the Genome Informatics Project in 1991, he initiated Genome Informatics Workshop (GIW), the world's oldest international conference on bioinformatics, renamed in 2001 to the International Conference on Genome Informatics due to the increasing number of annual participants. In 1999, he co-established the Japanese Society for Bioinformatics and served as its first chair.

Throughout his career Dr. Kanehisa's scientific achievements were published in over 200 original papers, some of them having been cited over 1,000 times. He was frequently invited to international conferences and collaborated with many foreign scientists from the USA, Germany, France, etc. He also contributed to various scientific meetings and international congresses as an executive committee member. He served as a member of the editorial board for many journals.

Dr. Kanehisa's contribution to Kyoto University and the Institute for Chemical Research is greatly acknowledged. His tireless scientific, educational and administrative endeavors will be appreciated for a long time to come.