PERSONAL

Retirement

Professor OSAKI Kunihiro
(Molecular Rheology, Fundamental Material Properties)

On the 31st of March 2002, Dr. Kunihiro Osaki retired from Kyoto University after his 35 years of service at Kyoto University. The title of Emeritus Professor was granted to him by the University on the following day.

Dr. Osaki was born in Matsuyama, Ehime on the 29th of October, 1938. After graduation from the Department of Industrial Chemistry, Faculty of Engineering, Kyoto University in 1961, he continued his study on polymer rheology as a graduate student for 5 years. He finished his course in 1966 and was granted a degree of Doctor of Engineering from Kyoto University for this study in 1968. In 1966, he was appointed to be Instructor of the Department of Industrial Chemistry, Faculty of Engineering, Kyoto University.

In 1967, he moved to the laboratory directed by Professor Michio Kurata, Institute for Chemical Research, Kyoto University. On a leave of absence in the year 1970 to 1971, he stayed at the Department of Chemistry, University of Wisconsin, USA, as a visiting scientist that was a concurrent post of Instructor of Institute for Chemical Research, Kyoto University. During his stay, he collaborated with Professor John D. Ferry to investigate viscoelastic properties of dilute polymer solutions. In 1972, he returned to Institute for Chemical Research, Kyoto University. On a leave of absence in the year 1982, he stayed at Center of Nuclear Energy, Sacley, France, as a visiting scientist that was a concurrent post of Instructor of Institute for Chemical Research, Kyoto University. During his stay, he utilized neutron scattering technique to investigate the chain conformation in bulk polymeric materials under deformation. He returned to Institute for Chemical Research, Kyoto University in 1983, and was promoted to Associate Professor in 1987. In 1988, he was appointed to be Full Professor of Institute for Chemical Research, Kyoto University and directed the Laboratory of Rheology (presently Molecular Rheology, Division of Fundamental Material Properties). At the Graduate School of Engineering, Kyoto University, he gave lectures on rheology and physical properties of macromolecules, and supervised the dissertation studies of graduate students.

During the past three decades, he has been extensively investigating the molecular dynamics and rheology of polymeric materials. His early work on the dilute solution rheology has been highly appreciated as a land mark of the first experimental resolution of the isolated polymer chain dynamics. Through his extensive research of nonlinear viscoelasticity of entangled polymeric liquids, he discovered beautiful universality in the nonlinear damping of the relaxation modulus and offered its molecular interpretation. His discovery and interpretation stimulated a development of a later molecular theory of entanglement, which is currently known as the tube theory. On the basis of this discovery, he also established a phenomenological framework of nonlinear viscoelasticity that has been serving as a world-widely accepted fundamental framework connecting various kinds of nonlinear viscoelastic functions under various deformation histories. Furthermore, he applied rheo-optical methods that he developed in his early work to polymeric glasses and revealed molecular origins of the stress in these glasses and detailed features of the glass-to-rubber transition.

He has been driving progress of polymer rheology through these excellent researches. Furthermore, he has been serving as a representative delegate of the International Committee of Rheology as well as the editors of prestigious international journals such as Journal of Polymer Science, Rheological Acta, and Journal of Non-Newtonian Fluid Mechanics to enhance the rheological research in the world. He also served as the President of the Society of Rheology, Japan (SORJ), and the Vise-President of the Material Research Society, Japan (MRSJ), to guide and enhance the rheological research of various materials in Japan. For these extraordinary research as well as social contributions, he won the SORJ Research Award in 1983 and the SORJ Award in 2001.

His contribution to Institute for Chemical Research, Kyoto University, through his scientific, social, and administrative activities is hereby gratefully acknowledged.

Retirement

Professor KAJI Keisuke
(Polymer Materials Science, Fundamental Material Properties)

On the 31st of March, 2002, Dr. Keisuke Kaji retired from Kyoto University after 35 years of service to the University and was honored with the title of Professor Emeritus of Kyoto University.

Dr. Kaji was born in Kobe on 14th of February, 1939. After graduation from the Department of Industrial Chemistry, Faculty of Engineering, Kobe University in 1963, he continued his studies on polymer chemistry at the Graduate School of Engineering, Kyoto University for five years. Under the supervision of Professor Emeritus Ichiro Sakurada, he was granted a doctoral degree from Kyoto University in 1970 for his studies on the determination of elastic moduli of polymer crystals by an X-ray diffraction method. In 1968, he was appointed an instructor of Department of Polymer Chemistry, Faculty of Engineering, Kyoto University. On leave from the University, in the years 1976 to 1977, he stayed in the Institut für Physikalische Chemie, Johannes-Gutenberg-Universität Mainz (the University of Mainz, West Germany) as Wissenschaftlicher Mitarbeiter to work on neutron scattering of polymers in collaboration with Professor Dr. Erhard W. Fischer. Dr. Kaji was promoted to an Associate Professor in 1981, and to a full Professor of Kyoto University in 1988 and directed the Division of Polymer Materials Science, Laboratory of Fundamental Material Properties, Institute for Chemical Research.

During the past 40 years, Dr. Kaji's research interest encompassed a wide area in polymer science including fiber science. He is known as a pioneer of neutron scattering researches of polymers in Japan, and he applied this method as well as X-ray and light scattering methods for elucidating structure, dynamics and phase behavior of polymer materials to relate their microscopic and macroscopic behaviors. His scientific life started mainly with determining crystalline elastic moduli of various polymers by an X-ray scattering technique, which give the limiting values for super-high modulus fibers. In this connection he solved several problems of abnormal scattering from small polymer crystallites in the amorphous matrix as well. After Mainz, he applied inelastic neutron scattering techniques to elucidate the origins of the glass transition and excess heat capacities in amorphous polymers. He is the first to perform systematic experiments on the structure of polyelectrolyte solutions, establishing the phase diagram as functions of the degree of polymerization and the concentration in their wide ranges and revealing the cause for the well-known anomalous behavior in reduced viscosity at very dilute concentrations. He also investigated the structure and its formation processes of poly(vinyl alcohol) gels, showing that the structure is controlled by a competition between the rates of the gelation and the phase separation. His researches on polymer crystallization are prominent. He discovered for the first time a completely new type of primary crystal nucleation, called spinodal decomposition (SD)-assisted crystal nucleation, which is greatly different from the usual homogeneous crystal nucleation. This distinct research has inspired many international investigations in this field. To promote this finding, he organized a project team on polymer crystallization as a coordinator of NEDO International Joint Research Project supported by New Energy and Industrial Technology Development Organization.

For his excellent achievements, he was frequently invited to international conferences such as Conference of American Physical Society, Gordon Research Conference, and Congress of European Physical Society. For his prominent studies on static and dynamic structure of polymers by neutron and X-ray scattering, he was awarded the Prize of the Society of Polymer Science, Japan in 1985.

Dr. Kaji devoted himself to the Society of Fiber Science and Technology, Japan. He served as the Head of Kansai Branch in 1994, as the Chairperson of the Advanced Fiber Materials Research Committee in the years 1994 to 1995, and as the vice-President of the Society in the years1999 to 2002. He has also devoted to the Society of Polymer Science, Japan as the Regional Manager of Kansai Branch since 1984 and as the Associate Editor of Polymer Journal since 1999.

Dr. Kaji gave lectures on Polymer Spectroscopy since 1988 at the Graduate School of Engineering, Kyoto University, and was charged with supervising dissertation works of many graduate students. He was a visiting lecturer at many universities such as Kyoto Institute of Technology, Kyushu University, Okayama University, Kobe University, Osaka University, Nagoya University and so on.

His contribution to the University through both academic and administrative activities is gratefully acknowledged.

Retirement

Professor SHINJO Teruya
(Artificial Lattice Alloys, Solid State Chemistry)

On the 31st of March, 2002, Dr. Teruya Shinjo retired from Kyoto University and was honored with the title of Professor Emeritus of Kyoto University.

Dr. Teruya Shinjo was born in Kyoto Prefecture on August 18, 1938. He graduated from Faculty of Science, Kyoto University in 1961. He studied the magnetic properties of iron oxide particles by Mössbauer spectroscopy in the Graduate School of Science, Kyoto University under the supervision of the Professor H.Takaki. He finished the Doctor Course of Chemistry and received the Doctor Degree of Science in 1966.

He started his academic carrier as an instructor of Institute for Chemical Research, Kyoto University in 1966 with the late Professor T.Takada. In 1976, he was promoted to an associate professor and since 1982, he has directed the Laboratory of Solid State Chemistry, Institute for Chemical Research as a full professor. During 1996-1998, he served as the Director of Institute for Chemical Research. At the Graduate School of Science, Kyoto University, he gave lectures on the properties of magnetic materials and supervised the dissertation works of many graduate students.

During his academic carrier, Prof. Shinjo has extensively investigated the properties of magnetic thin films. The keywords of his investigation may be “Mössbauer spectroscopy” and “giant magnetoresistance effect”. He investigated the surface/interface magnetic properties of ferromagnetic metals such as iron and cobalt with 57Co and 57Fe Mössbauer probes. These studies are now recognized as pioneering works in the field of magnetic thin films. The studies on surface/interface magnetism were developed to the production of metallic multilayer films with artificial stacking structures of nanometer scale. The artificially structured metallic multilayers are novel alloy systems which may potentially have various useful properties. He discovered a non-coupling type giant magnetoresistance (GMR) effect in NiFe/Cu/Co/Cu multilayer systems. His discovery stimulated the development of read head devices of the magnetic recordings. Nowadays the GMR heads are widely used in the hard disks of computers. Recently he started new researches of nano-scale magnetism. The GMR effect is utilized to detect the magnetization reversal of narrow magnetic wires. In the submicron-size magnetic dots, he successfully observed the turned-up magnetization spot in the center of the magnetic vortex structure by magnetic force microscope. Such a magnetic structure was theoretically predicted long time ago, but has never been observed by experiments. For his long-term studies on the properties of magnetic films including the discovery of the non-coupling type GMR effect, he was awarded the Prize of the Magnetic Society of Japan in 1991 and 1998, the Prize of the Japan Society of the Applied Physics in 1993 and a Purple Ribbon Medal (Shijuhosho) in November 2000. From 1992 to 2000, he has served as a science advisor of Monbusho.

It is worth referring to his international activities in the academic society. He is one of the Japanese representatives of International Board on the Application of the Mössbauer Effect for many years, and an international committee member of the International Colloquium on Magnetic Films and Surfaces and served as the chair. He is serving as an editorial member of international journals: Journal of Physics D, Applied Physics and Journal of Magnetism and Magnetic Materials.

Retirement

Professor FUJI Kaoru
(Fine Organic Synthesis, Synthetic Organic Chemistry)

On the 31st of March 2002, Dr. Kaoru Fuji retired from Kyoto University after his 34 years' service at Kyoto University, and was honored with the title of Emeritus Professor of Kyoto University on the following day.

Dr. Fuji was born in Osaka on February 13, 1939. He graduated from Faculty of Pharmaceutical Sciences, Kyoto University in 1961. After one year of service to Shionogi Co. Ltd., he entered the Graduate School of Pharmaceutical Sciences, Kyoto University and started his study on alkaloids, Lythranine, Lythranidine and Lythramine under the supervision of Professor Eiichi Fujita. He was granted a doctoral degree from Kyoto University in 1970.

He was appointed an instructor of Institute for Chemical Research, Kyoto University in 1967 and an associate professor in 1973. On leave from Kyoto University, he stayed at the University of British Columbia, Canada and worked on synthesis of an antitumor alkaloid, Vincristine with Professor James P. Kutney during 1971 and 1973. He also stayed at the University of Minnesota as a visiting research fellow with Professor Paul G. Gassman during 1981 and 1982. He was promoted to a full professor of Institute for Chemical Research, Kyoto University in 1983. At the Graduate School of Pharmaceutical Sciences, Kyoto University, he gave lectures in bioorganic chemistry. He was invited as a visiting professor by Universite Louis Pasteur, Universite Paris-Sud, Technical University of Vienna, and other institutions.

During these years, he made many distinguished studies on organic chemistry, especially on asymmetric synthesis, natural product synthesis, and molecular recognition. He has developed asymmetric nitroolefination via addition-elimination process, 8,8'-disubstituted 1,1'-binaphthyls as a chiral controller, chiral nucleophilic catalysts, and especially, a new principle of enolate chemistry, memory of chirality. He has completed total syntheses of natural products, including Lythranidine, Aspidospermidine, Eburnamonine, Quebrachamine, Podocarpic acid, Gibberellin A12, Pysostigmine, Pseudophrynaminol, Horsfiline, and recently Spirotryprostatin B. He also focused on molecular recognition by functional phenolphthaleins. Visualization of molecular length and chirality of α, ω-diamines and sequence-specific coloration of dipeptide have been achieved. For his brilliant achievements, he was awarded The Pharmaceutical Society of Japan Award for Young Scientists in 1980 and The Pharmaceutical Society of Japan Award in 1998.

Dr. Fuji devoted himself to various scientific societies and international journals. He served as the president of Kansai-branch of Synthetic Organic Chemistry, Japan in 1996 and as a vice president of The Pharmaceutical Society of Japan in 2000. He also served as an editor of Chemical and Pharmaceutical Bulletin during 1997 and 1999 and serves as an Asian editor of Chirality since 1998.

His contribution to the Institute through both academic and administrative activities is greatly acknowledged. His sincere and warmhearted personality has been admired by his friends, colleagues, and especially by his students.

Awards

KAWACHI, Atsushi

The Chemical Society of Japan Award for Distinguished Young Chemists

Development of the Chemistry of Nitrogen, Oxygen, and Sulfur-Functionalized Silyl Anions

The Chemical Society of Japan

29 March 2001

MURAKAMI, Syozo

The Chemical Society of Japan

Award for Technical Achievements

29 March 2001

MATUBAYASI, Nobuyuki

Helmholtz Award

NMR and computer-simulation studies of supercritical water

International Association for the Properties of Water and Steam

9 May 2001

Promotion Award

Structure, dynamics, and reactions of supercritical water

Japan Society of High-pressure Science and Technology

21 November 2001

OSAKI, Kunihiro

SROJ Award for 2001

Nonlinear rheology of polymeric systems

Society of Rheology, Japan

17 May 2001

TAKAHASHI, Masahide

Award for young scientists

Studies on the optical properties and structure of photonic glasses

The Ceramics Society of Japan

17 May 2001

UCHINO, Takashi

Vittorio Gottardi Prize

Studies on the structure and properties of glasses

International Commission on Glass

2 July 2001

KANEHISA, Minoru

The Okawa Publications Prize

Invitation to post-genome informatics

The Okawa Foundation for Information and Telecommunications

29 November 2001

OKAMURA, Kei

The ICR Award for Young Scientists

Development of deep-sea *in situ* automated analytical system using highly sensitive chemiluminescence and its application for hydrothermal plume observation

ICR

7 December 2001

Poster Awards

NIIDA, Haruki

A E Owen Student Poster Award
First Prize
Preparation, properties and structure of organic-inorganic hybrid low-melting glasses
Society of Glass Technology
6 July 2001

KAWAI, Yasushi

5th Japanese Symposium on the Chemistry of Biocatalysis
Best Poster Award
Characterization of Nitroalkene Reductases
The Committee of 5th Japanese Symposium on the Chemistry of Biocatalysis
14 December 2001

NAKATA, Norio

Symposium Poster Award
6th Symposium of the Society of Silicon Chemistry, Japan
Reactivity of Kinetically Stabilized 2-Germanaphthalene
The Society of Silicon Chemistry, Japan
16 November 2001

YAMANAKA, Rio

5th Japanese Symposium on the Chemistry of Biocatalysis
Best Poster Award
Asymmetric Reduction of Ketones by Cyanobacteria
The Committee of 5th Japanese Symposium on the Chemistry of Biocatalysis
13 December 2001

NAGATA, Kazuto

Symposium Lecture Award
80th Annual Meeting of the Chemical Society of Japan
Syntheses and Properties of Novel Three-membered Cyclic Platinum Complexes Having a Dichalcogenido Ligand
The Chemical Society of Japan
14 December 2001

YAMAGUCHI, Hitomi

5th Japanese Simposium on the Chemistry of Biocatalysis
Best Poster Award
Purification and Characterization of α-Keto Ester Reductase from Streptomyces coelicolor A3(2)
The Committee of 5th Japanese Symposium on the Chemistry of Biocatalysis
14 December 2001

[The news of their death]

Honma, Takashi (Associate Instructor): Deceased 14 July 2001 with the age of 30.

Former Associate Professor of Nuclear Science Research Facility, Dr. FUKUNAGA, Kiyoji who moved to Yamagata University as a Professor in 1991, regretfully passed away on the 8th November, 2001 with the age of 69.