Memories of Prof. Yasutake Teraoka

Those Fourteen Years of Togetherness.......  
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After writing so many papers and articles together, I never imagined, I will have to write a memoir about a person who influenced my life so much. Prof. Yasutake Teraoka has been an integral part of not only my research career but also my personal life, my students, my family and our lab., 7000 kms away from Fukuoka. I considered him “Six in One”; a brilliant and dedicated teacher, an outstanding researcher, a great human being, a sincere friend, an honest and hard worker and a very responsible professional. In this era of ambition and professionalism, he was a Role Model for many, with his selfless dedication to whatever responsibility he has been given. Teaching was his passion and I remember many occasions, when he did not miss his classes at far off Ito campus, despite not feeling well or having loads of research work pending. We used to discuss and debate for hours including on topics of generic interest, when I realized many common feelings and views in us, which made us good friends. His depth of fundamental chemistry and catalysis knowledge was something, which I feel is rare to see in today’s scientific world. A very strict and so called conservative researcher, when it comes to quality of data. I recollect our small work on substituted perovskites, which we pursued for more than three years with so many repetitions of experiments and interpretations. Over the years, he has become an International expert in the field of Applied Catalysis as well as Adsorption, and many of his ideas are being explored by several private companies. As per as India and CSIR-NEERI is concerned, he has been a Goodwill Ambassador, who was responsible for creating and nurturing, a very active collaboration with his immense contribution to...
our research. Many of my students and colleagues visited his lab and gained so much of knowledge.

I am at loss of words as I lost all at a stroke- my best collaborator, a very sincere friend, in fact a family friend, a catalysis guru and a mentor. I am sure it’s not only me… my family… my students… Kyushu University… Japan but this world has lost a great human being… whose contributions in catalysis and materials will always enlighten us..
To the memory of Professor Yasutake Teraoka

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Professor Yasutake Teraoka was born in Himeji, Hyogo prefecture in 1958. After he graduated from Department of Applied Chemistry, Faculty of Engineering, Kyushu University, he studied in Interdisciplinary Graduate School of Engineering Sciences, Kyushu University from 1981 to 1983 under the supervision of professor Noboru Yamazoe. He worked as an assistant professor in Kyushu University from 1983 to 1987. After he moved to Nagasaki University as a lecturer, he received doctoral degree of engineering from Kyushu University in 1988, and then he was promoted to associate professor in 1989 and then to full professor in Nagasaki University in 1999. Since 2001, he had been a professor in Interdisciplinary Graduate School of Engineering Sciences, Kyushu University. He also made his carrier in Busan University and Shanhai Jiao Tong University as a visiting professor.

Professor Teraoka’s major fields of specialization were material sciences, solid state chemistry and catalysis science. One of his excellent works was the study on the physical and chemical properties of provskite-type mixed oxides. He developed new methods for preparation of perovskite-type mixed oxides and revealed the relationship between the structure, composition of perovskite oxides and their catalytic properties. The obtained results on the catalytic N₂O decomposition process were put to practical use. He also engaged in nano-meso fabrication of perovskite-based materials. To overcome the drawback of perovskite oxides that they have low surface area due to their calcination at high temperatures, he developed the methods for deposition of γ-alumina with high surface area and porous structures. He also paid his attention to the electroconductivity and ion-conductivity (mixed conductivity) of perovskite oxides. He applied the materials to O₂ separation processes and revealed the mechanism in terms of the mixed-conductivity.

Professor Teraoka also executed the studies on the catalytic materials and catalytic processes for automobile emission control technologies. He investigated the catalytic performance of K-containing perovskite oxides for diesel soot combustion and clarified the important factors for the reactions. Because the soot combustion on the perovskite oxides proceeded by “solid-solid” heterogeneous catalytic reactions, he suggested that the factors controlling the catalytic performance were much different from those in “gas-solid” and “liquid-solid” heterogeneous reactions. He also found that the catalytic performance of noble metals for soot combustion and soluble organic fraction (SOF) in particulate matter and by utilizing this difference he developed PM-detecting sensor, which can selectively detect soot and SOF.

Professor Teraoka published more than 200 papers. His works obtained high reputation from both domestic and foreign researchers. He made a significant mark on the history of chemical and material science.