An International Tribute to Saburo Nagakura

Very few scientists have had the impact on science and scientists on both the national and international area as Dr. Saburo Nagakura. In order to illustrate his contributions, we (the Guest Editors of this issue) invited a group of physical chemists from different countries, as well as practicing different research areas, to write a short tribute to him. Below, the Editors selected different quotes from the different tributes received so as to give a more detailed picture of the scientist we all wish to honor.

Joshua Jortner, Tel Aviv University, Israel: "Saburo Nagakura is, first and foremost, a distinguished scientist who made central contributions to chemical physics and theoretical chemistry. His important scientific work spans the broad areas of electronic structure, spectroscopy and dynamics. His studies of unsaturated molecules, hydrogen bonding, donor−acceptor charge transfer complexes, dynamics of excited states and magnetic field effects on reaction dynamics, constitute landmark studies in modern chemistry. Saburo Nagakura left his mark on science and on international scientific collaboration all over the world. The international science community deeply appreciates his seminal contribution to the building of our scientific discipline, his vision and leadership on the scientific national and international levels."

Michael Kasha, Florida State University: "Saburo Nagakura is the prototype of a truly progressive international scientist. He has helped to make the IMS (Institue for Molecular Science) an international institution, with its regular series of foreign visiting researchers and lecturers. He has served as President of the International Union of Pure and Applied Chemistry. Then he founded the Graduate University of Advanced Studies to coordinate graduate research between universities and governmental institutes in Japan. ...And now in his sixth major position, Saburo, as President of the Kanagawa Academy of Science and Technology, he is certainly continuing a strong and uniquely influential career. ...Saburo Nagakura has developed a unique and wonderfully influential career in Japanese and World science."

Per-Olov Löwdin, Uppsala University, Sweden: "I have known Professor Saburo Nagakura's scientific work in molecular spectroscopy for a long time, but I did not meet him in person until the 1979 congress in Kyoto, when he was elected as a member of the International Academy of Quantum Molecular Science, and I was deeply impressed by his vital personality. ...In view of his outstanding scientific and administrative qualifications, he was a few years ago—among many other things—elected as a foreign member of the Swedish Royal Academy of Sciences in Stockholm, which is a very rare distinction. I admire him for his many qualifications, but also for being such a warm human being."

Yuri Molin, Institute of Chemical Kinetics and Combustion, Novosibirsk, Russia: "Professor S. Nagakura has contributed so much to the establishment and development of a new scientific trend which may be called the "spin chemistry". This quickly developing area of chemical physics includes the effects of external magnetic fields and resonance microwave radiation on chemical processes, magnetic isotopic effect, the spin polarization of electrons and nuclei in chemical reactions, etc. Professor S. Nagakura was the first to observe the magnetic quenching of molecular fluorescence in gas phase (Mitsuzaki and Nagakura, 1974) using carbon disulfide (CS_2) as an example. After this work, similar effects have been recorded for various molecules and this area has attracted much attention of many researchers."

George Porter, Imperial College of Science, Technology and Medicine, London, UK: "Saburo Nagakura and I were born the same year, we both served as technical naval officers during the war (and stayed afloat—we were bad shots) and both left to do research, publishing our first paper in the same year, 1950. I first became aware of his work a few years later when, in 1954, with Tanaka, he introduced the concept of intramolecular charge transfer. We have met frequently since in Japan, England, and many other parts of the word. ...Nagakura followed Professor Akamatu, first Director General of the Institute for Molecular Science at Okazaki and then became president of the National Research Institutes there. As a member of its council, I enjoyed his hospitality on several occasions and his skilled chemistry as a cook. ...He was greatly influenced by his mentor, Professor Mizushima and by his year with Muliken in Chicago. Muliken had introduced the idea of intermolecular charge transfer spectra and Saburo was the pioneer who added the intramolecular C−T states. For over twenty years (55−78) charge transfer was the center of his work. He made important contributions to many branches of molecular spectroscopy, especially free radicals and excited states, using effectively the new techniques of nanosecond and picosecond flash photolysis. He developed the new field of "spin chemistry". Along with all this, his involvement's in scientific affairs and his international friendships in science, he has made invaluable contributions to our world of chemistry."

C. N. R. Rao, Indian Institute of Science, Bangalore, India: "Professor Nagakura's early contributions influenced my research on electron spectroscopy considerably. Much later, we met in the International Union of Pure and Applied Chemistry (IUPAC) where we worked together. I was a member of the Bureau of IUPAC when Saburo was elected first as the Vice-President and later as the President. It was a pleasure to work with him. Of course, I, myself, became the President of the Union later when again there were many occasions to work with Saburo. One of them had to do with the CHEMRAWN meeting in Tokyo. ...The depth of Professor Nagakura in science is well established. At the same time, his breadth of interests is also remarkable. He has been a champion of promoting modern chemistry and science in Japan. He has been responsible in ushering many new programmes to promote science in Japan. He is equally interested in international science and international science cooperation. Thus, he has been involved in organizing Asia academic seminars. ...Prof. Nagakura's interest in India and international programmes was recognized recently by the Indian National Science Academy by awarding him the Jawaharlal Nehru International medal for Science. Professor Nagakura was also elected a Foreign Member of this Academy some time ago."

Mostafa A. El-Sayed

Keith A. McLauchlan

Keitaro Yoshihara

S1089-5639(97)03482-8 CCC: $14.00