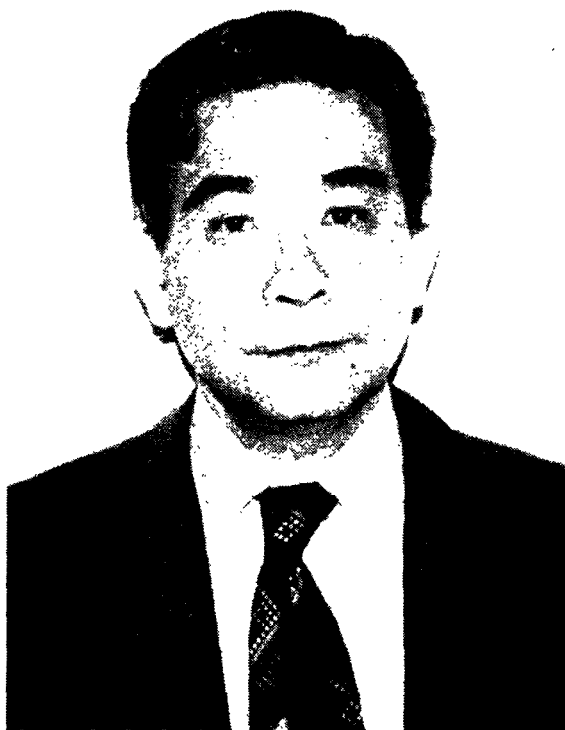


IN MEMORIAM

YOSHIKAZU ISHIKAWA



On 28 February, 1986, our friend and colleague Yoshikazu Ishikawa died unexpectedly, after having suffered a subarachnoid hemorrhage ten days earlier. We all share a feeling of great loss, for he was one of the most vigorous members of the world community of neutron physicists, an excellent scientist, one of the pioneers of our field both in Japan and at large, the prime motivator for the development of the KENS pulsed spallation neutron source and its instrumentation, and was our gracious host at the marvelously successful ICANS IV meeting in Japan. He was a close personal friend and a vital collaborator of many of us.

Ishikawa was born on 24 October, 1930, in Yokohama, Japan. He studied at the University of Tokyo, where he received the Bachelor of Science degree in 1953, and the Doctor of Science in 1958. He became Lecturer in the Department of Applied Physics at the University of Tokyo in 1958, and Associate Professor of the Institute of Solid State Physics in 1959. Between 1964 and 1966, he was professor at Centre d'Energie Nucleaire in Grenoble, France. In 1969, he was appointed Professor of Physics at Tohoku University in Sendai, and was Joint Professor at the Laboratory for High Energy Physics (KEK) at Tsukuba, positions he held until his death.

Ishikawa was our ICANS representative in Japan, chairman of the Magnetism Commission of the International Union of Pure and Applied Physics, a member of the committee of the Science Academy of Japan, a member of the

advisory council for scientific policy and management, of the advisory committee for the Booster Synchrotron Utilization Facility, and chairman of the neutron scattering experiment advisory committee of KEK.

His scientific career began with the study of magnetism in Fe_3O_4 - Fe_2TiO_4 mixed-phase systems and FeTiO_3 and NiTiO_3 ; he discovered ferrimagnetism in the hematite-ilmenite systems and clarified its origin. His interest in and contributions to the field of magnetism continued throughout his professional life. Early in his scientific career, he struck up collaborations with colleagues in Brookhaven National Laboratory in the United States, and CEN Grenoble. Later, he traveled frequently to use the spectrometers at the Institute Laue-Langevin in Grenoble. He maintained close connections with his colleagues in his scientific work, and was often abroad from Japan to extend his research; his colleagues acknowledge him as the "idea man" in much of this collaborative work.

Ishikawa's first encounter with pulsed neutrons was probably in 1967 when Motoharu Kimura constructed a large neutron diffractometer at the Tohoku linear accelerator in Sendai and persuaded him to support that project. When he arrived in Sendai in 1969, he took part with Kimura, Noboru Watanabe and others in the construction of instruments for the pulsed neutron source there, which was the first in Japan. After the successful work in Tohoku, Ishikawa proposed the KENS pulsed spallation neutron source project in Tsukuba, using the 500 MeV Booster Synchrotron of KEK. He led the nationwide project team in the construction and instrumentation of KENS, which was completed in March, 1980, only five years after the first proposal. Some of us remember the excited feelings of the members of that team when they reported their accomplishments at the mini ICANS meeting at the Rutherford Laboratory early in 1980.

His studies of spin dynamics in transition metals and their compounds and of Invar alloys were especially notable; in particular, his measurements on MnSi demonstrated the validity of Moriya's unified picture of band magnetism in itinerant magnetic systems. For this work, in 1983, Ishikawa was awarded the prestigious Nishina Memorial Medal.

His laboratory at Tohoku University trained many students in the field of neutron scattering in magnetism, and Ishikawa maintained a close interest in their subsequent careers. Several of them are continuing to push back the frontiers in this area at neutron centers in Japan.

Ishikawa was as frequent and expert a user of triple-axis instruments at the research reactors, as of time-of-flight instruments at the pulsed sources. Truly ecumenical in this as in many other ways, he spoke from a unique perspective when he observed in relation to the friendly conflict between steady source users and pulsed source users in other parts of the world, "In Japan, every neutron good neutron".

He was a leading force in arranging the United States-Japan Exchange Agreement on Neutron Scattering, which led to the construction of new instruments at the Brookhaven High Flux Beam Reactor and at the Oak Ridge High Flux Isotope Reactor, and provided those high-flux neutron facilities for use by Japanese scientists.

Yoshikazu Ishikawa was a most highly respected leader in pulsed neutron source development, in the use of neutron scattering methods for condensed matter research, and in condensed matter physics research in general. We admired him also for the great energy that he applied to all his work, and for his qualities as a sympathetic man. He acted in the best Japanese tradition as "nako-odo" for at least eleven couples, maintaining lifelong interest in their well-being. He was a sincere Christian, and volunteered much effort for his church. He loved the mountains; he climbed many mountains in the summertime, and enjoyed skiing in the winter. His charming wife, Hiroko, whom he married in 1959, accompanied him on many of his travels, and shared his affection for the French language and culture. She survives him in Sendai, as do his daughter, Mari, a student at Tohoku University, and his son, Tomoo, who studies at Tokyo Institute of Technology.