

OBITUARY

AKIRA MATSUNAWA



Dr. Akira Matsunawa, born on 7 April 1938, passed away due to stomach cancer on 20 September 2006.

Matsunawa's work activity started from an undergraduate (1962), master (1964) and doctor (1968) course student of Welding Engineering Course at Osaka University to be an assistant professor for Welding Engineering Course of Engineering Department at Osaka University in 1968. At Joining and Welding Research Institute (JWRI) of Osaka University, he became a lecturer in 1978, an associate professor in 1980 and a professor in 1986. He was a professor emeritus of Osaka University in 2002. His research career in welding has spanned more than 40 years.

Prof. Matsunawa established an outstanding reputation in the field of welding arc physics and laser technologies. His study activity extended widely as follows. He was first engaged in studies of "Anode and Cathode Discharge Mechanisms of High Current Arc", "Underwater Arc Welding Utilizing Local Dry Cavity, and Elucidation of Arc Characteristics in High Pressure", and "Interaction between Supersonic Jet and Burning Iron Front Wall in Oxygen Gas Cutting". Since 1980, he was involved in scientific researches of laser materials processing under the following titles: "Laser-Matter Interaction", "Heat and Mass Transfer in Laser and Arc Welding", "Laser PVD, CVD and Nitriding", "Laser Production of Ultrafine Particles", "Modelling of Melting and Solidification Behaviour during Laser Spot

Welding", "The Simulation of Front Keyhole Wall Dynamics during Laser Welding", "Keyhole Dynamics, Plume and Molten Pool Behavior in Laser Welding", "Evaluation of Laser Weldability of Aluminum Alloys", "Improvement of Spot Weldability with Pulse-Shaping", "Elucidation of Formation Mechanisms of Welding Defects, and Development of Their Preventive Procedures", "Process Development of Superimposed Laser Beams with Different Wave Lengths", and so on. He gave promising insights to laser and welding industries by proposing various remedies for the prevention of welding defects through detailed elucidation and scientific interpretation of complicated arc and laser welding phenomena. He thus gained a great outstanding research achievement. In these recognitions, he was presented with Light Metal Welding Paper Award from the Japan Light Metal Welding and Construction Association (JLWA) in 1998, Japan Welding Society (JWS) Paper Award from JWS in 2001, Comfort A. Adams Lecture Award from American Welding Society (AWS) in 2002, Arthur L. Schawlow Award from Laser Institute of America (LIA) in 2002, and so on.

Prof. Matsunawa was a member and a Fellow of JWS, AWS, LIA, JLWA, High Temperature Society of Japan (HTS), etc. He was also an active member of IIW Commission IV (Power Beam Processes), VI (Welding Terms), SG212 (Welding Physics), and the Select Committee of Underwater. He has chaired IIW Commission IV since 2002.

He had a great influence on the welding world, especially the laser processing area. A lot of students, engineers, researchers and professors were instructed and guided under his deep knowledge and noble insight. We are all mourning a true expert in laser processing, and our thoughts are with his wife and family.