

Obituary

Gerhard H. Jirka 1944 – 2010



Professor Gerhard H. Jirka, one of the leading scientists in hydraulic and environmental engineering of our days, passed away unexpectedly on February 14, 2010, at the age of 65. Born on September 14, 1944 in Kasten, Austria, he studied at the Agricultural University of Vienna, from where he received his Diploma in 1969. He then moved to the US becoming a research assistant at the Massachusetts Institute of Technology (MIT), where he pursued studies in water resource systems and hydrodynamics and earned his Ph.D. in 1973. He stayed at MIT as research engineer and Lecturer until 1977 when taking up a faculty position at Cornell University, then associate and from 1987 full professor. In 1984 he founded at Cornell the DeFrees Hydraulics Laboratory specializing in environmental fluid mechanics research and became its first director. In 1995 he accepted an offer to become a chair holder at and director of the Institute for Hydromechanics at University of Karlsruhe, now Karlsruhe Institute of Technology (KIT), Germany. This position he held until his retirement in September 2009. He there provided excellent leadership to the laboratory he directed and had considerable impact on modernizing the education of civil engineers. From 2008 he was also Associate Director of the Centre for Climate and Environment at KIT and, also beyond his retirement, provided vision and guidance to KIT in forming an Excellence Centre for water research.

For more than 30 years Gerhard Jirka made consistently important and lasting contributions to many areas of hydraulic and environmental engineering, of which only a few can be mentioned here. He was a world expert in the field of pollutant, mostly buoyancy affected discharges into water bodies and covered in his research a wide variety of discharge and ambient flow conditions. He summarized his vast experience in key publications, which will remain standard references on the topic, and he also fed his knowledge into the development of the expert system CORMIX, which is a powerful, now widely and routinely used tool for analyzing practical problems associated with thermal and pollutant discharges. Another area where he made major contributions is gas transfer at the water surface, a topic closely associated with turbulence phenomena near the surface. He studied these processes in detail and also started a successful series of conferences on this topic. More recently, Gerhard concentrated on

the study of jets and wakes in shallow layers and the associated large-scale flow structures using both the most advanced experimental techniques and stability analysis. His research always covered a wide range from fundamental studies to the development of engineering methods and hence had both great scientific and practical impact.

Gerhard was a prolific writer, disseminating the results of his research and his knowledge through some 250 publications, many of them in the most renowned journals, and also many providing the primary source of information on a number of important topics. Through this he earned himself worldwide recognition as one of the top experts in the field of hydraulic and environmental engineering as is manifested by prestigious awards he received, among them the Freeman Hydraulics Prize and the Walter L. Huber Civil Engineering Research Prize as well as the Hunter Rouse Hydraulic Engineering Lecture Award, all from ASCE, the Arthur T. Ippen Award of IAHR and a membership of the Academy of Sciences of Argentina, to name only a few. He was often invited as lecturer, as visiting scientist and as a member of international expert panels such as the one for the stormflood barrier of Venice Lagoon.

During all his professional life, Gerhard provided extensive and valuable service to the Hydraulic and Environmental Engineering Community. He served on various committees of ASCE and was the chairman of the Hydraulics Division of ASCE from 1989 to 1990. In Germany, he was an influential member of various hydraulics committees and advised the German Research Foundation (DFG) on their strategies on water research. He was closely associated with and particularly active in IAHR, where he served on various committees and was the chairman of the Fluid Mechanics Committee from 1990 to 1996. He helped to set up the European Graduate School – Environment Water (EGW) and coordinated a number of Summer Schools in the area of Environmental Fluid Mechanics. From 2001 to 2009 he was a member of the IAHR Council and from 2005 to 2009 a Vice-President of the IAHR. In this function he chaired its Structure Change Task Force and was instrumental in introducing a new, modern structure in IAHR and a new name that represents better IAHR's environmental activities. He had planned to help with the implementation of the changes and was therefore elected as co-opted Council member at the IAHR Congress in 2009, but due to his untimely death IAHR now cannot count on his input and experience and has to manage the changes without him – and it is tragic that he cannot reap the fruits of his engagement for IAHR.

Gerhard will be remembered not only for his great scientific work and professional engagement, but also as a fine and interesting human being who managed to transfer his vitality, enthusiasm and optimism to all who were around him. We will sadly miss him as a wonderful colleague and friend.

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