Eduard Naudascher 5.Juli 1929 – 17. September 2012

On September 17 2012 Eduard Naudascher passed away. From 1968 to 1994 he was Professor and director of the Institute for Hydromechanics in the Department of Civil Engineering of the University of Karlsruhe, Germany. His friends and colleagues join with his 5 children and his wife Imke in mourning for an engaged hydraulic engineer and scientist, who in Karlsruhe was instrumental in reestablishing the traditional excellent reputation in hydraulic engineering of the former Technical University of Karlsruhe. Karlsruhe scientists had been world leaders in hydraulic engineering and engineering research in the days of Theodor Rehbock (Theodor Rehbock in 1935 had been co-founder of IAHR). Ed contributed to the modernization of German hydraulics through his internationally acclaimed research and his excellent lectures. In combining classical hydraulic subjects with recent research findings he helped to lay the scientific foundation of modern hydraulic engineering in Germany.

Ed was born in Sofia, Bulgaria, where his father worked in the important construction firm of his uncle. The family was forced to leave Bulgaria near the end of World War II and returned under difficult conditions to Germany, where Ed managed to complete his high school days in Mannheim. Following the family tradition he studied civil engineering in Karlsruhe, where after completing his diploma thesis in 1954 he became assistant to Professor Boess. In 1959, after completing his doctorate, he went as a Fulbright scholar to do research at the St.Anthony Falls Hydraulic Laboratory in Minneapolis, Minnesota, USA. Two years later he accepted an invitation by Prof. Hunter Rouse to join the staff at the Hydraulics Laboratory of the University of Iowa, in Iowa City, and in 1968 he returned to Karlsruhe In Iowa he had been involved in turbulence research, which in Karlsruhe he continued by creating a research program on turbulent flows in environmental problems, for which he increased the research potential of his institute by adding a wind laboratory to the existing hydraulics laboratory. His primary concern however was teaching. He made his students understand hydraulics as applied fluid mechanics, illustrated through experiments, for which he built a special student laboratory. His approach to teaching is well documented through his monograph on “open channel flow and channel construction works” (in German). Originally intended as a textbook, it has become the leading German reference on the subject.

Ed contributed extensively to IAHR activities, serving for example as Vice President from 1979 - 1983. His major contribution to IAHR, however, was the initiation of the series of IAHR hydraulic structures design manuals, to which he contributed the monographs on “Hydrodynamic forces” (1991) and “Flow induced vibrations – an

Engineering Guide" (with D.Rockwell, 1994, republished by Dover in 2004), which will be the leading references for many years to come. On the topics of these manuals he was a leading expert, who served as consultant to many projects in Germany and abroad. Already his dissertation was on hydrodynamic forces, and after returning to Karlsruhe he further developed the theoretical and experimental basis of this important area, on which he published extensively in the leading journals, including the Journal of Hydraulic Research, Journal of Fluid Mechanics, and the publications of the American Society of Civil Engineers (ASCE). His contributions to the topic of fluid induced forces were widely acclaimed, ASCE awarded him the Walter R. Huber Prize for1968, the Hilgard Prize in 1975 for the paper „Flow induced forces on protuding walls", and the Hydraulic Structures Medal in 1987.

In later years he became increasingly concerned with the negative effects of human interventions in natural processes. In lectures around the world he implored engineers and scientist, as well as civic groups, to become aware of the socio-economic consequences of large engineering structures like dams. He exhorted engineers to see the ethical dimension of their works and take responsibility for the impacts of their projects on nature and social systems. Ed tried to outline a path to sustainable development and sustainability oriented engineering, and he actually lived what he preached, in his private life and in his interaction with his professional colleagues. He will be remembered by all who knew him, as a dedicated scientist and teacher.

Erich Plate, November 2012