Prof. Dr. Rainer Klinke (1936–2008)

On Monday September 8th, 2008, Dr. Rainer Klinke peacefully passed away after a short period of severe illness. Hearing research has lost an outstanding physiologist and dedicated teacher.

Rainer Klinke was born in Landsberg (Upper Silesia) in 1936. Displaced at the end of World War II, he grew up in Franken, Bavaria. He studied medicine (1954–1963) in Erlangen, Vienna and Heidelberg, and mathematics in Heidelberg. After a brief period of medical practice, he opted for research and became a research assistant at the Institute of Physiology in Erlangen (1964–1966). In 1966 he joined Prof. O.-J. Grüsser at the Institute of Physiology at the Free University Berlin. After his ‘habilitation’ in 1969 he was appointed Professor of Physiology in 1971. In 1977 Rainer Klinke accepted a Chair in Physiology at J.W. Goethe University in Frankfurt am Main, where he spent his active career until he retired in 2004. In addition to leading the Institute for Sensory Physiology and Neurophysiology, he acted as the Director of the Center of Physiology and held the Speaker position of several research collaboratives (‘Sonderforschungsbereiche’) of the ‘Deutsche Forschungsgemeinschaft’ (SFB 45 and 269).

Rainer Klinke is well known for many important discoveries in the field of auditory neuroscience. As a young physiologist in Erlangen, he and his colleagues observed that the omission of a singular sensory stimulus in a regular series evoked a specific potential. At the time, a response without a stimulus was very surprising, however, today this type of signal is known as ‘mismatch negativity’ and belongs to the standard repertoire of neuroscientists. After moving to Berlin, he focused on synaptic transmission and efferent control of auditory and vestibular hair cells. Here he was the first to demonstrate that glutamate is the main excitatory transmitter in the cochlea. In collaboration with Prof. E.F. Evans (Keele University, UK), Rainer Klinke discovered that loop diuretics broaden the tuning properties of auditory nerve fibers, an early indication of an active cochlear amplification process. In Frankfurt, he greatly extended his interests to comparative auditory physi-

ology of cochlear mechanics, the emerging field of electrical stimulation and cochlear implants, as well as to central auditory processing. To name only a few of the very important research activities during this period, Rainer Klinke and his collaborators described the active role of avian hair cells in frequency tuning, the functional properties of regenerated avian hair cells, and they also studied brainstem mechanisms of binocular hearing in mammals. He became increasingly interested in central deficits of the auditory system caused by hearing loss and deafness and in the benefits of cochlear implants for the maturation processes in the auditory cortex of the young. He and his collaborators showed that chronic electric cochlear stimulation of young congenitally deaf animals rescued the functional maturation within the primary auditory cortex. These important studies provided the basis for the clinical treatment of deaf children, which is common practice today.

As a group leader, Rainer Klinke encouraged his coworkers to conduct their research independently, enabling them to follow their ideas and inspiration. In addition to his own research, Rainer Klinke contributed to the scientific community in many ways and received many honors from scientific and non-scientific institutions. He served as a reviewer as well as editor for many important scientific journals in the field including *Hearing Research* and *Audiology and Neurotology*. Spreading his great knowledge among young students in lectures, seminars, practical courses and textbooks was a duty he performed with pleasure. Finalizing the latest edition of his *Textbook of Physiology* was one of his major concerns during his last days. This textbook has been translated into many languages and is read by thousands of students every year.

His spouse Anneliese, his children Annette and Oliver and two grandchildren survive Rainer Klinke. Many will miss him as a gifted teacher and a dear friend. His ‘joie de vivre’, irrepressible research spirit and his concern for those around him will not be forgotten.

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