

Jacob Valk

This memorial aims to honor Professor Jaap Valk, who passed away on April 13, 2024, at the age of 94 years, for his many clinical, educational, and scientific accomplishments.

Jaap was born in Rotterdam, The Netherlands, on July 23, 1929. He grew up with hardships. He survived the second world war and the famine. Shortly after the war, his father died and Jaap had to provide income for his mother and sister. Next to it, he obtained his medical degree at the Leiden University, followed by a residency in Neurology and Psychiatry. He practiced neurology and psychiatry for several years, but decided to become a neuroradiologist and did his training with the famous professor Bernard George Ziedses des Plantes, who invented planigraphy and radiographic subtraction. Jaap completed his thesis on brain atrophy in schizophrenia in 1971, with Ziedses des Plantes as supervisor. After his training in radiology and neuroradiology, Jaap became head of the department of Neuroradiology of VU University Medical Center as well as the Valerius Clinic, a psychiatric hospital in Amsterdam. He convinced the government that he needed a CT scan for his psychiatric patients. In 1979 he was appointed full professor of Neuroradiology at the VU University. In 1981 he became head of the department of Radiology of VU University Medical Center.

Jaap loved quality. He excelled in pneumoencephalography, angiography, intervention and CT interpretation. He was also an entrepreneur. He always wanted to be in the forefront of new developments. When he heard about the amazing novel technique magnetic resonance imaging, he dived into it and wrote a book on basic principles of MRI, together with Prof. Cor MacLean and Dr. Paul Algra (Elsevier, 1985). Four MR machines were going to be placed in The Netherlands and he wanted one. He was extremely well prepared, and he got one in 1985, a 0.6 Technicare. It was a beautiful machine that produced amazing pictures. He had a keen interest in pediatric neuroradiology and for the first few years, many children from the whole country came to Amsterdam for MRI, which provided Jaap with a wealth of cases for further studies, papers, courses, and international lectures.

In 1987, he started to work on white matter disorders with Marjo van der Knaap, at that time a resident in Neurology on her way to become a pediatric neurologist. Together, they conceived MRI pattern recognition for white matter disorders, which turned out to be a magnificent diagnostic tool that is still central for white matter disorders today. In 1987, approximately two-thirds of the patients with a suspected genetic white matter disorder, a so-called leukodystrophy, did not receive a specific diagnosis. Jaap and Marjo then applied MRI pattern recognition to the unsolved cases and identified and defined a series of novel leukodystrophies. Those studies were at the basis of the Amsterdam Leukodystrophy Center, founded in 2000.

Other subjects Jaap worked on include multiple sclerosis and dementia. White matter diseases had Jaap's keen interest and together with Otto Hommes, one of the founders of ECTRIMS, they set up a collaborative project with Frederik Barkhof. Also this research line flourished and Jaap and Frederik started the MS-MRI research center with later evolved into the MS Centre Amsterdam and co-founded MAGNIMS, the successful network of MS centers working on MRI and coined diagnostic criteria for MS. For dementia, Jaap worked with Frederik and Philip Scheltens and set up yet another prolific research line, as evidenced by their successful book and various rating scales that are still widely in use.

Jaap had a true scientific mind. He taught his students that when coming to a conclusion they always needed to be open for doubt and for alternative interpretations. Nothing was set in stone for him. He was very interested in other fields, including physics, biochemistry, toxicology, embryology, pathology, immunology, molecular biology, and statistics. He recently decided he wanted to focus on artificial intelligence as his next subject of interest. He did not only want to collect knowledge, but also wanted to share. He organized numerous teaching courses to spread knowledge on MRI among the Dutch radiologists and his European and American colleagues.

Jaap's unstoppable energy and enormous drive forced him forward and his inquisitive mind, creativity, intelligence, and zeal for quality gave him direction. He was always in for new developments; he always wanted the first and the best. So, much around him flourished. He supervised the theses of numerous PhD candidates, many of whom have become full professor in or outside Amsterdam. He encouraged and inspired younger colleagues from all over the world; he was prodigal in counsel and always willing to discuss new ideas or projects.

Jaap was extremely productive. He favored writing books; a famous quote of his was "whenever I did not know anything about something, I wrote a book about it", reflecting his thirst for new knowledge, but also his desire to share it with a larger community. Thus, he authored and co-authored many, among which Computed Tomography of Cerebral Infarctions (1981), Basic Principles of Nuclear Magnetic Resonance Imaging (1985), Magnetic Resonance of Head, Neck and Spine (1987), Magnetic Resonance of Myelination and Myelin disorders (1989, 1995, and 2005), and Magnetic Resonance of Dementia (2002). He also co-authored many papers, more than 300 on PubMed. He gave numerous invited lectures at international meetings, which were often impressive and overwhelmingly appreciated. He received many awards, including the Wertheim Salomonson medal of the Dutch Society of Radiology (1996), the gold medal of the International Society of Magnetic Resonance in Medicine (1999), the Cornelia de Lange award of the Dutch Society of Child Neurology (2007), and the gold medal of the American Society of Pediatric Neuroradiology (2011). He became honorary member of numerous international medical societies. He was proud of being honorary member of the Radiological Society of North America (2003) and the European Society of Neuroradiology (2018).

Jaap was not only a neuroradiologist and scientist. He was a homo universalis, and a true Renaissance man. He was a sports man and continued to run into his old age. He loved music and excelled in playing piano, especially Bach, Mozart, ragtime, and jazz, and he would often entertain delegates at conferences whenever a piano would be available. He loved paintings and literature. He loved cooking as well as excellent wine and knew much about the subjects. He loved life.

Jaap had a great personality. He was charming, kind, inclusive, understanding, attentive and generous. He was entertaining and fun to be with. He loved to organize courses, host parties and travel to meetings in countries, especially in warmer climates.

Jaap wrote an obituary for Ziedses des Plantes (Radiology 1994) and stated that "Ziedses was a standard-bearer of neuroradiology, an example and a source of inspiration for all who knew him". All this is true for Jaap. It is a great privilege to have known him. His death is a great loss.