

## In memoriam Hugo van Woerden (1926 – 2020)

Prof. Dr. Hugo van Woerden (Huug) passed away Friday, September 4, 2020, at the age of 94. Huug was a great colleague and a friend to many at the Kapteyn Institute, in the Netherlands and worldwide, and remained very active until the last moment. He was part of the development of radio astronomy in the Netherlands from the very beginning, and he was a key person behind the huge success of the Westerbork Telescope in Groningen in the 1970s and 1980s. He laid the Kapteyn Institute's foundation for radio astronomy and extragalactic research, witnessing the growth of the institute from about ten people when he started to the current number of about one hundred and fifty. Huug, blessed with a tremendous amount of energy and being an active amateur astronomer during his whole career as well, has also led the KNVWS (Koninklijke Nederlandse Vereniging voor Weer en Sterrenkunde) for many years. Huug will always have a special place in the hearts of many, and he will be missed.

Huug grew up in Arnhem, where his father stimulated his interest in astronomy, showing him the planets and the twinkling stars. Important were his yearly visits to the Planetarium in The Hague; fascinated by the planetarium shows he became an active amateur astronomer. Already at the young age of 17, he was appointed by Jan Oort as a volunteer at the Sterrewacht in Leiden. There, during the WWII, he followed some (illegal) lectures by Oort and was present at the historic seminar where Henk van de Hulst predicted the observability of the 21 cm line of interstellar hydrogen.

In 1955, having started his PhD on the structure of the interstellar clouds in the Orion region, Huug became an expert user of the new Dwingeloo 25m telescope. Soon, in 1957, an opportunity arose that changed his career forever. Adriaan Blaauw was appointed as director of the Kapteyn Laboratory. Looking for excellent people who could support him in expanding radio astronomy in Groningen, he offered Huug a position as 'Wetenschappelijk medewerker' in Groningen, providing him with support for his PhD work. Huug proved to be the ideal candidate for this. Huug's thesis, 'De neutrale waterstof in Orion', based on observations in the 21-cm line with the Dwingeloo telescope, was one of the first major studies in this field. After obtaining his PhD, Huug spent two years as Carnegie Fellow at the Mount Wilson and Palomar Observatories in Pasadena (now the Observatories of the Carnegie Institution of Washington), supplementing the radio data with optical data on interstellar calcium.

Huug was appointed lector (associate professor) at Groningen University in 1965. After Adriaan Blaauw left Groningen, much of the managerial work at the Kapteyn Laboratory was left to him. The late 1960s and 1970s were periods in which Dutch universities underwent an enormous expansion. New staff positions became available almost every year, and Huug made excellent use of these positions, attracting many foreign guests and staff members, including Ulrich Schwarz (1962), Renzo Sancisi (1968), and Ron Allen (1969). With the inauguration of the Westerbork Synthesis Radio Telescope in 1970, it became possible to study nearby galaxies in detail. This became a golden era for the Kapteyn Institute, involving many well-known astronomers, including Tjeerd van Albada, Ron Ekers, Bob Sanders, Seth Shostak, Dave Rogstad, Woody Sullivan, Piet van der Kruit and Miller Goss. They, and their

former PhD students, made the Kapteyn Institute famous for its research of neutral hydrogen in galaxies. Huug was instrumental in setting up and maintaining good relations with the SRZM, the organisation which later became ASTRON. He became hoogleraar (full professor) in 1980 and was chair of the Astronomy Department (now the Kapteyn Institute) from 1985 until his retirement in 1991.

During his career, Huug never neglected his research. His first PhD students, Paul Wesselius (defence in 1972) and Douwe Beintema (in 1975) continued his work on interstellar clouds, a topic that fascinated Huug for the rest of his life. With the WSRT he worked on neutral hydrogen in Spiral Galaxies and later produced important work on neutral hydrogen in lenticular galaxies (with Wim van Driel) and in galaxies in the Virgo cluster (with Rein Warmels). In the 1980s and 1990s Huug did important work on mapping and finding distances to high-velocity clouds with his then-PhD student Bart Wakker. It is this work which kept his attention throughout the rest of his career and which is widely recognised amongst his peers.

Huug played significant roles in many national and international committees and boards. He was one of the main organisers of the XXIIInd General Assembly of the International Astronomical Union held in 1994 in The Hague. And after his retirement, he stayed very active in popularising astronomy: he became a board member of the NVWS in 1991, and chair of the NVWS from 1992 to 2002, organised the centennial celebrations in 2001 and was instrumental in acquiring the Royal predicate for the NVWS, making it the KNVWS.

Huug was a great colleague and friend, always humble and helpful. He had enormous drive, was very precise, and had a fantastic memory. If you wanted to know anything about Dutch astronomy in the last 70 years, you just had to ask him. He was interested in everything and everyone. If you made a mistake in your presentation, he would let you know, though, but always in a kind way. He was decorated as 'Ridder in de Orde van de Nederlandse Leeuw' in 1992, and asteroid 10429 van Woerden is named after him. The Kapteyn Institute has lost an exceptional member and will remember him for a long time to come.