

# In memoriam Prof. A.L. Bouma

Professor Adolf Lubbertus Bouma – Dolf to friends – passed away on 10 October 2020, two days short of his hundredth birthday. Until his mid-thirties, he was employed by TNO, the Dutch organization for applied scientific research. After that, he was a full professor of structural mechanics at Delft University of Technology in the Netherlands. In him, we had and have lost one of the founding fathers of the journal *Heron*, a magazine with an interesting history of development. In the 1940s, TNO instituted a Research Structures Commission, which started a series of Communications to inform the construction industry of research findings, and Bouma accepted the post of founding editor. In 1961, the series was named after Heron (known in English as Hero), the famous inventor of Alexandria in Ancient Egypt. The language of publication was still Dutch, with parallel English issues appearing incidentally. From 1970 onwards, *Heron* became a fully English-language magazine. Professor Bouma was succeeded in 1970 as editor of *Heron* by Professor Ligtenberg. Albeit with this change of title and of language, a continuous series of communications has been published since 1953, the latest being Volume 65 in 2020.

As a young structural engineer, Dolf Bouma invested effort in studies on the theory of reinforced concrete shells, assembling a team of scientists with the later associate professor H.W. Loof and senior mathematician H. van Koten. The team applied the Donnell theory for shallow shells to cylindrical roof shells, also taking account of the work of von Karman and Jenkins in the 1940s. Bouma dubbed Donnell's elegant eight-order partial differential equation the DKJ equation, honouring all three of these scientists.

In his teaching, Professor Bouma was a classic representative of the pre-FEM era and style of professorship, deriving and solving complex partial differential equations as second nature. He thoroughly mastered the classical structural theories for plates loaded in plane and normal to plane. Yet, later on, he did positively encourage computational applications based on the stiffness method.

In his final years as a university professor, he succeeded in pioneering a completely new teaching subject. The booming offshore industry required new approaches to cover solicitations in a rough sea wave climate. He actively developed new approaches in stochastic dynamics and methods to evaluate structural dynamic behaviour and fatigue.

It was certainly a privilege and honour to inherit Bouma's academic position. He was expressly of the opinion that emeritus professors should not stay in their departmental office but rather must give their successors free rein to develop new research and teaching subjects and explore fresh scientific fields. That conviction made him enjoy 35 years of retirement, mourning the loss of his wife, who died young. In retirement, he took pleasure in participating in cultural trips to ancient history, and it was there that he met the woman who became his partner for eighteen years. He outlived her, too, by nine years.

We remember Dolf Bouma as a devoted structural engineer and conscientious and capable scientist who really loved his profession. Not being an outspoken or charismatic type, he was selective in making close friends, but when he did, it was heartfelt. In old age, with his interests and memory fading, he remained a remarkably contented man.

Johan Blaauwendraad