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## IN MEMORIAM

### BERT ZWANEVELD (1946–2025)



Fig. Bert Zwaneveld at ICHME-7.

Credit: Courtesy of Prof. Dr. Alexander Moutchnik, photographer.

### **Bert, you will be missed in the ICHME community**

Professor Bert Zwaneveld passed away on 30 April 2025. A few months earlier, he had actively participated in ICHME-8, accompanied by his wife Carla. Bert leaves behind Carla, his two children Cas and Brechtje, and two grandchildren, Toon and Marijn.

Over the past decade, I had the privilege of working closely with Bert (see below), but first I will provide a brief overview of Bert's rich and varied professional career in general. I gathered my information mainly from an interview that Harm

Jan Smid conducted with Bert about ten years ago. The interview was published in a collection marking the 90th anniversary of the *Nederlandse Vereniging van Wiskundeleraren* (NVvW) [Dutch Association of Mathematics Teachers]<sup>1</sup>. I also found inspiration in an *In Memoriam* for Bert that will appear in “Euclides”, the journal of the NVvW, authored by Harm Jan Smid, Martinus van Hoorn, Jacob Perrenet, Francis Meester and myself.

Bert was born on 17 March 1946, in Amsterdam, where he attended primary and secondary school. After that, he decided to study mathematics at the University of Amsterdam, ‘applied’ mathematics although he said it was all purely theoretical... After graduation he started working as a mathematics teacher at the *Ignatius College* in Amsterdam. On Bert as a mathematics teacher, his former colleague Francis Meester wrote:

From the beginning, we were math buddies [...] We developed tests and extra teaching materials; we participated in summer courses, including ones on graph theory and made an enrichment booklet out of that for students. [...] There was also a kind of rivalry, at least that’s how it felt to me. Bert was better at math than I was; he dared to think aloud and make mistakes. I couldn’t. I had to be sure of my case.

In 1971, Bert was appointed (part-time) lecturer in didactics and became involved in the *Didactiekcommissie* [Didactical Committee] of the NVvW. His first publications on didactics of mathematics appeared, and in 1975 he joined the team of authors of *Passen en Meten* [Fitting and Measuring], the first textbook series for lower vocational education without set theory. Later, around 1982, Bert joined the team of authors for the upper grades of *Moderne Wiskunde* [Modern Mathematics], a textbook series intended for students preparing for higher professional education. Bert also chaired the author meetings. Martinus van Hoorn, also a former member of that author team, testified:

Bert made sure everyone had their say, handled emotions with integrity and stood firmly behind the choices made, whether they were his own or not.

In circles of Dutch mathematics teachers, however, Bert Zwaneveld’s name is inextricably linked to the NVvW, especially to its journal “Euclides”. At the age of 30, in 1976, Bert became chair of the editorial board and editor-in-chief (until 1987, these positions were not separate), which he combined with a full-time teaching job. He resigned in 1983, but returned as chairman of the editorial board between 1991 and 1998. When Bert joined “Euclides”, it was a journal with a lot of mathematics but less didactics; he set himself the goal of increasing the share of the latter, a difficult process in which he succeeded only partially. Together with his board members, however, Bert did pave the way for the modern professional

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<sup>1</sup> H.J. Smid, *Zestig jaar hart voor wiskundeonderwijs. Een geschiedenis van het Nederlandse wiskundeonderwijs in 10 portretten*, NVvW, Utrecht 2015.

journal with a magazine-like layout as we know it today. Bert also facilitated the transfer of ownership of “Euclides” from Wolters-Noordhoff, a commercial publisher, to the NVvW, a process that was successfully completed in 1994.

A crucial step in Bert’s career followed in 1986: he moved to the Faculty of Technical Sciences (mainly computer science) of the Open University Heerlen. He became a ‘course team leader’, a position similar to that of a university lecturer, but without teaching students on campus. In 1999, he defended his dissertation on knowledge graphs in mathematics education, and in 2004, he was promoted to professor responsible for the chair ‘professionalization of teaching staff’. In research, Bert showed particular interest in statistics, ICT, mathematical modeling and informatics in education; in the latter area, he was a pioneer in the Netherlands. As an expert in mathematical modeling, in 1997, he became the chairman of the committee responsible for the final examinations that focus on modeling and applications (called ‘mathematics A’ in the Netherlands), a position that Bert would hold for ten years. One of the problems Bert faced was that mathematical models in examinations were almost always presented as ready-made solutions, which was contrary to the spirit of ‘mathematics A’. During that time, Bert often conducted research with Jacob Perrenet, resulting in dozens of papers, the best of which was probably: *The Many Faces of the Mathematical Modeling Cycle*<sup>2</sup>. This brings me seamlessly to the last part of this obituary.

In July 2015, Bert participated in the 17th International Conference on the Teaching of Mathematical Modeling and Applications (ICTMA-17) in Nottingham. It was one of the forums where Bert and the undersigned were active at the time. Bert presented a paper, also on behalf of Jacob Perrenet, Kees van Overveld and Tijn Borghuis, on modeling in Dutch textbooks and wondered aloud: Is it genuine mathematical modeling? We stayed at the same hotel and in the evening, while enjoying some local beers, we got into conversation. We discovered that we shared not only the same language, but also had a number of common interests and, to a certain extent, a similar background: We had both been mathematics teachers for a time, had earned a PhD in the middle of our careers, and had eventually entered academia and the world of mathematics education research. Five years earlier, I had partially reoriented my research toward the history of (Belgian) mathematics education. Bert was also very interested in history, as evidenced by his co-editorship of and contributions to the book *Honderd jaar Wiskundeonderwijs* [A Hundred Years of Mathematics Education]<sup>3</sup> and by his participation in the annual symposia of the *Werkgroep Geschiedenis* [Working Group on History] of the NVvW.

<sup>2</sup> J. Perrenet, B. Zwaneveld, *The many faces of the mathematical modeling cycle*, “Journal of Mathematical Modelling and Application” 2012, vol. 1, no. 6, p. 3–21.

<sup>3</sup> *Honderd jaar wiskundeonderwijs*, ed. by F. Goffree, M. van Hoorn, B. Zwaneveld, NVvW, Leusden 2000.

We decided to join forces and started a study about the international debates on the role of applications and modeling during the heyday of New Math, roughly the period between the Royaumont seminar in 1959 and the first ICME congress in Lyon in 1969. In 2017, two years after our meeting in Nottingham, Bert presented our joint work at ICTMA-18 in Stellenbosch and at ICHME-5 in Utrecht. We enjoyed this first collaboration and decided to continue working together. We felt that we complemented each other well. Bert was familiar with the Dutch context and literature, I could sometimes frame the research more broadly, and through my KU Leuven affiliation I had easy access to international libraries and other sources. The ICHMEs would become Bert's last scientific 'habitat'. He was not only among colleagues, but also 'among friends'; he felt 'at home'. In terms of content, Bert was particularly interested in personalities who had contributed to shaping mathematics education in the Netherlands and who were also known outside the Netherlands during their lifetime. At ICHME-6, Bert presented a study on the life and work of Lucas Bunt<sup>4</sup>, and at ICHME-7 on Piet Vredenduin, two mathematics educators who had been somewhat overlooked in the literature on the history of mathematics education. His study on Pierre (and Dina) van Hiele, presented at ICHME-8 in Warsaw in September 2024, would be his swan song. He already had some difficulty in walking at times and was grateful for the support his wife and colleagues offered him. But he attended all the scientific sessions, always seated in one of the front rows. Following interventions by other researchers, he often asked pertinent, sometimes quite critical questions. Staying active and engaged in a field where he could make a difference, as long as possible, gave Bert great satisfaction and lots of positive energy.

We will remember Professor Bert Zwaneveld as a committed and passionate scholar whose thoughtful contributions to the ICHME conferences were greatly appreciated. His presence, both scientifically and personally, made a lasting impression on many of us. Bert, we will miss you!

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<sup>4</sup> This study was not published in the "Dig where you stand" series, but as a journal article: B. Zwaneveld, D. De Bock, *Lucas Bunt's role in the development of statistics education*, "Nieuw Archief voor Wiskunde" 2021, vol. 22, no. 4, p. 245–251.