

Gerard Fler, brilliant mind and loyal friend

On February 27, 2022, Gerard J. Fler, former professor at Wageningen University, The Netherlands, passed away at the age of 79.

Born into a textile worker's family in the Dutch village of Overdinkel, where the village headmaster considered higher education inappropriate in his case, it seemed unlikely that he would follow an academic career. However, Gerard's father believed in his son's talents and sent him to secondary school and to Utrecht University, where he majored in Physical Chemistry under Prof. Theo Overbeek. He then moved to Wageningen for a PhD; his supervisor there was Hans Lyklema, professor in Physical Chemistry and Colloid Science. Gerard's thesis dealt with the flocculation of silver iodide sols by poly(vinyl alcohol), and the research for his thesis stimulated his desire to better understand the adsorption of polymers at the solid / solution interface. This led to a post-doctoral year at the National Bureau of Standards in Washington DC, primarily to carry out advanced adsorption measurements. Luckily, he was introduced there to the physicist Ed DiMarzio, who had been attempting to develop a theory for polymer adsorption, but encountered problems in doing so. Back in Wageningen Gerard took up supervision of an MSc student by the name of Jan Scheutjens, who soon came up with ideas to overcome DiMarzio's problems. This became the birth of the Scheutjens-Fler theory, a statistical thermodynamic theory that allows one to model adsorption or self-assembly of large and complex molecules (e.g., linear and branched (co-)polymers) without the need to use molecular simulation.

Developing this theory, and its experimental testing, became core activities of Gerard's research group, and his work was highly appreciated by many in the Colloid Science and Soft Matter community as well as in the Polymer Physics community. Fruitful collaborations developed between the Colloid Science groups of Wageningen and Bristol, which ultimately resulted in the monograph 'Polymers at Interfaces' of which Gerard was the main author. Due to its flexible, numerical approach the Scheutjens-Fler theory provided an ideal testing ground for analytical theories of adsorption and self-assembly, such as those formulated by the St. Petersburg group of the late Prof. Tatiana Birshstein (Zhulina, Borisov, Skvortsov) and by French Soft Matter scientists (De Gennes, Joanny, Johner), and this led to a large number of joint publications, as well as some close friendships that lasted his entire life. Gerard loved to dive into the conceptual and mathematical puzzles spawned by the theoretical framework; such challenges were the best food for his analytical and logical brain, and he would not rest until every detail was crystal-clear.

Gerard served two terms, from 1994 to 2006, as the Hon. Secretary and Treasurer of the International Association of Colloid and Interface Scientists.

Gerard was also a dedicated teacher. His lectures on subjects like colloid science and classical thermodynamics (considered 'tough' among students) were always meticulously prepared, and frequently updated to include extra clarification, just to make sure that students would really understand all the concepts. From his MSc and PhD students, he demanded clear and precise writings, and spotless mathematical derivations. Draft versions were carefully 'fleared' meaning

that they came back to the author with numerous comments, but students knew that once they were through this review process, their work could stand any critical test.

For Gerard, there was no barrier between private and professional life. His home hosted informal parties where students and family members would mix, and he generously offered accommodation to visiting colleagues, treating them to ‘Dutch style’ touristic bike tours. Once a year, he and his wife Betsy organized a ‘St. Cecilia’ gathering with singing, playing, food and drink.

Through his personality and scientific style he had impact in many ways. He was awarded the Overbeek Gold Medal in 2009 by the European Colloid and Interface Science society in recognition of his scientific contributions. He also had great influence on the careers of his students, his colleagues at home and abroad, and on the Wageningen Laboratory of Physical Chemistry and Colloid Science, that he always considered his scientific home base.

We shall remember him not only as an eminent scientist, but also as an honest and loyal friend.