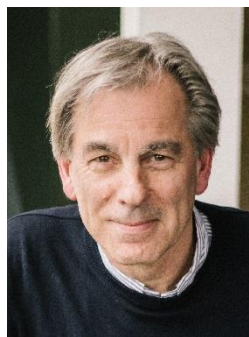


Chiral Supramolecular Systems and Materials

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The quest to understand the origin of chirality in biological systems has evoked an intense search for nonlinear effects in catalysis and pathways to amplify slight enantiomeric excesses in racemates to give optically pure molecules. The amplification of chirality in polymeric systems as a result of cooperative processes has been intensely investigated. Ten years ago, this effect was shown for the first time in non-covalent dynamic supramolecular systems. Since then, it has become clear that a subtle interplay of non-covalent interactions such as hydrogen-bonding, π - π stacking, and hydrophobic interactions is also sufficient to observe amplification of chirality in self-assembled aggregates of small molecules. In the lecture, the results obtained over the past decade in ordered one-dimensional stacks will be discussed. The experiments are used to deduce general guidelines. Next these insights are used to design and construct chiral materials with intriguing properties that can only be related to the chirality of the materials at hand. Some of these results are inspired by Ron Naaman and obtained in close collaboration with his and his group.



E.W. "Bert" Meijer is Distinguished University Professor in the Molecular Sciences, Professor of Organic Chemistry at the Eindhoven University of Technology and scientific director of the Institute for Complex Molecular Systems. After receiving his PhD degree at the University of Groningen with Hans Wynberg, he worked for 10 years in industry (Philips and DSM). In 1991 he was appointed in Eindhoven, while in the meantime he has held part-time positions in Nijmegen and Santa Barbara, CA. Bert Meijer is a member of many editorial advisory boards, including *Advanced Materials*, *Angewandte Chemie*, and the *Journal of the American Chemical Society*. Bert Meijer has received a number of awards, including the Spinoza Award in 2001, the ACS Award for Polymer Chemistry in 2006, the AkzoNobel Science Award 2010, the International Award of the Society of Polymer Science Japan in 2011, the Cope Scholar Award of the ACS in 2012, and the Prelog medal in 2014. He is a member of a number of academies and societies, including the Royal Netherlands Academy of Science, where he is appointed to Academy Professor

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