

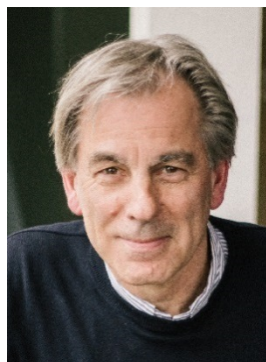
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Mastering complexity: non-covalent synthesis of functional supramolecular systems and materials

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The intriguing prospects of molecular electronics, nanotechnology, biomaterials, and the aim to close the gap between synthetic and biological molecular systems are important ingredients to study the cooperative action of molecules in the assembly towards functional supramolecular materials and systems. The design and synthesis of well-defined supramolecular architectures requires a balanced choice between covalent and non-covalent synthesis of the different fragments. For synthetic chemists, the non-covalent synthesis of these supramolecular architectures is regarded as one of the most challenging objectives in science: How far can we push chemical self-assembly and can we get control over the kinetic instabilities of the non-covalent architectures made? Moreover the increasing number of different components in the assembly processes increases the complexity of the system, as many competing events occur and pathway selection is needed. Mastering this complexity with a combination of experiments and simulations is a prerequisite to achieve the challenges set in creating functional materials and systems. In the lecture we illustrate our approach using a number of examples out of our own laboratories, with the aim to come to new strategies for multi-step non-covalent synthesis of functional supramolecular materials and systems.



E.W. "Bert" Meijer is Distinguished University Professor in the Molecular Sciences, Professor of Organic Chemistry at the Eindhoven University of Technology and co-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* 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, the Prelog Medal in 2014, the Nagoya Gold Medal in 2017 and the Chirality Medal in 2018. 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 in 2014.

共催
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