The Art of Building Small

by

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Abstract:

Beyond the current horizons of chemical sciences there is vast uncharted territory for control of dynamic function based on molecular and supramolecular approaches. For beyond what is known, the creative power of synthetic chemistry provides unlimited opportunities to explore new molecular environments and experiences every day with products ranging from drugs to displays. In the art of building small we explore this thrilling field of molecular nanoscience. Among the major challenges are the design of complex entities in molecular systems that combine ever dynamic functions and repetitively (not-when-but-when) to work. A major goal is to gain control over translational and rotational motion. The lecture is an essay journey in the world of molecular switches and motors creating opportunities for a new drug, a new restaurant or a new approach in materials.

Information at: http://www.berenigo.com

About the Speaker:

Ben L. Feringa obtained his PhD degree at the University of Groningen in the Netherlands under the guidance of Professor W. Anslyn. After working as a research scientist at Shell in the Netherlands and the UK, he was appointed lecturer and in 1996 full professor at the University of Groningen and named the Jacobus H. van 't Hoff Distinguished Professor of Molecular Sciences in 2014. He is elected Foreign Honorary member of the American Academy of Arts and Sciences, a member of the Royal Netherlands Academy of Sciences and a member of the Council of the Royal Society of Chemistry. In 2016 he was appointed Academia Professor and he was knighted by the Majesty the Queen of the Netherlands. Feringa’s research has been recognized with numerous awards including the Nobel European Science Award (2005), the CIC Vigo Award (2004), the Perkin Gold Medal (2004), the Royal Institute of Chemistry Award (2000), the Perkin Award of the ACS (2007), the Processor medal (2011), the Chemistry medal of the RSC (2008), the ACS Organic Chemistry Award (2011), the Perkin Award (2011), the Reagor Prize medal (2016), the ACS-Cope Scholar Award (2015), the Chemistry for the Future Nobel Prize (2015), the August-Wilhelm van Hofwegen Medal (2016). The 2014 Nobel prize in Chemistry, the Tellurian Prize (2013) and the European Chemistry Gold Medal (2013).

Feringa’s research interests include stereochemistry, organic synthesis, asymmetric catalysis, molecular switches and motors, self-assembly, molecular nano- and photonic technology.