



Indian Institute of Technology Delhi

## The Art of Building Small

by



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**Abstract:**

Beyond the current frontiers of chemical sciences there is vast uncharted territory to control dynamic function based on molecular and supramolecular approaches. Far beyond Nature's design, the creative power of synthetic chemistry provides unlimited opportunities to realize our own molecular world as we experience every day with products ranging from drugs to displays. In the art of building small we explore the fascinating field of molecular nanoscience. Among the major challenges ahead in the design of complex artificial molecular systems is the control over dynamic functions and responsive far-from-equilibrium behaviour. A major goal is to gain control over translational and rotary motion. The focus is on my journey in the world of molecular switches and motors creating opportunities for smart drugs, adaptive catalysts or responsive materials.

Information on <http://www.benferinga.com>

**About the Speaker:**

Ben L. Feringa obtained his PhD degree at the University of Groningen in the Netherlands under the guidance of Professor Hans Wynberg. After working as a research scientist at Shell in the Netherlands and the UK, he was appointed lecturer and in 1988 full professor at the University of Groningen and named the Jacobus H. van 't Hoff Distinguished Professor of Molecular Sciences in 2004. He was elected Foreign Honorary member of the American Academy of Arts and Sciences. He is a member of the Royal Netherlands Academy of Sciences as well as a member of the Council of the Royal Society of Chemistry. In 2008 he was appointed Academy Professor and he was knighted by Her Majesty the Queen of the Netherlands. Feringa's research has been recognized with numerous awards including the Körber European Science Award (2003), the Spinoza Award (2004), the Prelog gold medal (2005), the Norrish Award of the ACS (2007), the Paracelsus medal (2008), the Chirality medal (2009), the RSC Organic Stereochemistry Award (2011), the Humboldt award (2012), the Nagoya gold medal (2013), the ACS Cope Scholar Award (2015), the Chemistry for the Future Solvay Prize (2015), the August-Wilhelm-von-Hoffman Medal (2016), The 2016 Nobel prize in Chemistry, the Tetrahedron Prize (2017) and the European Chemistry Gold Medal (2018).

Feringa's research interest includes stereochemistry, organic synthesis, asymmetric catalysis, molecular switches and motors, self-assembly, molecular nanosystems and photopharmacology.

all are welcome