



INSTITUT DE CHIMIE



COLLÈGE  
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—1530—

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## MOLECULAR TECTONICS: FROM MOLECULES TO CRYSTAL WELDING

mercredi 2 mars 2016 à 11 heures  
Salle 2

### Biography

Prof. Mir Wais Hosseini was trained in chemistry at the University of Strasbourg where he undertook his PhD under the supervision of Prof. Jean-Marie Lehn (1983). After a postdoctoral stay in the group of Prof. M. P. Mertes at Kansas University followed by a stay in Prof. K. N. Raymond at the University of California, Berkeley, he became CNRS research associat in 1989 at the University of Strasbourg. He is now Exceptional Class Professor of chemistry at the University of Strasbourg, senior member of the Institut Universitaire de France, Chair of Molecular Tectonics, and director of the Molecular Tectonics Laboratory. He is Fellow of the Royal Society of Chemistry, member of the European Academy of Sciences, Arts and Humanities, Member of Academia Europaea, Honorary Member of Romanian Chemical Society, Silver Medal of the French National Research Center (CNRS) and Chevalier de la Légion d'Honneur.

### Abstract

The design and construction of periodic architectures in the crystalline phase are attracting considerable interest over the last two decades. For both design and analysis of molecular crystals, we have developed a strategy called molecular tectonics which is based on the formation of molecular networks through the design of complementary tectons or molecular construction units. The generation of molecular networks and subsequently of crystals is achieved by self-assembly processes based on repetitive molecular recognition events. This approach, combining supramolecular synthesis and self-assembly processes in the solid-state, is operational and versatile and allows the design and construct a variety of complex purely organic or hybrid architectures. Furthermore, molecular tectonics allows the design of core-shell crystals and crystal welding. The approach will be presented and illustrated by a variety of tectons and networks, core-shell crystals and welded crystals.

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Alain PROCHIANTZ

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