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#ICMolTalks

Eli Zysman-Colman

University of St Andrews

November, 21st

3.30 pm SS6

The design of thermally activated delayed fluorescent and heavy-atom free room temperature phosphorescent supramolecular assemblies

Abstract

In this presentation, I document our recent efforts to design supramolecular assemblies that emit via thermally activated delayed fluorescence (TADF). These include the first examples of gels, cages and rotaxanes that emit TADF. Further, we demonstrate an unprecedented heavy atom-free or room temperature phosphorescence (RTP) hydrogen-bonded networks and disclose a potential universal strategy for the construction of solid-state RTP systems.

Biography

Eli Zysman-Colman obtained his Ph.D. from McGill University in 2003 under the supervision of Prof. David N. Harpp as an FCAR scholar, conducting research in physical organic sulfur chemistry. He then completed two postdoctoral fellowships, one in supramolecular chemistry with Prof. Jay Siegel at the Organic Chemistry Institute, University of Zurich as an FQRNT fellow and the other in inorganic materials chemistry with Prof. Stefan Bernhard at Princeton University as a PCCM fellow. He joined the department of chemistry at the Université de Sherbrooke in Quebec, Canada as an assistant professor in 2007. In 2013, he moved to the University of St Andrews in St Andrews, UK, where he is presently Professor of Optoelectronic Materials, Fellow of the Royal Society of Chemistry and a past holder of a Royal Society Leverhulme Trust Senior Research Fellowship. His research program focuses on the rational design of: (I) luminophores for energy-efficient visual displays and flat panel lighting based on organic light emitting diode (OLED) and light-emitting electrochemical cell (LEEC) device architectures; (II) sensing materials employed in electrochemiluminescence; and (III) photocatalyst developing for use in organic reactions.