Ian Manners was born in London, England and, after receiving his Ph.D. from the University of Bristol, he conducted postdoctoral work in Germany and then in the USA. He joined the University of Toronto, Canada as an Assistant Professor in 1990 and was promoted to Full Professor in 1995 and was made a Canada Research Chair in 2001. In 2006 he returned to his Alma Mater to take up a Chair in Inorganic, Macromolecular and Materials Chemistry supported by an EU Marie Curie Chair. His research interests broadly focus on synthetic problems at molecular, macromolecular, and longer length scales. His current research projects include: catalytic main group chemistry and main group polymers, functional metallopolymers, crystallization-driven "living" self-assembly of block copolymers, nanoelectronics with soft materials, and biological-synthetic hybrids based on DNA and viruses. He is the recipient of a range of awards including a Sloan Fellowship (from the US), the Steac

Monday, April 15, 2013
3:30 p.m.
B&GS Building ~~ Room0165

REFRESHMENTS WILL BE SERVED
PRIOR TO THE LECTURE

Lecture 1

Catalysis in Service of Main Group Chemistry: Metal-Mediated and Metal-Free Dehydrocoupling/ Dehydrogenation of Amine-Boranes

Although metal-catalyzed reactions have played a profound role in organic synthesis, catalytic routes to main group molecules and materials are much less explored. In this talk the use of catalytic processes to dehydrogenate group 13 – 15 Lewis acid-Lewis base adducts such as amine-boranes and related species will be discussed. In addition to mechanistic details, unexpected discoveries such as metal-free hydrogen exchange reactions will be described. The work has relevance to the synthesis of new polymeric (e.g. polyaminoboranes, analogs of polyolefins with a BN backbone) and 2D materials and also to hydrogen storage and transfer chemistry.

Tuesday, April 16, 2013
3:30 p.m.
B&GS Building ~~ Room0165

REFRESHMENTS WILL BE SERVED
PRIOR TO THE LECTURE

Lecture 2

Functional Nanomaterials via Crystallization-Driven "Living Self-Assembly"

Although chemical synthesis has evolved to a relatively advanced state, the ability to prepare well-defined self-assembled materials of controlled shape, size, and structural hierarchy is still in its relative infancy and currently remains the virtually exclusive domain of biology. In this talk the development of a promising new route to such materials, termed "crystallization-driven living self-assembly", will be described. This approach was discovered as a result of an investigation of the solution self-assembly behavior of block copolymers won of t