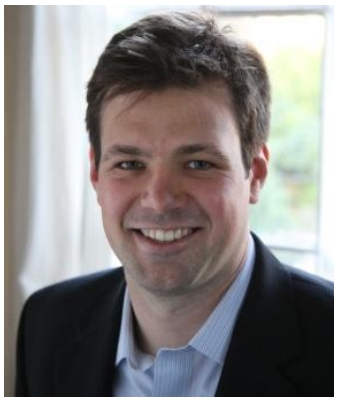
McGill Chemical Society



Dr. Will Dichtel
Department of Chemistry and Chemical Biology at Cornell University, Ithaca, NY

Bottom-up Synthesis of Structurally Precise 2D and 3D Organic Materials

Tuesday September 13th, 2011 1:00pm

Otto Maass room 10

The continuing development of organic semiconductors will bring about efficient solar cells, flexible displays, ubiquitous radio frequency identification tags, and improved lighting technologies. Organic materials are inexpensive and offer the promise of tuning device properties through rational design and chemical synthesis. But simply controlling their chemical structure is not sufficient, as molecular or polymer films must achieve long-range pi-orbital overlap to transport charge efficiently. Our research addresses this challenge by investigating materials beyond the scope of traditional polymer chemistry that control chemical bonding precisely in two or three dimensions. We organize organic semiconductors into covalent organic frameworks with 2D layered structures long thought to be ideal for photovoltaic device performance and convert conducting polymers into narrow strips of carbon semiconductors known as graphene nanoribbons.

EVERYONE IS WELCOME!