

Public Lecture



McGill



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Tooling Up for Nanoworld: The Magic of Molecular Machines

Monday Oct. 5, 2009 4:30pm
Otto Maass room 217

The widespread use of molecular level motion in key natural processes suggests that great rewards could come from bridging the gap between the present generation of synthetic molecular systems—which by and large rely upon electronic and chemical effects to carry out their functions—and the machines of the macroscopic world, which utilise the synchronised movements of smaller parts to perform particular tasks.

We shall discuss the design and assembly of both simple and complex molecules-with-moving-parts; beginning with their synthesis and unusual properties and featuring their evolution into simple ‘molecular machines’. The movement of the components in such systems can be controlled by light, electrons, chemical reactions, pH, temperature or the nature of the environment. These techniques are now being applied to make molecular machines, switchable polymers, novel prodrugs and delivery systems, catalysts, reagents and ‘smart’ materials.

Everyone is welcome

