Overview of Catalysis Research at the MSC

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The focus of the MSC catalysis group is the investigation, prediction and design of catalytic processes from first principles. The catalytic systems are normally of industrial interest, and range from homogeneous to heterogeneous to bio-organic (enzymatic) chemistry. Projects in the catalysis group are most often centered on mechanistic details, with the philosophy that a fundamental understanding of the underlying mechanism will enable the rational design of an improved system. In many cases the computational methodology necessary for a successful investigation has to first be developed in-house.

This talk will give an overview of the current research in the MSC catalysis group. The last year has seen a series of exciting discoveries, from the design of new C-H activation catalysts to an understanding of complicated inorganic solution-phase and surface reaction mechanisms.