



PROFESSOR NICOLAS MOITESSIER
Department of Chemistry, McGill University
DDTP mentor and MI4 Awardee,

PRESENTATION TITLE: COVID-19 therapeutics, an academic approach.

BIOGRAPHY : Dr. Nicolas Moitessier's Research Themes: Chemical Biology, Synthesis/ Catalysis. Research Description: Whether it deals with life sciences, materials, or other areas of high impact, molecular discovery remains a long and tedious process. In practice, developing a new anticancer drug, a new catalysts for asymmetric transformation or a new methodology for green polysaccharides synthesis currently takes years. Our approach is to integrate advanced organic synthesis and computer science to significantly improve the molecular discovery rate. In this context, the Moitessier group is active in the following areas:

Organic Chemistry, medicinal chemistry and asymmetric synthesis: Development of organic synthesis methodologies for the preparation of constrained proline mimetics. Application to the preparation of asymmetric catalysts and anticancer drugs. Directing Protecting Groups: a novel concept for green and regioselective transformations of amines and alcohols. Computer science: Development of predictive software such as a docking program FITTED (predicting drug binding mode and potency), IMPACTS (predicting the sites of metabolism of drugs by liver enzymes P450s), and the complete drug discovery platform FORECASTER. Development of ACE (a virtual screening techniques in the field of asymmetric catalyst design). Integrated organic/computational chemistry. Computer-aided design and synthesis of biologically relevant compounds. Computer-aided design and synthesis of novel asymmetric catalysts.