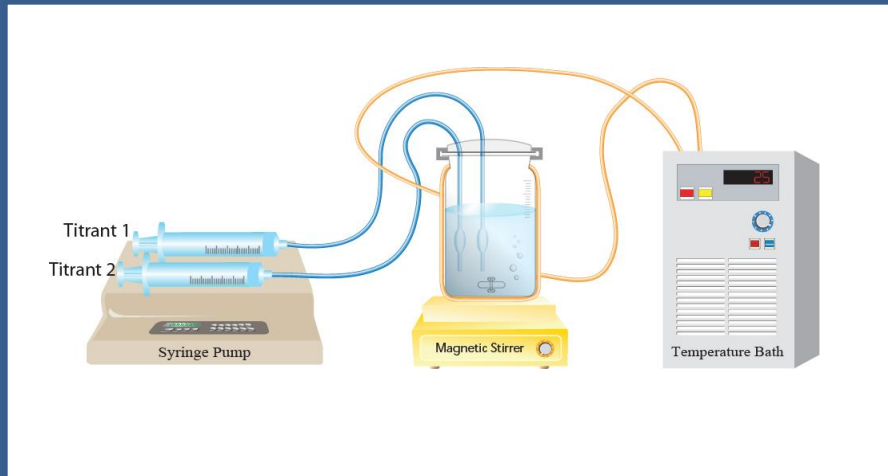


Boron isotope effects in synthetic calcium carbonates: For a better reconstruction of paleo-ocean pH

PI: Sang-Tae Kim, McMaster University, Hamilton, Canada



The goal of my ACS-PRF research proposal is to gain a basic understanding of the so-called “boron isotope paleo-ocean pH proxy”. In order to achieve this research goal, my research group at McMaster University has been conducting a series of experiments under precisely-controlled laboratory conditions which enable us to systematically evaluate the speciation of boron-bearing aqueous species and their incorporation into the two most common polymorphs of calcium carbonates. In particular, we have focused on the development of experimental methods for preparing kinetic and vital effects-free calcium carbonates from three different pH values over the last 18 months.