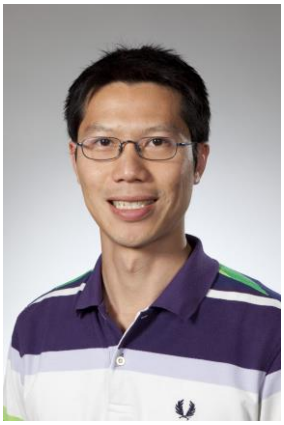
Frontier Chemistry Center
フロンティア化学教育研究センター

講演会

演 題：**Advanced Design of Zeolite As A Selective Catalyst and Adsorbent**



講 師：**Dr. Alex Yip**

Department of Chemical and Process Engineering, University of Canterbury

日 時：2019 年 11 月 21 日（木）15:00~16:00

場 所：工学部材料・化学棟 208 号室

要旨：

Ionothermal synthesis method, in which ionic liquids (ILs) act as both solvent and template/structure-directing agent (SDA), has received great attention due to its almost zero vapor pressure at typical zeolite synthesis temperatures (ca. 170-180 °C). However, the existing reports in literature show that a wide range of random zeolite types tend to form when ionic liquids were used for zeolite synthesis. We systematically studied the effect of various ILs, such as 1-ethyl-3-methylimidazolium bromide ([EMIM]Br), 1-ethyl-3-methylimidazolium chloride ([EMIM]Cl), 1-buthyl-3-methylimidazolium chloride ([BMIM]Cl), etc., on the resulted zeolite products using tetraethyl orthosilicate (TEOS), fumed silica and colloidal silica as the Si sources. The results showed that the morphology of the product zeolite can be tailored using appropriate ILs as a soft template and that anisotropic behavior can be obtained in zeolite catalysis. This talk will also present a core-shell zeolite that is suitable for use as an ethylene scavenger, which finds a great potential in the food storage and transporting industry.

本講演は、大学院総合化学院『化学研究先端講義（修士課程選択科目／総合化学特別研究第二（博士後期課程選択科目）』の一部として認定されています。

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