



Academic Lecture



State Key Laboratory
of Chemical Resource Engineering

Characterization of Metal-organic Frameworks:

What can we learn from solid-state NMR?

报告人: Prof. Yining Huang

(The University of Western Ontario)

时间: 2016-08-10 (周三) 上午10:30-12:00

地点: 无机楼107会议室



报告简介: Metal-organic frameworks (MOFs) are a novel type of porous materials with many current and potential applications. Solid-state NMR (SSNMR) spectroscopy is a powerful technique for MOF characterization. SSNMR provides nuclide-specific information on structure and dynamics, which is complementary to that obtained from X-ray diffraction. In this presentation, Prof. Huang will provide an overview on application of multinuclear (^1H , ^{13}C , ^2H , ^{17}O , ^{91}Zr , ^{25}Mg , ^{115}In , ^{67}Zn , ^{129}La , $^{47/49}\text{Ti}$) SSNMR to MOF characterization. The examples include locating CO_2 and H_2 binding sites; obtaining dynamic info of guest species; probing the local environment of a variety of metal centers; identifying chemically different species; resolving crystallographically non-equivalent sites in the unit cell; monitoring the phase transition as a function of temperature; exploring the origin of disordering around metal ions.

报告人简介: 黄忆宁教授，博士，加拿大西安大略大学化学系主任、加拿大UWO华人教授协会主席。 B.Sc., M.Sc., Peking University; Ph.D., McGill University; NSERC PDF, University of British Columbia. Prof. Huang's research is directed towards the investigations of various porous materials including zeolites, AlPO_4 based molecular sieves, metal-organic frameworks (MOFs) and mesoporous materials as well as pillared lamellar solids, layered metal phosphates and transition metal dichalcogenides. Current efforts emphasize vibrational and, in particular, solid-state NMR spectroscopy.