Furukawa Group Seminar

Date

May 29th, 2024
15:30–17:00

Venue

Kyoto University, KUIAS
iCeMS Main Building

2F Seminar Room
(#A207)

Registration

· Required from Google form
(https://forms.gle/bwf1SjG8Q3K8UVtw5)

· On-site only

Contact

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Evolution and Impact of Porous Materials in Environmental Remediation: From Zeolites to MOFs

Prof. Hossein Kazemian

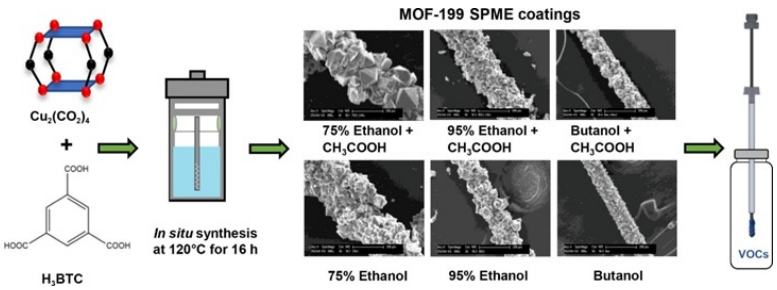
Materials Technology & Environmental Research Lab (MATTER)

University of Northern British Columbia, Canada

Abstract

Environmental pollution has been a persistent concern since the industrial revolution. Despite significant scientific and technological advancements, developing affordable yet effective materials for environmental remediation remains challenging. Zeolites and zeolitic-like materials such as MOFs have found widespread industrial applications, contributing to a significant portion of the global economy. Scientists have mimicked zeolite structure by leveraging organic linkers and metal clusters to synthesize a new class of organo-metallic materials called metal-organic frameworks (MOFs). These materials offer much larger surface areas and hold great potential for various applications as adsorbents and catalysts. MOF materials provide several paths to targeting different pollutants in aqueous environments.

In this talk, I explore some environmental applications of MOFs and MOF-based materials. I will discuss my research group's work on environmental applications of porous materials, ranging from zeolites to MOF, conducted over the past decade. Some of our work on developing intensified techniques for zeolite and MOF synthesis and their applications for removing a wide array of pollutants from contaminated air and water will be discussed.



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