הטכניון - מכון טכנולוגי לישראל

TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY

הפקולטה להנדסה כימית
ע"ש וולפסון
The Wolfson Department of Chemical Engineering

Wolfson Department of Chemical Engineering Seminar
Lecture Hall 6, Wolfson Department of Chemical Engineering,
Wednesday June 7th at 1:30pm

Dr. Zongsu Wei

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Technion – Israel Institute of Technology

Developing a hybrid iron oxyhydroxide agglomerates-ultrafiltration system for water purification

The increasing demand for clean water is a global problem. In order to meet the challenge in a sustainable manner, new technologies need to be developed. This talk will give examples for the rational design of a hybrid process that integrates membrane technology and iron oxyhydroxide agglomerates (IOAs) adsorption for water purification. The iron based materials provide an attractive means to remove hexavalent chromium, Cr(VI), in water and excellent compatibility with membrane processes. The talk will cover the characterization of IOAs in aqueous solution, as well as the interactions between Cr(VI) and IOAs surfaces. Experimental results will be compared to theoretical calculations to provide physicochemical insights into the Cr(VI) removal process by IOAs. Discussion will also include the development of IOAs-ultrafiltration system for an up-scale treatment of Cr(VI) contaminated water. Results of current work are important to understand the fundamental physical and chemical principles of Cr(VI) adsorption and separation processes enabling generalization of a hybrid technology for water purification.

Refreshments will be served at 13:15