

**Speaker: Dr. Lim Soh Fong**

**Title: Removal of Metal Ions by Magnetic Sorbents**

In this study, novel magnetic sorbents have been successfully fabricated to remove metal ions such as copper and arsenic. The fabrication parameters of the sorbents were studied and optimized by statistically based design of experiments via response surface model. Using the novel sorbents, adsorption of the metal ions onto the sorbents is elucidated thoroughly by qualitative and quantitative methods: experimental studies, instrumental analyses, mathematical modeling, and simulation. Complete characterizations of the sorbent have been conducted by BET, XRD, ICP, SEM, FT-IR, XPS, etc. Based on both experimental results and instrumental analyses, the adsorption mechanisms of copper and arsenic onto the sorbents have been proposed.