

# MSE-Colloquium@NTU

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## Coordination Assembly of Metal-Organic Materials: Metal-Organic Containers (MOCs) and Applications

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### Abstract

The use of metal-ligand interactions as a driving force to assemble metal-organic container (MOC) structures of varied shapes and sizes is emerging as an important supramolecular approach towards well-defined and ordered architectures containing internal cavities. Such systems have attracted considerable attention owing to their potential applications in molecular storage, recognition, delivery, catalysis, and use as nanoreactors.

We have long been involved in the design and synthesis of cyclic, tubular or cage-like MOCs through various rigid, semi-rigid or flexible ligands, with specific interest in coordination containers, installing redox- and photoactive functional sites and groups. This lecture will focus on the design and assembly of some MOCs from our group.

### Biography

Dr Su Chengyong is the Cheung Kong Chair Professor of Chemistry at Sun Yat-Sen University. He obtained his PhD in 1996 from Lanzhou University under the supervision of Professor Tan Min-Yu. In 2001, he joined Professor Wolfgang Kaim's group at Stuttgart University as an Alexander von Humboldt Research Fellow. He then moved to the University of South Carolina in 2002 to work with Professor Hans-Conrad zur Loye as a postdoctoral fellow. He has authored/co-authored over 200 peer reviewed papers, 8 review papers and 10 books/chapters, receiving > 16,000 citations with an H-index of 65.

His research is interdisciplinary and focuses on supramolecular coordination chemistry and materials relevant to clean environment and energy, including 1) Self-assembly of metal-organic frameworks (MOFs), metal-organic gels (MOGs) and metal-organic containers (MOCs), 2) Supramolecular catalysis in nanoscale coordination space, and 3) Supramolecular materials for adsorption/separation, luminescence and solar cells. He serves as a Regional Editor for Inorganic Chemistry Communications, co-editor of IUCrJ, and is a member of the advisory board of Journal of Materials Chemistry A.