

KIM Ji Man

Professor
Department of Chemistry



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Key Words nanostructured materials, mesoporous materials, catalysis, battery, fuel cell, cosmetics

Research Area Research interests of our group are various aspects of science and technology, ranging from fundamental research to possible industrial applications. Our researches are focused on design and synthesis of noble nanoporous materials, especially mesoporous materials, and nanostructured materials such as nanoparticles and nanowires. The nanoporous materials have attracted much attention in the fields of nano-chemistry, nanotechnology, and supramolecular chemistry due to their ordered nano-porosity (1~30nm). Generally, the nanoporous materials are synthesized by self-assembly and polymerization between organic pore generator and inorganic framework precursors. We have been developing new synthetic strategies for the materials in order to give new structures and functionalities. Applications of the nanoporous materials as the catalytic, electronic and energy materials are also our main interests.

Education

- 1995 - 1999 PhD Department of Chemistry, KAIST
- 1993 - 1995 MSc Department of Chemistry, KAIST
- 1986 - 1993 BSc Department of Chemistry, KAIST

Experience

- 2005 - present Professor, Department of Chemistry, Sungkyunkwan University
- 2001 - 2005 Assistant Professor, Department of Applied Chemistry, Ajou University
- 2000 - 2001 Senior Researcher, Korea Research Institute of Chemical Technology
- 1999 - 2000 Post-Doc., University of California, Santa Barbara

Position

- 2015 - present Dean, Department of Chemistry
- 2016 - present Chairman, Catalysis Division, The Korean Society of Industrial and Engineering Chemistry
- 2016 - present Chief Secretary, Catalysis Division, The Korean Institute of Chemical Engineering

Selected Publication

- "Nanotechnology enabled rechargeable Li-SO₂ battery: Another approach towards post lithium-ion battery system", *Energy & Environ. Sci.* 2015, 8, 3173-3180.
- "Silver nanowire-conducting polymer-ITO hybrids for flexible and transparent conductive electrodes with excellent durability", *ACS Appl. Mater. Interf.* 2015, 7, 15928-15934.
- "In Operando Monitoring of the Pore Dynamics in Ordered Mesoporous Electrode Materials by Small Angle X-ray Scattering", *ACS Nano*, 2015, 9, 5470-5477.
- "New Insight into the Reaction Mechanism for Exceptional Capacity of Ordered Mesoporous SnQ Electrode via Synchrotron-based X-ray Analysis", *Chem. Mater.*, 2014, 26, 6361-6370.
- "Metal-Organic Framework@Microporous Organic Network: Hydrophobic Adsorbents with a Crystalline Inner Porosity", *J. Am. Chem. Soc.*, 2014, 136, 6786-6789.
- "Microporous Organic Network Hollow Spheres: Useful Templates for Nanoparticulate CeO₄ Hollow Oxidation Catalysts", *J. Am. Chem. Soc.*, 2013, 135, 19115-19118.
- "Design of highly-nanodispersed Pd-MgO/SiO₂ composite catalyst with multifunctional activity for CH₄ reforming", *ChemSusChem*, 2012, 5, 1474-1481.
- "Spontaneous Phase Separation Mediated Synthesis of 3D Mesoporous Carbon with Controllable Cage and Window Size", *Adv. Mater.*, 2011, 23, 2357-2361.

Others

- H-index: 37 & Total Citation Number: 6529 (<http://www.researcherid.com/rid/A-4311-2013>)