



Application Govind K. Jha, Delhi Technological University, India

Abstract:

Exploring the immense importance of transition metal (Cu, Ni, Fe, Co, Mo, Zr, Cr) based metal organic framework (MOFs) materials with manageable structures, adjustable pore size and large surface area has drawn broad research for use in filtration, electrochemical detection, drug delivery, energy storage devices, sensing, imaging agents. This review describes the applications of MOFs based on transition metal with the main focus on their environmental and biomedical applications. Especially, the merits and advancement of transition metal-based MOFs material are considered. This review highlights the synthesis process of fabricating MOFs based materials for environmental and biomedical remediation. We then also represented the different kind of MOFs material employed in last 15 years including metal ions and organic ligands involved in fabrication for environmental and biomedical applications. The aim of this study mainly focusses on oil-water separation, water filtration, supercapacitors, solar cell, gas adsorption, drug delivery, drug storage and imaging agents in development of MOFs.

Biography:

Govind Kumar Jha, Worked as assistant professor in various places like University of Delhi, University of Kashmir, National Institute of Technology-Srinagar, India.

Speaker Publications:

1. "Molecular Dynamics Simulation of Diamond Nano Layer Growth on Diamond substrate by Physical Vapor Deposition"
2. "Size and shape dependent thermal properties of rutile TiO₂ nanoparticles: a molecular dynamics simulation study"
3. "Influence of point and linear defects on thermal and mechanical properties of germanium nanowire: A molecular dynamics study"
4. "Separation-Based Adsorption of H₂ from Binary Mixtures inside Single, Double, Triple Walled Boron-Nitride Nanotubes: A Grand-Canonical Monte-Carlo Study"
5. "Indirect exchange interaction between magnetic impurities in one-dimensional gapped helical states"

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