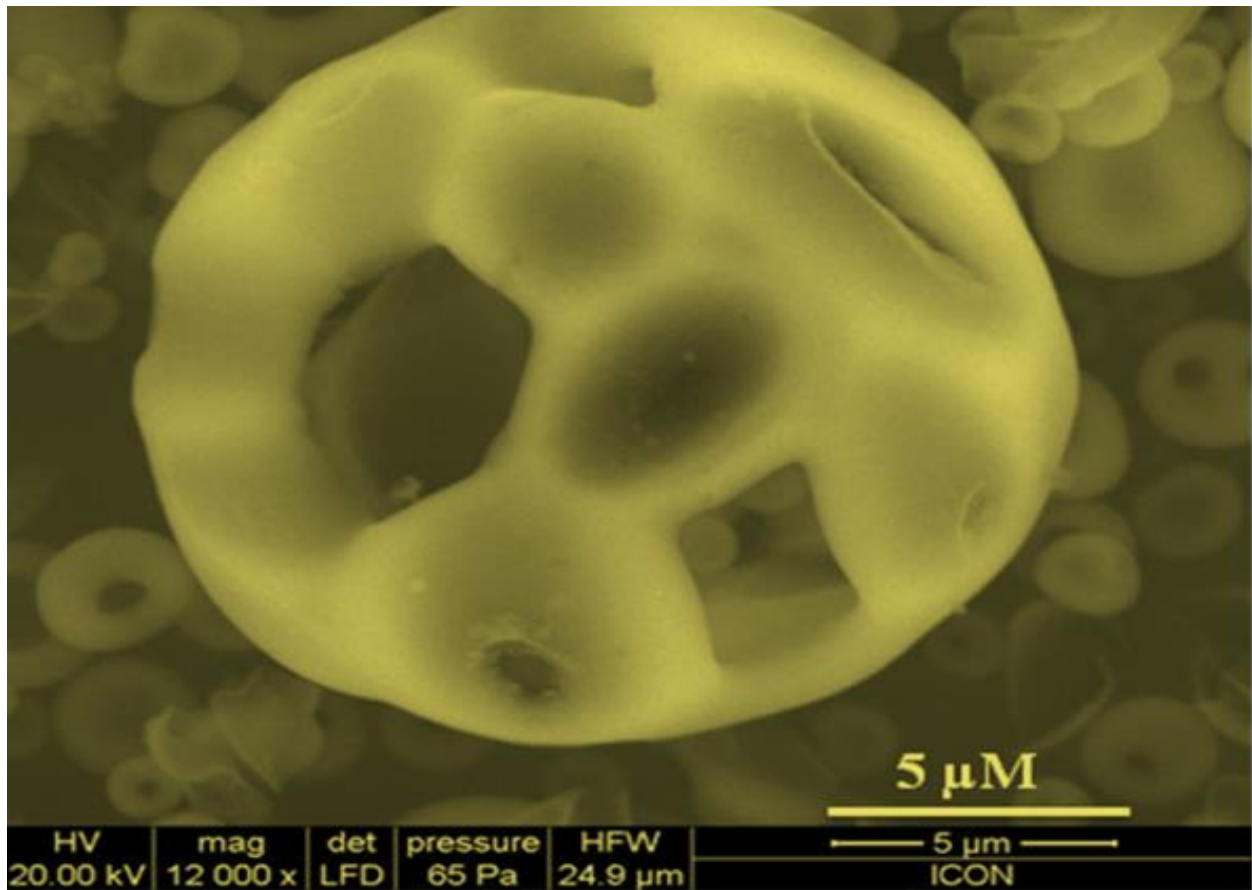


Adsorption of Elemental & Ionic Mercury from mercury contaminated effluent

Sorbent materials for mercury respirators cartridge containing materials *viz.*, humic acid coated Fe_3O_4 nano-particles, calcium alginate biocomposite, bio-hybrid of silica and microbial cells were synthesized and tested for their suitability for the adsorption of elemental and ionic mercury from contaminated effluents. From the experimental study it was found humic acid coated Fe_3O_4 nano-particles has absorption capacity of mercury is $343.71\mu\text{g/g}$ which about two times that of activated charcoal particles. Further experiments are being conducted with other materials. For purification of mercury contaminated liquid waste, a bio-hybrid material of nano silica and *S. cerevisiae* cells was synthesized, characterized and its mercury sorption capacity was found to be 185.19 mg/g .



SEM micrograph of bio-hybrid of nano silica -S. cerevisiae cells.