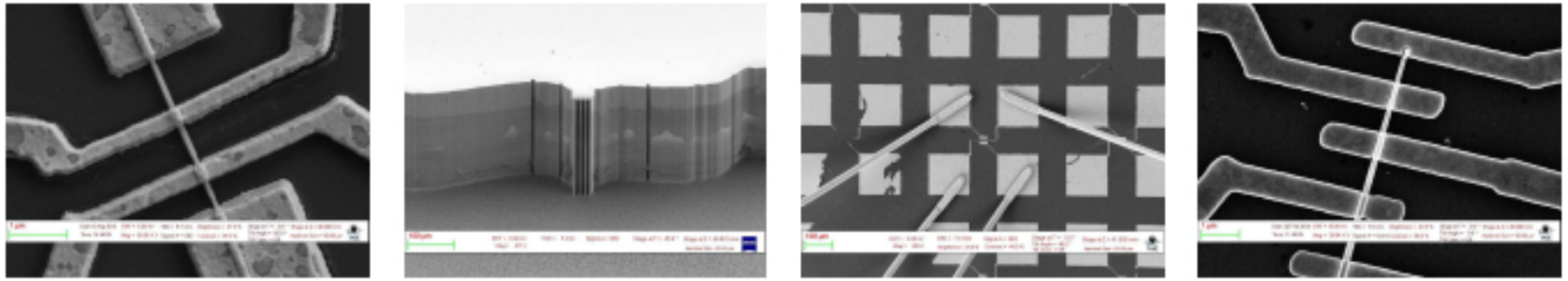
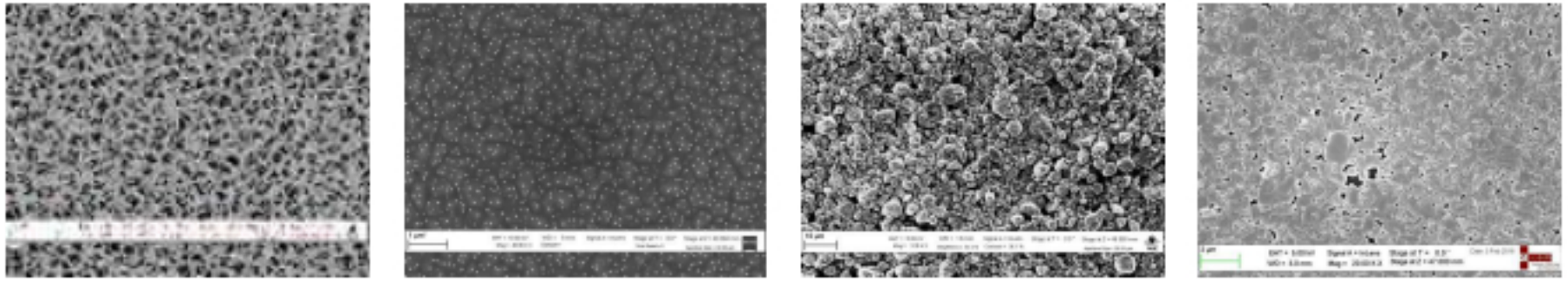
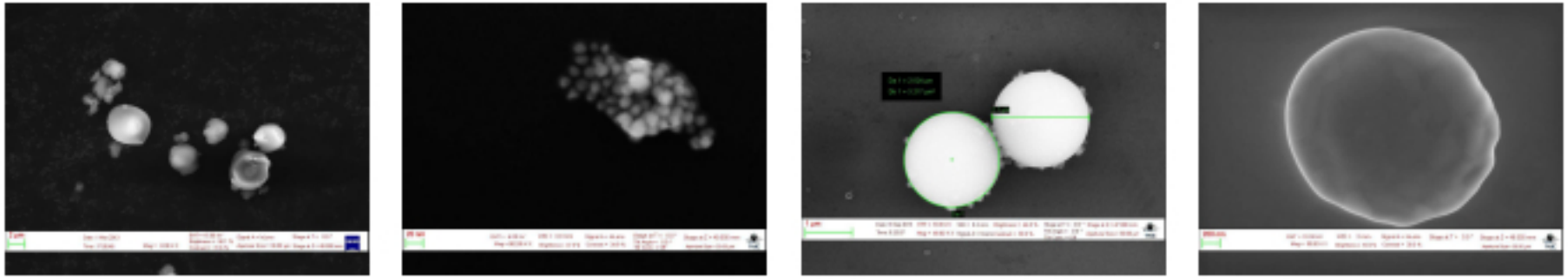


(a) High intra-class dissimilarity: The electron micrographs of the same nanomaterial (*MEMS* device) can exhibit a high degree of heterogeneity.



(b) High inter-class similarity: Electron micrographs across different nanomaterial categories (*listed from left to right as porous sponges, particles, powders, and films*) exhibit a noteworthy degree of similarity.



(c) Multi-spatial scales of patterns: The spatial heterogeneity of visual patterns in electron micrographs of *nanoparticles* is evident.