



Georgia Institute of Technology,
Materials Science and Engineering
Professor, 2001-present



Research Interests:

- Structure-Property-Processing Relationships in Ceramics, Polymers, Composites, Metals and Semiconductors. Thin Films and Nanocomposites
- Theory and Applications of Impedance and Dielectric Spectroscopy at all length scales
- Electromagnetic Properties for materials used in solar cells, displays and energy storage and generation
- Colloidal Synthesis of nanoparticles and their assembly.

Ph.D., Metallurgy and Materials Science, Columbia University, 1983

M.S., Metallurgy and Materials Science, Columbia University, 1979

B.S., Mathematics and English and French, Carroll College, 1976, 1978

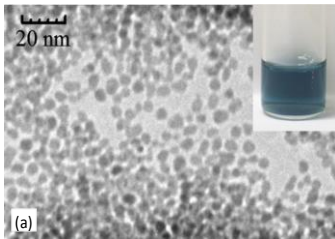


Fig. 1: Colloidal ITO nanoparticles TEM image and suspension

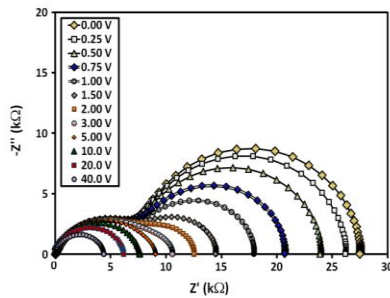


Fig. 2: Effect of applied dc bias on impedance spectra of SiC_w-Al₂O₃

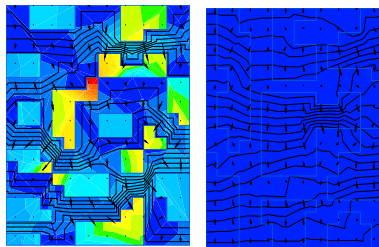


Fig. 4: Simulated FEM current paths in two composites containing same filler content

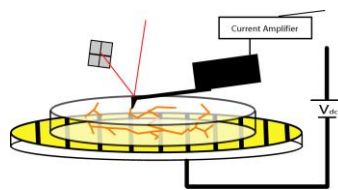


Fig. 5: Detection of percolating paths using Current-AFM

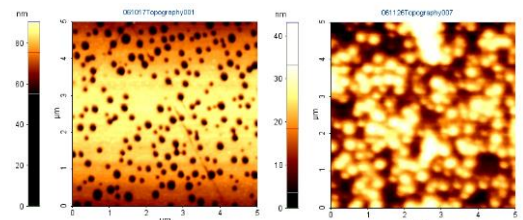


Fig. 3: Effect of etchant type on Ni-alloy microstructure

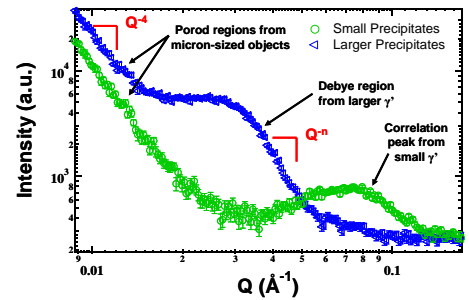


Fig. 6: SANS intensity vs Q for Ni-superalloy containing precipitates of different sizes

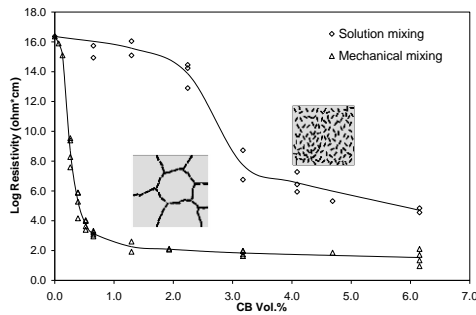


Fig. 7: Log resistivity percolation curves for polymer matrix composites made by two different methods

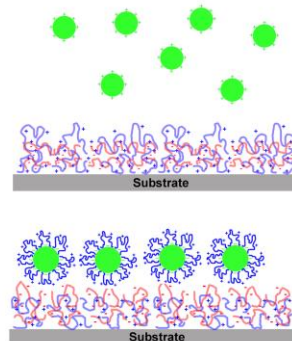


Fig. 8: Effect of PEI coating of ITO nanoparticles on their LbL assembly behavior

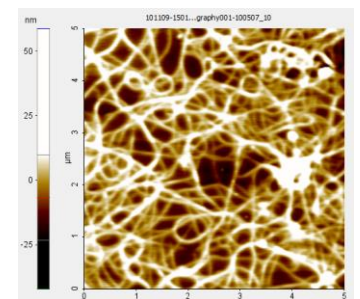


Fig. 9: Single wall carbon nanotube networks