

Expert Registry

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7. Brief account of your research interests with special focus on Nano Science and Technology (strictly within 300 words) :

I have extensive experience in Synthesis and Characterization of Nanomaterials. We mainly work on its electronic, magnetic, optical, chemical, mechanical, photo and thermoluminescence properties of these materials. We use various experimental techniques which include Optical and Magnetic Resonance spectroscopies such as various Photo-modulation experiments, Optical Absorption, Emission, Electron Spin Resonance (ESR), Nuclear Magnetic Resonance (NMR), Photo-Luminescence, thermoluminescence etc. X-ray diffraction (XRD), Scanning Electron Microscope (SEM), Infrared spectroscopy (IR), Low temperature resistivity, magnetic susceptibility as well as Colossal Magneto Resistance (CMR) and Giant Magneto Resistance (GMR) measurements down to liquid helium temperatures (4.2 K). We also work on polymer nanocomposite coatings for various applications such as hydrophobic, superhydrophobic and ice-repellent coatings etc. I have published several papers of about 140 in this field in reputed international journals.

8. Keywords related to your research interests (maximum 120, different lines separated by commas).

- (a) Nanophosphors,
- (b) Luminescent materials,
- (c) Nanocrystalline materials and coatings,
- (d) Photoluminescence
- (e) Ceramic materials,
- (f) Magnetic materials,
- (g) Glass
- (h) Electron Spin Resonance (ESR),
- (i) Advanced functional materials,
- (j) Superhydrophobic coatings,