

Organic Nanomaterials

- Polymers.
- Nanostructured polymers: copolymers, polymer blends, interpenetrating polymer networks, star polymers, hyperbranched polymers.
- Physical and chemical preparation methods for inorganic nanoparticles – properties of nanoparticles.
- Organic-inorganic nanocomposite materials: synthesis, up-scaling at industrial level, processing, properties.
- Selected applications of organic-inorganic nanocomposite materials: structural materials, packaging materials, biomedical applications.
- Electrical properties of organic materials, conducting nanocomposite materials, percolation phenomena.
- Applications of conducting organic materials: molecular electronics, photovoltaics, electromagnetic shielding.