Preface

Nanomaterials are entering more and more technical applications and their development and safe and reliable application requires sophisticated approaches. The disciplines involved span from classical engineering such as materials or mechanical to the classical disciplines of sciences such a physics, chemistry or biology. The entire route from synthesis/manufacturing over testing/predicting to application and disposal requires more and more multi-disciplinary approaches to take full advantage of these new materials. Depending on the application and the potential risks, other disciplines such a medical, dentistry or environmental are important. Once the development and testing phase is conquered, business and marketing are important for the introduction of a new nano-based material or application.

This topical volume of the Journal of Nano Research (JNR) covers a very broad cross-section of the manufacturing and physical behavior of nanomaterials that rely on solid and liquid diffusion processes. The materials covered range from carbon nanotubes (CNTs), nanoparticles and nanopowders, and nanoporous composites to graphene. The presented applications cover many different fields, one of them featured in a number articles is the surface improvement due to coatings and nanolayers.

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