Special Issue

New Perspectives in Ultra Precision Manufacturing and Micro-Nano Inspection Technology

Message from the Guest Editors

This Special Issue on "New Perspectives in Ultra Precision Manufacturing and Micro-Nano Inspection Technology" showcases the latest research and developments, highlighting pioneering concepts, methodologies, and practical applications. Key areas covered in this Special Issue include, but are not limited to, ultra-precision polishing, advanced materials, precision manufacturing techniques, computational methods and algorithms, ion beam polishing, magnetorheological finishing, ultra smooth, low damage, measurement and metrology, optical design, integrated optoelectronic devices, machine vision, and defect detection. We believe this collection of articles will be an invaluable resource for professionals seeking to advance the frontiers of ultra-precision manufacturing and micro-nano inspection technology. We hope it will inspire further innovation and foster collaboration among scientists, researchers, and engineers, ultimately leading to new perspectives and breakthroughs in this field. Both theoretical and experimental studies and comprehensive reviews and survey papers are welcome.

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Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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