

EDITORIAL

Welcome to MatSci Express

Dear Esteemed Authors and Readers,

Welcome to MatSci Express!!!

It is with great pleasure and enthusiasm that we present the inaugural issue of MatSci Express (MSE). MatSci Express (MSE) is a premier multidisciplinary journal committed to the rapid dissemination of groundbreaking research in the dynamic field of materials science. Our mission is to provide a robust platform for scientists, scholars, and researchers to showcase their cutting-edge discoveries and advancements.

MatSci Express (MSE) stands at the forefront of interdisciplinary collaboration, bringing together experts from various fields including science, engineering, and medicine. We publish original research articles, comprehensive reviews, and insightful communications, fostering collaboration and knowledge exchange across diverse disciplines. By uniting the expertise of materials scientists, physicists, engineers, ceramicists, chemists, metallurgists, theoreticians, biologists, medical scientists, and technocrats, we aim to foster collaboration and innovation across diverse disciplines. With a focus on both fundamental principles and practical applications, MSE explores the latest frontiers of advanced materials, driving innovation and progress in the field.

Since announcing this triumphant venture to the international scientific community, we have received overwhelmingly positive responses, which have spurred our endeavor to work with renewed vigor and bring forth this inaugural issue containing contributions by leading scientists in the field of advanced materials research and technology.

In this inaugural edition, we are proud to showcase five remarkable articles that epitomize innovation and excellence in materials science. Among them is a comprehensive review article entitled "Lanthanide Oxide Nanoparticles based Environmental Remediation" by Sushil Kumar et al., shedding light on the enhanced properties and effectiveness of nanotechnology-based materials in environmental pollutant detection and removal.

Additionally, we feature four original research articles, each offering unique insights and advancements in their respective domains. "Acoustic Whispering Gallery Modes in a Split Ring Resonator" by Nikos Aravantinos-Zafirios and Mihail M. Sigalas investigates resonant frequencies in split ring resonators, while "Enhanced Photocatalytic Degradation of Organic Pollutants Using Iron Lanthanum Oxide

Nanoparticles" by Sajid A. Ansari and Nazish Parveen explores the synthesis and performance of FeLO NPs in environmental remediation.

Furthermore, "Self-Assembled Organic Aerogel and Sponges for Rapid and Effective Absorption of Oil from Oil-Contaminated Soil Samples" by Yajvinder Saharan and Joginder Singh introduces an innovative method for oil spill cleanup using self-assembled materials. Lastly, "A CrO₂ and Out-of-Plane Silicene based Sub-10nm MTJ with perfect spin filtering efficiency and high tunnel magnetoresistance" by Gul Faroz Ahmad Malik delves into the properties of MTJs for high-performance memory applications.

We invite you to delve into these groundbreaking articles and explore the boundless possibilities that lie ahead in the dynamic field of materials science. As we embark on this exciting journey, we extend our sincere gratitude to the authors for their invaluable contributions and to the reviewers for their meticulous evaluation.

As can be seen from the published articles of this inaugural issue, MSE has an inherently interdisciplinary character and wide scope that incorporates a variety of topics spanning from fundamental research to practical applications in various research fields. Hence, future cutting-edge manuscripts that address the broad goal of MSE are cordially invited to be submitted and considered for publication. Together, let us advance the frontiers of materials science and contribute to a brighter future through scientific exploration and innovation.

The successful launch of MSE has become a reality thanks to the hard work performed by the entire MSE editorial family. Therefore, I would like to extend special thanks to all the Editors and Editorial Board Members.

Prof. Sotirios Baskoutas

Editor-in-Chief,

Department of Materials Science University of Patras, Greece.

Email: bask@upatras.gr

Prof. Ahmad Umar

Editorial Manager,

Department of Materials Science and Engineering
The Ohio State University, USA

Email: umar.20@osu.edu

ABOUT EDITOR-IN-CHIEF



Sotirios Baskoutas obtained his Ph.D. from the Physics Department of the University of Patras, Greece. He joined the Materials Science Department of the University of Patras in 2001, where he is currently Professor (Full). Dr. Baskoutas has visited and worked in several Universities and Research Institutes outside Greece, such as the Department of Physics, Universita di Roma La Sapienza (Italy), Department of Physics Fundamental y Experimental, University of Laguna, Tenerife (Spain), Free University of Brussels (Belgium), Research Institute of Solid State Physics and Optics, Budapest (Hungary), Institute for Microstructural Sciences, National Research Council of Canada, Ottawa (Canada), Max Planck Institute for Plasma Physics, Garching, Munich (Germany), INT Institute for Nanotechnology, Karlsruhe (Germany), Max Planck Institute for Solid State Research, Stuttgart (Germany), Department of Chemistry, University of Hamburg (Germany) and Russian-Armenian University, Yerevan (Armenia). His research interests are focused mainly in theoretical but also experimental studies in semiconductor nanostructures, with emphasis to their electronic and optical properties. Dr. Baskoutas has authored over 300 research articles in peer reviewed journals and books in the field of condensed matter physics and materials science with more than 8000 citations with h-index 47. In May 2021 the Academic Council of Russian-Armenian University (RAU), Yerevan, awarded him as Honorary Doctorate.

ABOUT EDITORIAL MANAGER



Prof. Ahmad Umar is at the forefront of research in Nanoscience and Nanotechnology, areas that explore materials at the nanoscale, between 1-100 nanometers. In simpler terms, he's working with incredibly tiny materials to address some of the most pressing challenges facing our environment and energy sectors. Whether it's developing sensors to detect pollutants, designing catalysts to facilitate cleaner chemical reactions, membranes for separation technologies, or creating advanced materials for renewable energy technologies like solar cells, supercapacitors, and batteries, Prof. Umar's work covers a broad spectrum of applications aimed at making our world cleaner and more sustainable.

The potential impact of his research cannot be overstated. By leveraging nanomaterials, which possess unique properties due to their small size, Prof. Umar is able to achieve remarkable results. These materials offer increased surface area, which translates to better performance in various applications. By harnessing the unique properties of nanomaterials, his work consistently outperforms conventional methods, offering superior solutions for environmental and energy challenges. For instance, his sensors are highly sensitive, capable of detecting even trace amounts of harmful gases/chemicals, while his energy devices exhibit superior efficiency and storage capacity compared to traditional alternatives. What truly excites Prof. Umar about his work is the constant drive for improvement. By utilizing nanomaterials, he's able to push the boundaries of what's possible, surpassing the limitations of current methods and materials. This not only leads to more effective solutions but also opens up new avenues for innovation and discovery.

Prof. Umar has made outstanding contributions and published 5 patents, over 720 original research, 55 review articles and 21 editorial articles in reputed international scientific journals, 30 book chapters, and contributed to hundreds of conference proceedings. Prof. Umar's works are well cited by a large number of scientists around the world (Citation: over 33000, h-index: 95, i10-index: 525), according to Google scholar; https://scholar.google.com/citations?user=_bNbebAAAAAJ&hl=en. Based on his scientific achievements, he has been recognized as Top 1% highly cited scientists in the world, according to the Stanford University ranking. He is one of the founders of Advanced Materials and Nano-Research Centre at Najran University and currently serving as a Director for STEM pioneers training lab at Najran University, Saudi Arabia. The most important achievements of his scientific career include his contribution to the world of science by editing world's first handbook series on "Metal Oxide Nanostructures and Their Applications" (5-volume set, 3,500 printed pages, www.aspbs.com/mona) and handbook series on "Encyclopedia of Semiconductor Nanotechnology" (7-volume set, 4,210 printed pages, www.aspbs.com/esn). He is the recipients of many International awards including "Young scientist award" by European Materials Research Society, France, Almarai- Innovative research (2013) and Almarai-Distinguished Scientist (2019) awards. He is actively contributing to the knowledge of Science by serving several Scientific Journals as Editors-in-Chief and Editors.