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TMS 2025
154th Annual Meeting & Exhibition

March 23–27, 2025
MGM Grand Las Vegas
Hotel & Casino
Las Vegas, Nevada, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2025 SYMPOSIUM:

ELECTRONIC, MAGNETIC, AND ENERGY MATERIALS

Functional Nanomaterials

Nanostructured materials comprise a diverse group of materials that possess emergent characteristics due to their tunable chemistry, reduced physical dimensions, and distinctive morphologies. Low-dimensional materials present promising prospects for advancements in technological frontiers that are crucial for the sustainable progress of society in the future. These frontiers include advanced environmental and healthcare technologies, nano-optoelectronic devices, and high-performance sensors, as well as sustainable energy generation and storage applications. The 2025 Symposium on Functional Nanomaterials will address all aspects of low-dimensional nanomaterials, encompassing: two-dimensional (2D), nanofilms, nanosheets, and monolayers, one-dimensional (1D) nanofibers, nanotubes, and nanowires, zero-dimensional (0D) nanoparticles and quantum dots, as well as their hierarchical assemblies, heterostructures, frameworks, and organic-inorganic hybrids. Along with sessions for conventional nanomaterials, focused sessions will be dedicated to unique design/synthesis/fabrication/manufacturing/characterization strategies, novel integration routes for emerging functionalities, and advanced device applications.

Examples of session topics include but are not limited to:
- Synthesis, assembly, manufacturing, and characterization of low-dimensional materials
- Engineering architectures and hierarchical multiscale structures comprised of low-dimensional materials and their heterostructures
- Design, fabrication, and measurements of high-performance functional devices based on nanomaterials
- Scalable processing/manufacturing (e.g., printing, lithography) on versatile substrates
- Fundamental studies of emergent properties of architected nanomaterials and instrumentation/methods for characterization
- Interrogation of low-dimensional materials and their fundamental properties via in situ, operando methods, and other emerging approaches
- Theoretical frameworks and computational/learning/data-intensive methods for modeling, discovering, understanding, and designing nanomaterials and their derivative systems with designer properties and performance

ORGANIZERS
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SYMPOSIUM SPONSORS
TMS Functional Materials Division, TMS Nanomaterials Committee

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QUESTIONS?
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