Special Issue

Nanomaterials Processing for High Performance Thin-Film Transistors

Message from the Guest Editors

Emerging display devices including flexible displays, wearable devices, disposable electronics, e-books, etc., have led to higher performance requirements for the core component: thin-film transistors (TFT). The next-generation TFTs must meet the requirements of high performance, long-term stability, low power consumption, low cost, etc., and the current low-temperature polysilicon and amorphous silicon-based technologies are obviously facing challenges. The introduction of nanomaterials—such as amorphous semiconductors, organic semiconductors, hybrid films, carbon nanotubes, two-dimensional materials such transition metal chalcogenides and perovskites—into TFTs as channel materials may circumvent some of these limitations. In addition, innovations in device architecture, such as vertical architecture, may also benefit the evolution of TFTs. We would like to invite you to contribute to this Special Issue, which aims to present the latest research breakthroughs in areas relevant to the development of nanomaterials processing for high performance thin-film transistors. Submitted manuscripts can include research articles, reviews, or perspective.

Guest Editors

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Message from the Editor-in-Chief

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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