

Special Issue

Advances in III-V Integration Materials and Devices

Message from the Guest Editor

Numerous III-V material-based devices have emerged in the past decade. Such devices have shown promising characteristics for energy-saving applications, such as very high speed and high power at high frequencies. Further devices, such as InGaAs FinFETs, are compatible with the established complementary metal oxide semiconductor (CMOS) process for low-power logic applications. In addition, high bandgap and high mobility GaN HEMT can be used for power amplifiers for mobile communication (5G) and SATCOM (millimeter wave band). High voltage GaN-HEMTs are gaining momentum for industrial power electronics applications. These III-V semiconductor devices improve the system performance because of their unique properties such as low effective mass, high mobility, direct bandgap and high saturation velocity. Integration of different III-V compound semiconductors (GaN, AlGaIn, GaAs, InGaAs, etc.) with silicon (Si) microelectronics covers a wide range of applications by removing the limitations of silicon technology. This Special Issue will address recent development in III-V integration materials and devices. Full papers, communications, and reviews are all welcome.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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