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# Novel 2D Materials for Nanoelectronic Devices

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Deadline for manuscript submissions:
**closed (1 March 2022)**

## Message from the Guest Editor

Dear Colleagues,

Two-dimensional (2D) materials are highly promising for future semiconductor electronics technology due to their unique structural, electronic, and transport properties. Since the discovery of graphene, dozens of new 2D materials have been reported experimentally and hundreds more predicted to exist by advanced ab initio theoretical calculations. The main motivation for this Special Issue is the search for 2D materials that could replace the conventional silicon–oxide–metal gate structure in future semiconductor chips.

This Special Issue is devoted to providing recent cutting-edge advances in experimental and theoretical research on nanoelectronic devices based on 2D materials beyond graphene. These include but are not limited to novel monoelemental 2D materials (phosphorene, silicene, arsenene, antimonene, etc.), transition metal dichalcogenides (TMDs), alloys and compounds (e.g., alloyed black arsenic phosphorus, AsP), and their heterostructures. The focus is on electronic and transport properties and their impact on the performance of conventional, tunneling, and other implementations of field effect transistors (FETs).

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## Message from the Editor-in-Chief

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