



## 2D Materials and Van der Waals Heterostructures: Physics and Applications

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### Message from the Guest Editor

Dear Colleagues,

The advent of graphene, and more recently of layered 2D materials, has opened new perspectives in electronics, optoelectronics, energy harvesting and sensing applications. Layered 2D materials can be fabricated with relatively inexpensive production methods, integrated into existing semiconductor technologies, and offer new physical, chemical and mechanical properties. Electrically they can behave as metals, semiconductors, insulators or even superconductors. Consisting of covalently bonded and dangling-bond free lattices, they can form heterojunctions with each other or with bulk materials, without the need of a close lattice matching. In these heterojunctions, the participant materials are held together by weak van der Waals forces, which do not introduce significant changes at the atomic scale and essentially maintain the original electronic structure of the materials.

For further reading, please follow the link to the Special Issue Website at:

[http://www.mdpi.com/journal/nanomaterials/special\\_issues/2d\\_](http://www.mdpi.com/journal/nanomaterials/special_issues/2d_)

Prof. Antonio Di Bartolomeo

*Guest Editor*





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