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Carbon-Based Electronic Materials

Guest Editor:

Dr. Sten Vollebregt
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Deadline for manuscript submissions:
closed (31 December 2022)

Message from the Guest Editor

Dear Colleagues,

The unique electrical properties of the large family of carbon allotropes, ranging from semi-metals to semiconductors and insulators, have sparked significant interest in the use of these materials for a wide range of electric applications. The large charge carrier mobility observed in both graphene and carbon nanotubes, together with the large maximum current density, makes them a promising candidate for electronic devices like field-effect transistors and interconnects. Diamond, on the other hand, is an excellent insulator but can also be used as a wide bandgap semiconductor and has, for instance, been considered for power electronics and qubits.

Besides their excellent electrical properties, the allotropes of carbon also have outstanding thermal, mechanical, and optical properties. Because of this, carbon-based electronic materials are of interest for a wide range of other electrical applications like sensors, flexible electronics, bioelectronics, and batteries, to name but a few.

Dr. ir. Sten Vollebregt
Guest Editor

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Message from the Editor-in-Chief

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