



Advanced Semiconductor Materials for Energy, Electronics and Sensors

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Message from the Guest Editors

With the development of the Internet of Things and electronic products, the number of sensors is growing explosively. At the same time, solving the energy problem caused by the growth of the number of these sensors has become one of the keys to sustainable development. In recent years, the development of advanced semiconductor materials is expected to solve related problems. For example, the development of two-dimensional (2D) semiconductor materials promotes the development of high-performance devices with low power consumption. On the other hand, since the semiconductor ZnO nanowires-based piezoelectric nanogenerator was proposed in 2006, the piezoelectric energy harvesting technologies have attracted remarkable attention due to their ability to directly convert small-scale mechanical vibrations into electricity. Then the development of the triboelectric nanogenerator and self-powered system is expected to become an effective means to solve the problem of power supplies in the Internet of Things. At the same time, semiconductor materials are also widely used in the field of new energy, such as photocatalysis, fuel cells and other fields.





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