Nanostructure is becoming more and more popular and increasingly important in high-performance sensors, not only because of the materials themselves but also the highly efficient transition of energy in the nanoscale. With the help of nanostructure, high sensitivity, and high selectivity, as well as high stability, may be achieved partly or completely in sensors.

This special issue focuses on state-of-the-art nanostructures and their applications in sensors, that is, the materials, fabrication methods, and high-performance sensors. In my mind, this special session is a suitable issue for celebrating the coming 30th anniversary of Sensors and Materials. All the papers were submitted by researchers working in related fields. In fact, the Editorial Department of Sensors and Materials and I have collected works on the current practice and the state of research in this topic with a MEMS background in China.

This special issue contains 7 papers categorized into biosensors, gas sensors, and inertial sensors, and, with great honor, a 30th anniversary commemorative article. The first five papers are related to the nanomaterials, not only transducers but also catalysts, that greatly affect the performance of sensors. The next two papers present how the nanogap affects the behaviors of inertial sensors.

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