Preface for Special Issue: Tsinghua-NTU Bilateral Workshop for Young Scientists

This special issue provides several selected peer-reviewed contributions presented at Tsinghua-NTU Bilateral Workshop for Young Scientists at Tsinghua University, Beijing on November 13th, 2016. The workshop was mainly focused on recent research progresses in nanoscience and optoelectronic materials achieved by researchers from Tsinghua University (THU) and Nanyang Technological University (NTU).

The Tsinghua-NTU Bilateral Workshop was organized and supported by the Key Lab of Organic Optoelectronics and Molecular Engineering, Department of Chemistry, Tsinghua University as well as *Science China Materials*. During the workshop, 21 distinguished researchers from THU, NTU, National Center for Nanoscience and Nanotechnology and National University of Singapore gave impressive oral presentations. Divided into four sessions, the workshop covered diverse areas including two-dimensional materials, metal-organic frameworks, electrochemical storage and conversion, optoelectronic materials, sensor design and fabrications, etc.

As two research-intensive universities, THU and NTU run high on different university ranking lists. Especially, researches of nanoscience and related areas are burgeoning in recent years. Moreover, the mutual cooperation and talent exchanges have experienced a rapid growth. Through the workshop, the share and discussion of latest results and state-of-the-art overview between THU and NTU researchers will be instructive and significant.

The special issue contains four reviews and four articles. Prof. Yingying Zhang and co-workers review the applications of carbon materials in flexible and wearable sensors. Prof. Qingfeng Yan and co-workers report the progress of organic-inorganic hybrid halide perovskite single crystal. Prof. Qichun Zhang and co-workers summarize the recent progress on intramolecular charge-transfer compounds as photoelectric active materials. Prof. Yan He and co-workers discuss the collective motion of bacteria and their dynamic assembly behavior. Prof. Qiangbin Wang's group and Prof. Xin Wang's group reported their recent findings on electrocatalysts for hydrogen evolution reaction and oxygen reduction reaction, respectively. Prof. Lianhui Wang and co-workers demonstrate the synthesis of novel Au nanostructures and their SERS application. Prof. Hua Zhang and co-workers report a hybrid aerogel of graphene and MoS₂ as multifunctional sorbents for water remediation.

We are very grateful to all the contributors and staff members for the publication of this special issue in *Science China Materials*. We sincerely hope that readers will get enlightening ideas from this issue for pursuing their research breakthroughs.

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