Professor Sun Baoquan

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Academic Qualification:

- Ph.D. in Analytical Chemistry, Tsinghua University, 2002
- B.S. in Chemical Engineering, Qingdao University of Science and Technology, 1997

Teaching Area

- Renewable Materials and Device
- Physics of Photovoltaic Device

Research Area

- Flexible electronics, conducting ink
- Charge separation and transport in organic/inorganic hybrid composites.
- Fabrication and characterization of solution-processed light-emitting diodes and solar cells, thin film transistor.
- Optoelectronic properties of organic/nanostructured semiconductor devices.
- Interface/surface chemistry and physics of organic/inorganic semiconductor.

Working Experience

- Professor in Macau University of Science and Technology, Macau, China, 2021-Present
- Professor in Institute of Functional Nano & Soft Materials (FUNSOM), Soochow University, China, 2009-Present
- Research Scientist, Los Alamos National Laboratory, NM, USA 2007-2009
- Research Associate, Cavendish Laboratory, Cambridge University, UK, 2002-2007

Academic Publication (selected)

- Wu, T.; Li, J.; Zou, Y.; Xu, H.; Wen, K.; Wan, S.; Bai, S.; Song, T.; McLeod, J. A.; Duhm, S.; Gao, F.; **Sun, B.**, High-Performance Perovskite Light-Emitting Diode with Enhanced Operational Stability Using Lithium Halide Passivation. *Angewandte Chemie International Edition* 2020, 59 (10), 4099-4105.
- Qin, Y.; Wang, Y.; Sun, X.; Li, Y.; Xu, H.; Tan, Y.; Li, Y.; Song, T.; **Sun, B.**, Constant Electricity Generation in Nanostructured Silicon by Evaporation-Driven Water Flow. *Angewandte Chemie International Edition* 2 2020, 59 (26), 10619-10625.
- Liu, Y.; Li, Y.; Wu, Y.; Yang, G.; Mazzarella, L.; Procel-Moya, P.; Tamboli, A. C.; Weber, K.; Boccard, M.; Isabella, O.; Yang, X.; **Sun, B.**, High-Efficiency Silicon Heterojunction Solar Cells: Materials, Devices and Applications. *Materials Science and Engineering: R: Reports* 2020, 142, 100579.
- Liu, Y.; Cai, L.; Xu, Y.; Li, J.; Qin, Y.; Song, T.; Wang, L.; Li, Y.; Ono, L. K.; Qi, Y.; **Sun, B.**, In-situ passivation perovskite targeting efficient light-emitting diodes via spontaneously formed silica network. *Nano Energy* 2020, 78, 105134.
- Yuan, Z.; Miao, Y.; Hu, Z.; Xu, W.; Kuang, C.; Pan, K.; Liu, P.; Lai, J.; **Sun, B.**; Wang, J.; Bai, S.; Gao, F., Unveiling the synergistic effect of precursor stoichiometry and interfacial reactions for perovskite light-emitting diodes. *Nature Communications* 2019, 10 (1), 2818.
- Wu, C.; Wu, T.; Yang, Y.; McLeod, J. A.; Wang, Y.; Zou, Y.; Zhai, T.; Li, J.; Ban, M.; Song, T.; Gao, X.; Duhm, S.; Sirringhaus, H.; **Sun, B.**, Alternative Type Two-Dimensional-Three-Dimensional Lead Halide Perovskite with Inorganic Sodium Ions as a Spacer for High-Performance Light-Emitting Diodes. *ACS Nano* 2019, 13 (2), 1645-1654.
- Tan, Y. S.; Li, R. Y.; Xu, H.; Qin, Y. S.; Song, T.; **Sun, B**. Q., Ultrastable and Reversible Fluorescent Perovskite Films Used for Flexible Instantaneous Display. A*dvanced Functional Materials* 2019, 29 (23), 1900730.
- Liu, Y.; Cheng, P.; Li, T.; Wang, R.; Li, Y.; Chang, S. Y.; Zhu, Y.; Cheng, H. W.; Wei, K. H.; Zhan, X.; **Sun, B.**; Yang, Y., Unraveling Sunlight by Transparent Organic Semiconductors toward Photovoltaic and Photosynthesis. *ACS Nano* 2019, 13 (2), 1071-1077.

Professional Society Membership

- Advisory Editorial Board Member