

NANO KOREA 2020

July 1~3, KINTEX, Korea

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EDUCATION

City University of Hong Kong	Ph.D	Physics and Materials Science	2014
Hong Kong Baptist University	MS	Analytical Chemistry	2010
Shanghai Normal University	BS	Applied Chemistry	2009

PROFESSIONAL ACTIVITIES

- Reviewer *Science, Nature Communications, Advanced Materials, Nano Letters, ACS Nano, Advanced Functional Materials, Advanced Science, Small etc.*

AWARD AND HONORS

- 2015 Finalist of Hong Kong Young Scientist Award
- 2014 Outstanding Research Thesis Award, Chow Yei Ching School of Graduate Studies Scholarships
- 2013 First Class of Student Research Excellence Awards, Outstanding Academic Performance Award, Research Tuition Scholarships for Research Degree Students
- 2012 Research Tuition Scholarships for Research Degree Students
- 2011 Outstanding Academic Performance Award, Research Tuition Scholarships for Research Degree Students
- 2010 Merit Scholarship of Hong Kong Baptist University

MAIN SCIENTIFIC PUBLICATION

- Y. Zhai, X. Yang, F. Wang,* Z. Li, G. Ding, Z. Qiu, Y. Wang, Y. Zhou* and S.-T. Han,* Infrared-Sensitive Memory Based on Direct-Grown MoS₂-Upconversion-Nanoparticle Heterostructure, *Adv. Mater.* 2018, 30, 1803563.
- Z. Lv, Y. Zhou,* S. -T. Han* and V. A. L. Roy,* From biomaterials-based data storage to bio-inspired artificial synapse, *Mater. Today* 2018, 21, 537.
- L. Hu, J. Yuan, Y. Ren, Y. Wang, J.-Q. Yang, Y. Zhou, Y.-J. Zeng,* S.-T. Han* and S. Ruan,* Phosphorene/ZnO Nano-Heterojunctions for Broadband Photonic Nonvolatile Memory Applications, *Adv. Mater.* 2018, 30, 1801232.

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- Y. Wang, Z. Lv, Q. Liao, H. Shan, J. Chen, Y. Zhou,* L. Zhou, X. Chen, V. A. L. Roy,* Z. Wang, Z. Xu, Y.-J. Zeng and S.-T. Han,* Synergies of Electrochemical Metallization and Valance Change in All-Inorganic Perovskite Quantum Dots for Resistive Switching, *Adv. Mater.* 2018, 30, 1800327.
- Y. Wang, Z. Lv, J. Chen, Z. Wang, Y. Zhou,* L. Zhou, X. Chen and S.-T. Han*, Photonic Synapses Based on Inorganic Perovskite Quantum Dots for Neuromorphic Computing, *Adv. Mater.* 2018, 30, 1802883.
- X. Chen, Y. Zhou,* V. A. L. Roy* and S. -T. Han,* Evolutionary Metal Oxide Clusters for Novel Applications: Toward High-Density Data Storage in Nonvolatile Memories, *Adv. Mater.* 2018, 30, 1703950.
- S.-T. Han, H. Peng, Q. Sun, S.Venkatesh, K.-S. Chung, S. C. Lau, Y. Zhou and V. A. L. Roy, An Overview on the Development of Flexible Sensors, *Adv. Mater.* 2017, 29, 1700375.
- Y. Ren, J.-Q. Yang, L. Zhou, J.-Y. Mao, S.-R. Zhang, Y. Zhou* and S.-T. Han*, Gate-Tunable Synaptic Plasticity through Controlled Polarity of Charge Trapping in Fullerene Composites, *Adv. Funct. Mater.* 2018, 28, 1805599.
- G. Ding, Y. Wang, G. Zhang, K. Zhou, K. Zeng, Z. Li, Y. Zhou,* C. Zhang, X. Chen and S.-T. Han,* 2D Metal-Organic Framework Nanosheets with Time-Dependent and Multi-Level Memristive Switching, *Adv. Funct. Mater.* 2019, 29, 1806637.
- C. Zhang, W. B. Ye, K. Zhou, H.-Y. Chen, J.-Q. Yang, G. Ding, X. Chen, Y. Zhou,* L. Zhou, F. Li and S.-T. Han,* Bio-inspired Artificial Sensory Nerve based on Nafion Memristor, *Adv. Funct. Mater.* 2019, 29, 1808783.
- Z. Lv, M. Chen, F. Qian, V. A. L. Roy,* W. Ye, D. She, Y. Wang, Z.-X. Xu, Y. Zhou* and S.-T. Han,* Mimicking Neuroplasticity in a Hybrid Biopolymer Transistor by Dual Modes Modulation, *Adv. Funct. Mater.* 2019, 29, 1902374.
- Y. Ren, X. Yang, L. Zhou, J.-Y. Mao, S.-T. Han* and Y. Zhou,* Recent Advances in Ambipolar Transistors for Functional Applications, *Adv. Funct. Mater.* 2019, 29, 1902105.
- L. Zhou, S. Yang, G. Ding,* J.-Q. Yang, Y. Ren, S.-R. Zhang, J.-Y. Mao, Y. Yang, Y. Zhou* and S.-T. Han,* Tunable Synaptic Behavior Realized in C3N Composite based Memristor, *Nano Energy* 2019, 58, 293.
- H. Li, X. Jiang, W. Ye, H. Zhang, L. Zhou, F. Zhang, D. She, Y. Zhou* and S.-T. Han,* Fully Photon Modulated Heterostructure for Neuromorphic Computing, *Nano Energy* 2019, 65, 104000.

RESEARCH INTERESTS

- Flash memory & resistive random access memory
- Synapse & neuromorphic computing
- Flexible, stretchable and wearable electronics