

## JAHANGEER KHAN

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### 1 Professional Experience

- 10/2024 – to date Marie Sklodowska-Curie Action (MSCA) Co-fund Post doctoral Researcher under, Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic.
- 08/2022–09/2024 Assistant professor, Higher Education Department, Khyber Pakhtunkhwa, Pakistan.
- 10/2018–9/2021 Postdoctoral Researcher, Wanli Ma Group, FUNSOM, Soochow University, China.
- 08/2012–08/2022 Lecturer, Higher Education Department, Khyber Pakhtunkhwa, Pakistan (**on Extra Ordinary Leave** 09/2015-01/2021).
- 11/2007–08/2012 Lecturer, Federal Directorate of Education, Islamabad, Pakistan.

### 2 Education

- 2015 – 2018 Ph.D., Wuhan National laboratory for Optoelectronics (WNLO), Huazhong University of Science and Technology, Wuhan City, China.
- 2011 – 2014 M.S., Basic & Applied Sciences, International Islamic University Islamabad, Pakistan.
- 2005 – 2007 M.Sc., Physics Department, Gomal University, Pakistan.

### 3 Publications and Citations

S. No	Citation Metrics (30/08/2024)	Google Scholar
1	Sum of the Time Cited	1950
2	h-index	17
3	i 10-index	17

17. Ihsan Ullah, Hamed Saghaei, [Jahangeer Khan](#), Said Karim Shah “The role of plasmonic metal-oxides core-shell nanoparticles on the optical absorption of perovskite solar cells.” *Optical and Quantum Electronics*. 54:675, 2022.

16. [Jahangeer Khan](#), Ihsan Ullah and Jianyu Yuan “CsPbI<sub>3</sub> Perovskite Quantum Dot Solar Cells: Opportunities, Progress and Challenges, *Materials Advances*. 2022

15. Xiaokun Yang, Ji Yang, [Jahangeer Khan](#), Hui Deng, Shengjie Yuan, Jian Zhang, Yong Xia, Feng Deng, Xue Zhou, Farooq Umar, Zhixin Jin, Haisheng Song\*, Chun Cheng\*, Mohamed Sabry, Jiang Tang.

“Hydroiodic acid additive enhanced the performance and stability of PbS-QDs solar cells via suppressing hydroxyl ligand”, **Nano-Micro Letters** 12(1), 1-12, 2020.

14. Jahangeer Khan, Xuliang Zhang, Jianyu Yuan, Yao Wang, Guozheng Shi, Robert J. Patterson, Junwei Shi, Xufeng Ling, Long Hu, Tom Wu, Songyuan Dai, and Wanli Ma “Tuning the Surface-Passivating Ligand Anchoring Position Enables Phase Robustness in CsPbI<sub>3</sub> Perovskite Quantum Dots Solar Cells, **ACS Energy Letts.** 5(10), 3322–3329, 2020.

13. Farooq Umar, Jian Zhang, Zhixin Jin, Ishaq Muhammad, Xiaokun Yang, Hui Deng, Khan Jahangeer, Qingsong Hu, Haisheng Song,\* and Jiang Tang “ Dimensionality controlling of Cs<sub>3</sub>Sb<sub>2</sub>I<sub>9</sub> for Efficient All-Inorganic Planar Thin Film Solar Cells by HCl-Assisted Solution Method, **Advanced Optical Materials.** 7(5), 1801368, 2019.

12. Muhammad Ishaq, Hui Deng, Shengjie Yuan, Huan Zhang, Jahangeer Khan, Umar Farooq, Haisheng Song,\* and Jiang Tang “Efficient Double Buffer Layer Sb<sub>2</sub>(Se<sub>x</sub>S<sub>1-x</sub>)<sub>3</sub> Thin Film Solar Cell Via Single Source Evaporation” **Solar RRL**,(2(10) 1800144, 2018.

11. Hui Deng, Shengjie Yuan, Xiaokun Yang, Jian Zhang, Jahangeer Khan, Yang Zhao, Muhammad Ishaq, Wanneng Ye, Yi-Bing Cheng, Haisheng Song\*, Jiang Tang\* “High-throughput method to deposit continuous composition spread Sb<sub>2</sub>(Se<sub>x</sub>S<sub>1-x</sub>)<sub>3</sub> thin film for Photovoltaic application,” **Progress in Photovoltaic**, Res Appl. 26(4), 281-290, 2018.

10. Manlin Tan, Chao Hu, Yang Lan, Jahangeer Khan, Hui Deng, Xiaokun Yang, Peixiang Wang, Xiangxiang Yu, Jianjun Lai, and Haisheng Song\*. “2D Lead Dihalides for High-Performance Ultraviolet Photo detectors and their Detection Mechanism Investigation” **Small** 13 (47). 1702024, 2017.

9. Shengjie Yuan, Hui Deng, Xiaokun Yang, Chao Hu, Jahangeer Khan, Wanneng Ye, Jiang Tang, and Haisheng Song. “Post surface Selenization for High Performance Sb<sub>2</sub>S<sub>3</sub> Planar Thin Film Solar Cells” **ACS Photonics** 4 (11), 2862-2870. 2017.

8. Jian Zhang, Ying Yang, Hui Deng, Umar Farooq, Xiaokun Yang, Jahangeer Khan, Jiang Tang, and Haisheng Song\*. “High Quantum Yield Blue Emission from Lead-Free Inorganic Antimony Halide Perovskite Colloidal Quantum Dots” **ACS Nano** 11 (9), 9294-9302, 2017.

7. W Ahmad, Jahangeer Khan, Guangda Niu\* and Jiang Tang. “Inorganic CsPbI<sub>3</sub> Perovskite-Based Solar Cells: A Choice for a Tandem Device” **Solar RRL** 1 (7), 1700048, 2017.

6. SK Shah, Jahangeer Khan et al. Optimization of active-layer thickness, top electrode and annealing temperature for polymeric solar cells **AIMS MATERIALS SCIENCE** 4 (3), 789-799, 2017.

5. Xiaokun Yang, Long Hu, Hui Deng, Keke Qiao, Chao Hu, Zhiyong Liu, Shengjie Yuan, Jahangeer Khan, Dengbing Li, Jiang Tang, Haisheng Song\*, Chun Cheng. “Improving the Performance of PbS Quantum Dot Solar Cells by Optimizing ZnO Window Layer” **Nano-Micro Letters** 9 (2), 1-10, 2017.

4. Jahangeer Khan, Xiaokun Yang, Keke Qiao, Hui Deng, Jian Zhang, Zhiyong Liu, Waqar Ahmad, Jihong Zhang, Dengbing Li, Huan Liu, Haisheng Song,\* Chun Cheng\* and Jiang Tang. “Low-temperature-processed SnO<sub>2</sub>-Cl for efficient PbS quantum-dot solar cells via defect passivation” **Journal of Materials Chemistry A** 5 (33), 17240-17247, 2017.

3. Keke Qiao, Yulin Cao,\* Xiaokun Yang, Jahangeer Khan, Hui Deng, Jian Zhang, Umar Farooq, Shengjie Yuan and Haisheng Song. “Efficient interface and bulk passivation of PbS quantum dot infrared photo detectors by PbI<sub>2</sub> incorporation” **RSC Advances** 7 (83), 52947-52954, 2017.

2. Chao Hu, Dongdong Dong, Xiaokun Yang, Keke Qiao, Dun Yang, Hui Deng, Shengjie Yuan, Jahangeer Khan, Yang Lan, Haisheng Song,\* and Jiang Tang. “Synergistic Effect of Hybrid PbS Quantum Dots/2D-

WSe<sub>2</sub> Toward High Performance and Broadband Phototransistors” **Advanced Functional Materials** 27 (2), 1603605, **2017**.

1. Waqar Ahmad, Majid Raissan Al bahrani, Zhichun Yang, Jahangeer Khan, Wenkui Jing, Fan Jiang, Liang Chu, Nishuang Liu, Luying Li & Yihua Gao\*. “Extraction of Nano-silicon and activated carbons simultaneously from rice husks by green process and their synergistic catalytic effect in counter electrodes of dye-sensitized solar cells” **Scientific Reports** |6 (1), 1-11, **2016**.

### **Conferences/Seminar**

1. Invited talk “Ambient Stability of CsPbI<sub>3</sub> CQDs Solar Cells at (ICAESCT-2023), GIK Institute, Swabi, Pakistan.

2. Attend the International Scientific Spring (ISS)-2015 at National Centre for Physics, Islamabad City, Pakistan.

### **5 Fellowships/Awards**

2016 Research grant awarded by HEC Pakistan for MS research

2015 Graduate Student Fellowship (PhD) awarded by CSC–China Scholarship Council, China

2017 3rd Position in Emerging PhD scholar’s competition (2017) at WNLO, HUST

2018 Academic Excellent Award in 2018 awarded by HUST

2018 Honorary International Graduate Award in 2018 awarded by HUST

### **6 Research Collaboration**

1. Established research collaboration between GIK Institute of Engineering and Technology, Pakistan and FUNSOM, Soochow University, China.

2. Participate as a post-Doc researcher in the joint project between Sino-Pak “*Towards Efficient and Large-scale Quantum Dots Solar Cells*”

3. Research collaboration with

a. Prof. Song Hai Shen, WNLO, HUST, China, Email: [songhs-wnlo@mail.hust.edu.cn](mailto:songhs-wnlo@mail.hust.edu.cn)

b. Prof. Zeke Liu, FUNSOM, Soochow University, China, Email: [zkliu@suda.edu.cn](mailto:zkliu@suda.edu.cn)

### **7 Supervising and Mentoring Activities**

1. Guided fresh MS/PhD students about QDs synthesis and device fabrication during PhD and Post-Doc

2. Supervise undergraduate students in Parent department (HED)

### **8 Computer Skills**

1. Scientific Application. EndNote

2. Technical Drawing. Origin8, Adobe illustrator, Chemdraw, Peak fitting, JD

3. Office Applications. Microsoft (MS) Word, MS Excel, MS Power Point Presentation, MS Project