

MENGLEI HU

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linkedin

SUMMARY

- Interdisciplinary scientist with skills and experience in material science, nano technology, computational material science
- Led collaborative projects, resulting in 4 peer-reviewed publications, including 1 first-authored publications as back cover of the journal
- Deep understanding of nano devices fabrication and characterization, data analysis, and technical writing
- Self-motivated, problem-solving and collaborative scientist with excellent communication skills

TECHNICAL SKILLS

- **Computer skill:** Python, Shell script, Linux system operation, operation super computer HPC
- **Nano fabrication:** Perovskite fabrication, quantum dots fabrication, organic LED fabrication, experiment in glove box
- **Material characterization:** XRD, TEM, SEM
- **First principle calculation:** VASP, Material Studio, VESTA, Quantum-espresso
- **Chemistry:** Organic fabrication, Infrared spectrum analysis
- **Physics:** Solid state physics, Quantum mechanics

RESEARCH EXPERIENCE

Southern University of Science and Technology

Lab Assistant

2018 to 2019

- Research on quantum LED and enhance its stability, know the basic knowledge in lab to use hot-inject method to fabricate quantum dot
- Material characterization for the devices material that our group fabricated
- Responsible for designing experiments, analysis data then write report
- This project led to the submission of 2 publications

The Chinese University of Hong Kong, Shenzhen

Undergraduate Research Assistant

June 2017 to May 2019

- Research on the chirality of QDs with a new phase diagram
- Compute and simulate for new material that have direct band gap by first principle calculation
- Learn material simulation software such as VASP, Material Studio, Gassuian View
- These projects led to the submission of 1 publication

EDUCATION

- PhD, Electrical and Computer Engineering, University of British Columbia, 2019-now
- BS, New Energy Science and Technology, The Chinese University of Hong Kong, Shenzhen, 2015-2019

TEACHING AND MENTORING EXPERIENCE

- 2018 - Private tutor for high school student in Physics and Math

AWARDS

- Entry Scholarship for 4 years 2015-2019
- National Encouragemen Scholarship 2018 President's Academic Excellence PhD Award 2020

PUBLICATIONS

- **Hu, M.**; Wang, Z.; Xu, Y.; Liang, J.; Li, J.; Zhu, X., fvs-Si48: a direct bandgap silicon allotrope. Physical Chemistry Chemical Physics 2018. (As back cover)
- Xu, Y.; **Hu, M.**; Wang, Z.; Liang, J.; Li, J.; Zhu, X.; Wang, M., A New Metallic Porous Carbon Phase tPC12 with an sp2-sp3 Bonding Network: A First-Principle Calculation. Chemistry Select 2018, 3 (28), 8402- 8406.
- Li, J., **Hu, M.**, Wang, Z., Lu, Y., Wang, K., Zhu, X. (2019). The Scaling of Ligand Concentration and Soret Effect Induced Phase Transition in CsPbBr3 Perovskite Quantum Dots. Journal of Materials Chemistry A.

OTHER SKILLS

Software Latex, Microsoft Word, Excel, and PowerPoint

Languages English: professional proficiency. Mandarin: native.