

Xiaoqi Zheng

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EDUCATION

ShanghaiTech University

Expected in June 2019

B.Eng in Materials Science and Engineering, School of Physical Science and Technology.

Overall GPA: 3.75/4.00 | Major GPA: 3.93/4.00 | Rank: 5/49

AWARDS & HONORS

- Dean's Scholarship, 2016-2017, top ranking 3–7%
- Study Abroad scholarship of ShanghaiTech University, 2017
- Outstanding Student of ShanghaiTech University, 2016-2017
- Outstanding Student of ShanghaiTech University, 2015-2016

STANDARDIZED TESTS

GRE Total 326, Verbal 156, Quantitative 170, Analysis Writing 3.5

TOEFL iBT Total 100, Speaking 23, Reading 28, Listening 25, Writing 24

RESEARCH PROJECTS

Research on New Perovskite Materials

2017/04–2018/07

Bo-Lin Lin Research Group, ShanghaiTech University

Advisor: Prof. Bo-Lin Lin

- Synthesis and characterization of heterovalent-doped 2D perovskites
- Fundamental discoveries of the presence of interfacial-layered and middle-layered Bi^{3+} sites, positive correlation between the layer number and the doping-level, and enhanced light-absorbing ability upon Bi^{3+} doping
- Systematic experimental investigations of the layer number and the doping-level effects on photophysical behaviors and material stabilities along with DFT calculations

Research on Olympic Games by Web Scraping

2017/11–2017/12

Independent research

- Scraping the information of all past Olympic Games using Python (Beautiful Soup)
- Building a K-means clustering to investigate how the national indicators played roles in the Olympics
- Performing data analysis and visualization about how different factors affected medal winning of athletes

Research on Bioresorbable Electronics & Wearable Gas Sensors, visiting student

2018/07–2018/08

Huanyu Cheng Research Group, The Pennsylvania State University

Advisor: Prof. Huanyu Cheng

- Sintering of zinc nanoparticles for printable bioresorbable electronics by intense pulsed light
- Investigations of reduced graphene oxide (rGO)/ MoS_2 and graphene/ MoS_2 composites for NO_2 gas sensing using different synthesis routes
- Investigations of metal oxides (NiO) synthesized by laser printing for volatile ethanol sensing
- Enhancement of stretchability of rGO/ MoS_2 and graphene/ MoS_2 nanocomposites as NO_2 gas sensors

Research on Hybrid Perovskites Using Solid-state NMR

2018/04–present

Bo-Lin Lin Research Group, ShanghaiTech University

Advisor: Prof. Bo-Lin Lin & Prof. Haiming Liu

- Investigations of ^{13}C , ^1H and ^{207}Pb magic angle spinning (MAS)/static solid-state NMR (ssNMR) spectra of $(\text{CH}_3(\text{CH}_2)_3\text{NH}_3)_2\text{PbI}_4$ as a function of temperature

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- Using variable-temperature powder X-ray diffraction (PXRD) to assist the comprehension of crystal structure, phase transition and dynamics
- Studies of the mobility of ammonium and stability by the second moment (M_2) analysis of the ^1H spinning sidebands manifolds and the spin-lattice relaxation time (T_1) measured for $(\text{CH}_3(\text{CH}_2)_3\text{NH}_3)_2\text{PbI}_4$

PAPERS TO BE PUBLISHED

- F Lyu, X Zheng, Y Wang, R Shi, J Yang, Z Li, J Yu, BL Lin*. Bi^{3+} Doped 2D Ruddlesden-Popper Organolead Iodide Perovskites. *Angewandte Chemie* (Under Review)
- X Zheng, H Cheng*. Flexible and stretchable metal oxide gas sensors for healthcare. *SCIENCE CHINA Technological Sciences* (Under Review)
- X Zheng[†], F Lyu[†], R Shi, H Liu*, BL Lin*. A study of hybrid two-dimensional lead iodide perovskites $(\text{CH}_3(\text{CH}_2)_3\text{NH}_3)_2\text{PbI}_4$ using solid-state nuclear magnetic resonance. *Chemical Communications* (In preparation) ([†]: equal contribution)

SKILLS

- Scientific Instruments: Operational experiences in UV-Vis-NIR spectrophotometer, powder XRD, FTIR spectrometer, SEM combined with EDX, Intense Pulsed Light (IPL) system, Microplotter for picoliter fluid dispensing system; familiar with TEM, STEM, NMR, XPS, AFM
- Scientific Softwares: Proficient in Origin, ChemDraw, Jade, Topspin, MestReNova, MS Office
- Programming Languages: MATLAB, Mathematica, Python
- English Skills: Reading and writing papers fluently, giving posters and presentations without difficulties

SOCIAL SERVICES & ACTIVITIES

Visiting student at <i>The Pennsylvania State University</i>	2018/07–2018/08
Exchange Program at <i>Fu Jen Catholic University</i>	2017/12–2017/12
Summer Exchange Program at <i>University of California, Berkeley</i>	2017/07–2017/08
President of Students Press Corps at <i>ShanghaiTech University</i>	2016/09–Present
Founder of the Flea Market at <i>ShanghaiTech University</i>	2015/09–Present

REFERENCES

Dr. Bo-Lin Lin	Dr. Haiming Liu	Dr. Huanyu Cheng
Assistant Professor	Faculty Director	Assistant Professor
School of Physical Science and Technology	School of Physical Science and Technology	Department of Engineering Science and Mechanics
ShanghaiTech University, China	ShanghaiTech University, China	The Pennsylvania State University, U.S.
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