

# Yishu Zhou

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## Education

**Bachelor of Engineering, Optoelectronic Information Science and Engineering**

Huazhong University of Science and Technology, Wuhan, PRC

Overall GPA: 92.00/100 (Rank: 3/345)

Sept 2013 to present

## Publications

- [1] Liu, K.<sup>†</sup>, **Zhou, Y.<sup>†</sup>**, Yuan, F., Mo, X., Yang, P., Chen, Q., Li, J., Ding, T., and Zhou, J. "Self-powered Multimodal Temperature and Force Sensor Based on a Liquid Droplet". *Angew. Chem.*. 2016, doi:10.1002/ange.201609088 ( **Co-first authors**<sup>†</sup>, IF = 11.709)
- [2] Yang, P., Liu, K., Chen Q., Mo, X., **Zhou, Y.**, Li, S., Feng, G., and Zhou, J. "Wearable Thermocells Based on Gel Electrolytes for the Utilization of Body Heat". *Angew. Chem.*. 2016, 128, 12229.
- [3] Liu, K., Ding, T., Mo, X., Chen, Q., Yang, P., Li, J., Xie, W., **Zhou, Y.**, and Zhou, J. "Flexible Microfluidics Generator for Self-powered Systems". *Nano Energy*. 2016, In press. (IF = 11.553)

## Research Experience

### Research Intern

Department of Physics, McGill University, Canada

**Supervisor: Prof. Jack Sankey**

Jul 2016 to Nov 2016

- Project 1: **Automation and Measurement with UHV Fiber Interferometer**
  - Automated the mode imaging system based on ultra high vacuum fiber interferometer and MEMS.
  - Data collection and analysis for mode imaging of a phononic crystal membrane.
  - Measured the bolometric damping and antidamping for Si<sub>3</sub>N<sub>4</sub> nanostrings.
- Project 2: **Modeling Si<sub>3</sub>N<sub>4</sub> MEMS**
  - Analytically calculated and simulated the phononic crystal band structure.
  - Modeled the optically defined localization modes and the localized defect modes.

### Research Assistant

Wuhan National Laboratory for Optoelectronics, PRC

**Supervisor: Prof. Jun Zhou**

Dec 2014 to Jun 2016

- Major project: **Liquid Droplet as Self-powered Temperature and Force Sensor**
  - Proposed a novel low-cost, self-powered, and multimodal sensor.
  - Designed and performed the experiments to test the droplet sensor performance.
  - Fitted the data to separate temperature and force stimuli sensing.
  - Designed an integral system for artificial intelligence system application demonstration.

### Research Assistant

National Engineering Research Center of Laser Processing, PRC

**Supervisor: Prof. Guangzhi Zhu**

Apr 2015 to Dec 2015

- Project: **Graphene as Saturable Absorber for Mode-locking Lasers**
  - Used the split-step Fourier transform to obtain the numerical solution of the Haus Master Equation.
  - Compared graphene and SESAM as a saturable absorber.

## Honors and Awards

### National Scholarship (Three times)

Top 1% among all undergraduates, awarded by the Ministry of Education of PRC

2014, 2015, 2016

### Pacemaker to Merit Students

Top 20 out of 32000 undergraduates, the highest honor for undergraduates

Nov 2016

### "Optical System Design" Summer Camp Scholarship

Awarded by ITMO University, Russia

Sept 2015

### Honorable Mention in Mathematical Contest in Modeling of America

Awarded by COMAP, Inc.

Feb 2016

## Skills

**Programming:** C, Python, Objective C, Matlab.

**Industry Software:** COMSOL, Mathematica, Origin.

**Experiment:** Ultrahigh Vacuum Systems, Lock-in Detection, MEMS, Fiber Interferometry, Automated Data Acquisition and Analysis, Solder.

**Other:** Altium Designer (Electronics Design), Zemax (Optical Design), L<sup>A</sup>T<sub>E</sub>X.