

QICHEN SONG

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EDUCATION

Massachusetts Institute of Technology (MIT)

2015.09-present

Major: Mechanical Engineering

Degree: Master of Science, expected 2017.05

Overall GPA: 5.0/5.0

Huazhong University of Science and Technology (HUST)

2011.09-2015.06

Major: Thermal Energy and Power Engineering

Degree: Bachelor of Engineering, expected 2015.06

Overall GPA: 92.2/100 Overall Rank: 1/366

RESEARCH EXPERIENCE

Research on coupling between different phonon modes in graphene

2014.09-present

Advisor: Prof. Nuo Yang, Dr. Meng An *Nano Heat Group*

- Built an model to manipulate in-plane/out-of-plane temperature gradient
- Investigated coupling between different phonon modes (TA, LA and ZA) and their contributions to thermal conductivity

Research on modulation of thermal conductivity in folded graphene

2013.11-present

Advisor: Prof. Nuo Yang *Nano Heat Group*

- Independently wrote FORTRAN code of nonequilibrium molecular dynamics
- Designed innovative structure to reduce the thermal conductivity significantly
- Obtained size-independent thermal conductivity that characterizes large-area folded graphene's thermal properties

Research on the temperature and flow field analysis of sapphire crystal growth

2013.08-2013.11

Advisor: Prof. Haisheng Fang *Multiscale Process Modeling Lab*

- Comprehensively investigated varied flow fields' influence on sapphire growth
- Used Discrete Phase Model to investigate the distribution of inert impurities
- Simplified the complex system and found a new way to improve sapphire's quality

Team leader on designing the device utilizing wave energy in small watersheds

2013.05-2013.08

Advisor: Prof. Jun Xiang

- Designed the innovative machine to harvest small wave energy
- Successfully optimized the structure by modeling and effectively improved the energy conversion efficiency
- Made the prototype of the device

PUBLICATIONS

Q.C. Song, M. An, X.D. Chen, Z. Peng, J.F. Zang, N. Yang, 'The adjustable thermal resistor by reversibly folding a graphene sheet', arXiv:1603.02817

HONORS AND AWARDS

Warren M. Rohsenow Fellowship

2015-2016

Awarded by Department of Mechanical Engineering, MIT

National Scholarship (Three times)

2012,2013,2014

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

Outstanding Student of Huazhong Univ. of Sci. & Tech.

2012-2014

Top 1% among all 2nd & 3rd year students, one of the top honor for undergraduates

Excellent Award in the 3rd National Water Resource Innovation Design Competition

2013.07

COMPUTER SKILLS

FORTRAN90(MPI), C++, Python, MATLAB/Simulink, \LaTeX