Qichen Song

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Education

Huazhong University of Science and Technology (HUST), *2011.09-present*
Major: Thermal Energy and Power Engineering
Degree: Bachelor of Engineering, expected *2015.06*
Overall GPA: **92.2/100** Overall Rank: **1/366**

Standardized Tests
TOFEL: 107 (R29 L30 S23 W25)
GRE: V152+Q170+AW4.0

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

Patent

Q.C. Song et al, 'An electricity generating device by utilizing small wave energy' (CN201420634269.0)

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*

Internship Experience

Summer Intership at Shangu Power Co.,Ltd., Xi'an *2014.06*

- Learned details of manufacturing process of tail gas turbine
- Systematically learned the CFD computation methods for turbine design

Computer Skills

FORTRAN90(MPI), C++, Fluent, AutoCAD, MATLAB/Simulink, LaTeX