Rongzhong Li

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Wake Forest University   **Portfolio: *http://borntoleave.github.io*** ⚘
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EDUCATION		
	Wake Forest University, Winston-Salem, NC, USA	
	• Master of Science in Computer Science	Aug 2014 ~ May 2016
	• Ph.D. in Physics	Aug 2010 ~ May 2015
	Kuang Yaming Honors School, **Nanjing University**, Jiangsu, China	
	• Bachelor of Science in Physics	Sep 2006 ~ Jun 2010

RESEARCH EXPERIENCE

Wake Forest University
• Research Assistant, Department of Computer Science   Jan 2015 ~ May 2016
Work with **Dr. Paúl Pauca** on the Boeing and WFU collaborative project to analyze GBs of sensor data to classify fiber failures using machined learning algorithms.

• Research Assistant, Department of Physics   Aug 2011 ~ May 2015
Worked in **Dr. Samuel Cho**'s Computational Biophysics Group and developed codes to setup molecular dynamics simulations, analyze TBs of coordinates, and visualize results.

Nanjing University University
• Undergraduate Researcher, Department of Physics   Sep 2009 ~ Jun 2010
Worked with **Dr. Jian Zhang** in **the Institute of Biophysics in Nanjing University** and wrote codes to simulate protein and RNA folding.

PUBLICATIONS

• **Li R**, Stevens CA, Cho SS. Molecular dynamics simulations of protein-nanoparticle biocorona formation. *Modeling, Methodologies and Tools for Molecular and Nano-scale Communications*, Eds. Junichi Suzuki, Tadashi Nakano. **Springer Publishing**. (in press, book chapter)   2016

• **Li R**. A true random number generator algorithm from digital camera image noise for varying lighting conditions. **IEEE Southeast Conference**.   2015

• **Li R**, Macnamara LM, Leuchter JD, Alexander RW, Cho SS. MD simulations of tRNA and aminoacyl-tRNA synthetases: dynamics, folding, binding, and allostery. **Int. J. Mol. Sci.**.   2015

• **Li R**, Chen R, Chen P, Wen Y, Ke P-C, Cho SS. Computational and experimental characterizations of silver nanoparticle-apolipoprotein biocorona. **J. Phys. Chem. B**.   2013

• **Li R**, Ge H, Cho SS. Sequence-dependent base stacking interactions guide tRNA folding energy landscapes. **J. Phys. Chem. B**.   2013

PROVISIONAL PATENTS

• System for identification of composite failure mechanisms with acoustic emission.   2016
• Devices, methods, and programs for true random numbers using digital camera.   2015

EXTRA-CURRICULAR ACTIVITIES

• Compiled a personal poetry collection of 110 poems (a 30k-word book).   2006 ~ 2016
• Organized the individual CV review sessions for 9 physics and CS graduates.   2016
• Formed a team of 3 graduates on Virginia Tech Hackathon.   2016
• Coached as the student mentor for 3 undergraduates's research projects.   2013 ~ 2015
• Photographer and BBS admin for WFU Chinese Student & Scholars Association.   2013

TEACHING EXPERIENCE

• Taught Physics 266, Intermediate Laboratory (30 students/semester), WFU   2015
• Taught Physics 110, Introductory Physics (20 students/semester), WFU   2010 ~ 2015

SKILLS

C/C++; Mathematica; Matlab; Shell scripts; Python; Git; CUDA; JavaScript; Gnuplot; Linux; LaTeX; SQL; Photography; Photoshop; Raspberry Pi; AutoCAD; 3D printer; Machine shop.

Projects		
	• Star-trail Photography Simulator	Feb 2016

An iOS app developed during VTHacks that adds customized star-trails to night photos.

• Traditional Chinese Family Tree Builder | Aug 2015

A database and visualization for a family tree that consists of 350+ people over 150+ years.

• Pocket Cube with Hint | May 2015

A Mathematica program that simulates a pocket cube (2x2x2) game with recovering hints.

• Nano Fiber Measurer | Aug 2014

A Mathematica tool package for measuring the dimensions of fibers in microscopy images.

• HealThy Body | Oct 2013 ~ Dec 2013

An android app providing a lifestyle challenge for diabetic patients.

• Handmade Metal Irish Whistle | Mar 2012 ~ Jun 2012

A hobbyist machine shop project that turns brass & alum. pipes into 3 low D Irish whistles.

ACADEMIC AWARDS

• Wake Forest University Graduate School Summer Research Support | 2015
• Wake Forest University Graduate School Alumni Student Travel Award | 2012 & 2015

INVITED TALKS

• IEEE Southeast Conference, Fort Lauderdale, FL. | 2015
A true random number generator using digital camera noise under varying conditions.

• North Carolina Academy of Science 112th Annual Meeting, Winston Salem, NC. | 2015
A true random number generator using digital camera noise under varying conditions.

• American Physical Society Meeting, Baltimore, MD. | 2013
Ion concentration dependent tRNA folding energy landscapes.

• Center for Molecular Communication and Signaling, Winston-Salem, NC. | 2012
Molecular conformational signaling networks determine ion concentration dependent tRNA folding mechanisms.

POSTER PRESENTATIONS

• WFU Graduate Student and Postdoctoral Research Day, Winston-Salem, NC. | 2015
3MT talk: A real random number generator algorithm from digital camera image noise under varying lighting conditions.

• WFU Graduate Student and Postdoctoral Research Day, Winston-Salem, NC. | 2014
3MT talk: GPU optimized simulation for silver nanoparticle bio-corona formation.

• Center for Molecular Communication and Signaling, Winston-Salem, NC. | 2013
Ion-Concentration dependent MD simulations of tRNA folding shows back tracking event.

• WFU Graduate Student and Postdoctoral Research Day, Winston-Salem, NC. | 2012
Ion-concentration dependent MD simulations of tRNA folding.

• Gordon Research Conference: Protein Folding Dynamics, Ventura, CA. | 2012
Ion-concentration dependent MD simulations of tRNA folding.