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## **PROFILE**

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I am doctoral physics student in Dr. Margaret Cheung's theoretical living and soft condensed matter group pursuing a career in academia. My expertise is in biopolymer physics, statistical mechanics, and computational modeling. Upon graduating college, my passion for physics and relentless curiosity drove me to fundamental science research, after initially leading a career path towards medicine.

Due to the recent ability to achieve precise quantitative experiments on living systems, biology is at the brink of a paradigm shift similar to that of the quantum physics revolution in the early 20<sup>th</sup> century. My ambition is to push the frontier of biological physics theory in this scientific revolution.

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## **EDUCATION**

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### **University of Houston**

Ph.D. candidate in Physics

M.S. in Physics

Post-Baccalaureate

**Houston, TX**

*Present*

*January 2015—May 2016*

*January 2014—December 2014*

### **Emory University**

B.S. in Physics and Minor in Applied Mathematics

Other relevant courses: Pre-medical curriculum

**Atlanta, GA**

*August 2009—May 2013*

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## **RESEARCH EXPERIENCE**

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### **UH Physics Department & CTBP at Rice University**

Graduate Research Assistant with Margaret S. Cheung, Ph.D.

**Houston, TX**

*January 2015—Present*

- Merging theoretical physics with biology to gain a quantitative understanding of living matter
- Using molecular dynamic simulations to study soft condensed matter and biopolymers
- Engaging in collaboration with experimentalists

### **Emory Physics Department**

Undergraduate Research Assistant with Kurt Warncke, Ph.D.

**Atlanta, GA**

*August 2011 – May 2013*

- Studied the role of radical-mediated catalysis metalloenzymes.
- Used UV, electron paramagnetic resonance, and fluorescent spectroscopy for protein binding assays

### **UT Health Science Center Summer Research Experience**

Undergraduate Neurobiology Researcher with M. Neal Waxham, Ph.D.

**Houston, TX**

*May—August 2012*

- Studied the interaction between metal ions and proteins of the postsynaptic density dealing with learning and memory
- Used an electron microscope and statistical computations to interpret data

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## HONOURS AND FELLOWSHIPS

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- Golden Key International Honour Society 2015
- Gordon Research Conference Carl Storm Underrepresented Minority Fellowship 2015
- UT Health Science Summer REU Fellowship 2012

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## PUBLICATIONS AND POSTERS

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- Prigozhin MB, Gasic AG, Homouz D, Chen J, Kapoor S, Rosin C, Wirth AJ, Winter R, Gruebele M, Cheung MS, “Macromolecular crowding and protein folding.” *Currently in progress* (2016)
- Gasic AG, Homouz D, Chen J, and Cheung MS, “Investigation of pressure-induced protein unfolding with coarse-grained molecular simulation.” *60<sup>th</sup> Annual Biophysical Society Meeting*. (2016) Los Angeles, CA.
- Gasic AG, Waxham MN, “Deciphering the role of metal ions in learning and memory.” *UT Health Science Center Summer REU*. (2012) Houston, TX.

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## LEADERSHIP EXPERIENCE/ EXTRACURRICULAR

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**STEM Teaching Equity Project**, Outreach Assistant *January 2015—Present*

- Provided K-12 science teachers, from schools with high needs students, training and development in physics

**UH Physics Laboratory**, Teaching Assistant *January 2015— December 2015*

- Taught introductory physics in the laboratory setting, and helped students find new a passion for physics

**Emory Club Rugby**, Member *August 2009 – May 2012*

- Played against top schools in the south east and have developed crucial teamwork skills

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## SKILLS AND INTERESTS

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- Proficient with Unix/Linux OS, Mathematica, MATLAB, Bash, Sed & Awk, Python, Fortran, and C/C++
- Fluent in Spanish (reading and speaking)
- Favorite book is “Gödel, Escher, Bach: an Eternal Golden Braid” by Douglas Hofstadter