

PERSONAL INFORMATION

Name: Dejun Qi

Address: 3252 S Wallace St. Chicago IL, 60616 | (646)678-8444 |

Email: dejunqi2008@gmail.com

Website: <http://dejunqi2008.github.io/>

GitHub: <https://github.com/dejunqi2008>

LinkedIn: <https://www.linkedin.com/in/dejun-qi-132a2865>

EDUCATION

DePaul University - Chicago, IL

March 2017 (Expected)

MS Computer Science

- GPA: 3.61 / 4.00
- Key Courses: Software development, Database, Algorithms, Machine Learning, Scientific Computing

University of Arkansas Fayetteville, AR

May 2014

PhD Physics

- GPA: 3.74 / 4.00
- Dissertation: From Graphite to Graphene via Scanning Tunneling Microscopy

Harbin University of Science and Technology

July 2008

BS Physics

- GPA: 3.01/4.00
-

EXPERIENCE

Software Engineer,

American Family Insurance, June 2016 - present

- Developed backend applications using Django
- Developed web scraping program for collecting data across internet.
- Managing data on AWS S3 with AWS-CLI

Research Assistant,

University of Arkansas, 2010 Aug -2014 May

- Performed data modeling of electrostatic force between STM tip and graphene membrane during experiment

- Performed ultra-high vacuum scanning tunneling microscopy research on grapheme and semiconductor materials.
- Developed method of using scanning tunneling microscopy to control vibration and geometry of suspended grapheme
- Designed and implemented fabrication processes for stable and high resolution STM tip

Physics Lecturer,

University of Arkansas, 2009 Aug - 2014 May

- Taught introductory physics courses at the undergraduate level;
- Developed and demonstrated strong verbal communication skills by explaining highly technical concepts to a novice audience;

PROJECTS

In software engineering field

PyScraper (<https://github.com/dejunqi2008/PyScraper>)

- A software for collecting housing data from internet
- The whole project is running on AWS EC2, uploading data to S3 bucket.

Smartphone-Based Recognition of human activities and postural transitions

- Designed and implemented machine learning algorithm to analyze human activity signal recorded via smartphone.
- Successfully classified 12 movements with error rate less than 10 %.

My personal blog system (<http://dejun-blog.herokuapp.com/>)

- Fully functional blog system for my daily writing, registration
- RESTful APIs were built using Django REST framework

In physics research filed

Investigation on graphene via atomic-scale imaging and manipulation

- Tracked ripples in freestanding Graphene for 1st time by discovering the vibration of graphene membranes in 35 nanometers under particular circumstance
- Characterized graphene's bonding effect on platinum nanoparticle of 2 to 5 nanometer size
- Integrated molecular beam epitaxy chamber with scanning tunnel microscope system

SKILLS

Computing, Modeling, Research, Software Developing

- **Languages:** Python, Java, JavaScript, PHP, HTML, CSS

- **Database:** MySQL, PostgreSQL
- **Version control:** Git & Github
- **Cloud infrastructures:** Amazon Web Service (AWS S3)
- **Operating System:** Linux (Ubuntu, Fedora), Mac, Windows

PUBLICATIONS

Multilayer graphene, Moiré patterns, grain boundaries and defects identified by scanning tunneling microscopy on the m-plane, non-polar surface of SiC, P. Xu, **D. Qi**, J.K. Schoelz, J. Thompson, P.M. Thibado, V.D. Wheeler, L.O. Nyakiti, R.L. Myers-Ward, C.R. Eddy Jr., D.K. Gaskill, M. Neek-Amal, F.M. Peeters Carbon 50, 75-81 (2014).

Peng Xu, Lifeng Dong, Mehdi Neek-Amal, Matt L. Ackerman, Jianhua Yu, Steven D. Barber, J. Kevin Schoelz, **Dejun Qi**, Fangfang Xu, Paul M. Thibado, and Francois M. Peeters, Self-Organized Platinum Nanoparticles on Freestanding Graphene (accepted by ASC Nano)

Membrane amplitude and triaxial stress in twisted bilayer graphene deciphered using first-principles directed elasticity theory and scanning tunneling microscopy M. Neek Amal, P. Xu, **D. Qi**, P.M. Thibado, L.O. Nyakiti, V.D. Wheeler, R.L. Myers-Ward, C.R. Eddy, Jr., D.K. Gaskill, and F.M. Peeters Physical Review B 90, 064101 (2014).

Unusual ultralow frequency fluctuations in freestanding graphene P. Xu, M. Neek-Amal, S. D. Barber, J. K. Schoelz, M.L. Ackerman, P. M. Thibado, A. Sadeghi, and F.M. Peeters Nature Communications 5, 3720 (2014). [Click here for more information about this study.](#)

Atomic-scale movement induced in nanoridges by scanning tunneling microscopy on epitaxial graphene grown on 4H-SiC(0001) P. Xu, S. D. Barber, J. K. Schoelz, M. L. Ackerman, **D. Qi**, P. M. Thibado, V. D. Wheeler, L. O. Nyakiti, R. L. Myers-Ward, C. R. Eddy, Jr., and D. K. Gaskill, “Journal of Vacuum Science and Technology B 31(4), 04D101

Graphene Manipulation on 4H-Sic(0001) using Scanning Tunneling Microscopy P. Xu, M. L. Ackerman, S. D. Barber, J. K. Schoelz, **D. Qi**, P. M. Thibado, V. D. Wheeler, L. O. Nyakiti, R. L. Myers-Ward, C. R. Eddy, Jr., and D. K. Gaskill, *Japanese Journal of Applied Physics* 52, 035104,

Electronic Transition from Graphite to Graphene via Controlled Movement of The top Layer with

Scanning Tunneling Microscopy” P. Xu, Y. Yang, **D. Qi**, S. D. Barber, J. K. Schoelz, M. L. Ackerman, L. Bellaiche, and P. M. Thibado, *Physical Review B* 86, 085428

Electromechanical properties of freestanding graphene functionalized with tin oxide (SnO₂) nanoparticles L. Dong, J. Hansen, P. Xu, M. L. Ackerman, S. D. Barber, J. K. Schoelz, D. Qi, and P. M. Thibado, *Applied Physics Letters* 101, 061601

New scanning tunneling microscopy technique enables systematic study of the unique electronic transition from graphite to graphene P. Xu, Y. Yang, S. D. Barber, J. K. Schoelz, **D. Qi**, M. L. Ackerman, L. Bellaiche, and P. M. Thibado, *Carbon* 50, 4633

A pathway between Bernal and rhombohedral stacked graphene layers with scanning tunneling microscopy P. Xu, Y. Yang, **D. Qi**, S. D. Barber, M. L. Ackerman, J. K. Schoelz, T. B. Bothwell, S. Barraza-Lopez, L. Bellaiche, and P. M. Thibado, *Applied Physics Letters* 100, 201601

High-percentage success method for preparing and pre-evaluating tungsten tips for atomic-resolution scanning tunneling microscopy J. K. Schoelz, P. Xu, S. D. Barber, **D. Qi**, M. L. Ackerman, G. Basnet, C. T. Cook, and P. M. Thibado, *Journal of Vacuum Science and Technology B* 30(3), 033201

Atomic control of strain in freestanding graphene P. Xu, Y. Yang, S. D. Barber, M. L. Ackerman, J. K. Schoelz, **D. Qi**, I. A. Kornev, L. Dong, L. Bellaiche, S. Barraza-Lopez, and P. M. Thibado, *Physical Review B* 85, 121406(R)