

CURRICULUM VITAE

Lance (Weiqing) Xu (徐伟青)

PERSONAL INFORMATION

MAILING ADDRESS: Department of Physics
Arizona State University
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EDUCATION

August 2019–present Ph.D., Physics
Arizona State University, Tempe
January 2015–May 2019 B.Sc., Physics and Mathematics; GPA: 4.00/4.00
Arizona State University, Tempe

AWARDS AND FELLOWSHIPS

February 2021 BPS 65th Annual Meeting Student Research Achievement Award
May 2019 Dean's Medal of the College of Liberal Arts and Sciences
May 2018 Molecular Imaging Corporation Endowment (\$ 800)
May 2017 Richard G. Stoner Memorial Scholarship (\$ 2,000)

PUBLICATIONS

1. **L. W. Q. Xu**, S. Pressé “Toward building comprehensive particle tracking tools with u-track 3D”, **Cell Reports Methods** 3, 100651 (2023).
2. **L. W. Q. Xu**, J. S. Bryan IV, Z. Kilic, S. Pressé “Two-state swimming: Strategy and survival of a model bacterial predator in response to environmental cues”, **Biophysical Journal** 122, 3060 (2023).
3. S. Jazani, **L. W. Q. Xu**, I. Sgouralis, D. P. Shepherd, S. Pressé “Computational Proposal for Tracking Multiple Molecules in a Multifocus Confocal Setup”, **ACS Photonics** 9, 2489-2498 (2022).
4. D. Kordahl, **L. W. Q. Xu**, S. L. Y. Chang, C. Dwyer, “Prospects for detecting individual defect centers using spatially resolved electron energy loss spectroscopy”, **Physical Review B** 100, 134103 (2019).

PRESENTATIONS AND TALKS

In preparation, 2024 ASU APS Research Highlights Series
“Particle Tracking with Bayesian Nonparametrics”
May 2023 ASU Grad2Grad seminar
“Physics Informed Neural Networks”
February 2023 BPS 67th Annual Meeting flash talk,
“Multi-Particle Tracking in Crowded Environments”
February 2022 BPS 66th Annual Meeting platform session,
“Single-Molecule Reaction Diffusion from Single Photons”
November 2021 ASU Grad2Grad seminar
“A Gentle Introduction to Bayesian Neural Net”

RESEARCH EXPERIENCE

- August 2019–present Ph. D. student in Pressé lab.
June 2017–August 2019 Simulating electron energy-loss spectra for defects in diamond using DFT and GW with Christian Dwyer.
January 2017–May 2017 Building a student radio telescope with Christopher Groppi.
January 2016–May 2016 A particle identification program in C++ with Sebastian Cole.

TEACHING EXPERIENCE

- Spring 2020–2022 Teaching Aide, Department of Physics, Arizona State University.
Unraveling the noise: data-driven models and analysis for Steve Pressé.
Fall 2019–2020 Teaching Aide, Department of Physics, Arizona State University.
Statistical and Thermal Physics for Steve Pressé.
Fall 2018 Grader, Department of Physics, Arizona State University.
Mathematical Methods in Physics II for Cynthia Keeler.
Spring 2018 Teaching Aide, Department of Physics, Arizona State University.
Mathematical Methods in Physics I for Cynthia Keeler.
Grader, Department of Physics, Arizona State University.
Quantum Mechanics I for Richard Kirian.
Fall 2017 Learning Assistant, Department of Physics, Arizona State University.
Univ Physics I: Mechanics for Arlinda Hill and Carl Covatto.
University Physics Lab I for Brandon Gaydusek
Spring 2017 Learning Assistant, Department of Physics, Arizona State University.
Physics I for Robert Culbertson.

LANGUAGES

- Chinese: First Language
English: Fluent

COMPUTER SKILLS

- Advanced Knowledge: MATLAB, Julia
Intermediate Knowledge: CUDA, C/C++, Python, Java, L^AT_EX, Quantum Espresso
Basic Knowledge: PyTorch, TensorFlow, Shell script, Fortran, Yambo, BerkeleyGW, VASP