Xiaoyu Guo

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Educational Qualification — Date

University of Michigan-Ann Arbor (UMich) — Aug. 2019 to present
- *Doctor of Philosophy Program, Physics*
- *GPA: 4.000/4.000 (up to Fall 2020)*
- *Expected date of completion: Apr. 2024*

The Chinese University of Hong Kong (CUHK) — Aug. 2017 to July. 2019
- *Master of Philosophy Program, Physics*
- *GPA: 3.867/4.000*
- *Thesis title: Circular Dichroism Mediated by Surface Plasmon Polaritons on L-shape Nanohole Arrays*

The Chinese University of Hong Kong — Sept. 2013 to July. 2017
- *Bachelor of Science Program, Physics*
- *First class honors*
- *Cumulative GPA: 3.702/4.000*
- *Major (Physics) GPA: 3.852/4.000*

University of California Berkeley (exchange program) — Jan. 2016 to Aug. 2016
- *Overseas Program for Undergraduate Student*
- *GPA (for this term): 4.000/4.000*

Selected Honors and Awards

- *Rackham International Student Fellowship* — 2020
  - *Awarded to 25 students out of Rackham Graduate School*
- *Norman E. and Mary E. Barnett Fellowship* — 2020
  - *Awarded to 1 student out of Physics Department*
- *Physics Teaching Award* — 2018 & 2019
- *Dean's List: Awarded to 10% ceiling of the Science Faculty* — 2014, 2015, 2017
- *Physics Prize* — 2015, 2016, 2017
- *S.H. Ho College Outstanding Student Prize* — 2014, 2015, 2016
- *CUHK S.H.Ho College Matriculation Scholarships for Talented Students* — 2013

Publications

- W. Jin*, X. Y. Guo*, Z. Ye, G. Ye, B. Yang, Y. Fu, H. Lei, A. W. Tsen, R. He, L. Zhao, "*The interplay between layered magnetism and crystal structure in the two-dimensional magnet CrI_3*" (in preparation) — 2020
- Z. Li; X. Lu; D. Cordovilla Leon; Z. Lyu; H. Xie; J. Hou; Y. Lu; X. Guo; A. Kaczmarek; T. Taniguchi; K. Watanabe; L. Zhao; L. Yang; P. Deotare, "*Interlayer Exciton Transport in MoSe2/WSe2 Heterostructures*" (submitted) — 2020
- X. Guo, C. Liu, and H. C. Ong, "*Generalization of the circular dichroism from metallic arrays that support Bloch-like surface plasmon polaritons*" (submitted) — 2020
- Y. J. Hu, Y. T. Chan, K. T. Lai, K. O. Ho, X. Guo, H. Sun, K. Y. Yip, D. H. L. Ng, H. Lu, and S. K. Goh, *"Angular dependence of the upper critical field in the high-pressure 1T' phase of $MoTe_2$"*, Physical Review Materials 3, 034201 (2019) — 2019

- X. Y. Guo, Z. L. Cao, and H. C. Ong, "*Determination of complex Hermitian and anti-Hermitian interaction constants from a coupled system via coherent control*", Conference on Lasers and Electro-Optics, paper JTh2A.61. — 2018
- C. Liu, X. Y. Guo, and H. C. Ong, "*Spin Hall Effect from Achiral Nanohole Arrays*", Conference on Lasers and Electro-Optics, paper JTh2A.48. — 2018
- L. A. Howe, C. Tsai, L. N. Lowry, K. S. Arnold, G. Coppi, J. C. Groh, X. Guo, B. G. Keating, A. T. Lee, A. J. May, L. Piccirillo, N. C. Stebor, G. P. Teply, "*Design and characterization of the POLARBEAR-2b and POLARBEAR-2c cosmic microwave background cryogenic receivers*", Proceedings of SPIE Vol. 10708, 107083W (2018) — 2018

Research Highlights

Ph.D. student in Liuyan Zhao's group at University of Michigan – Ann Arbor — Aug. 2019 to present

- Performing simulations of second harmonic generation (SHG) and linear magnetic-optical response for a two-dimensional magnet CrI_3
- Constructing experimental setup for a scanning multifunctional optical microscopy
- Analyzing the data and writing the manuscript on the interplay between magnetism and crystal structure in the two-dimensional magnet CrI_3.

M. Phil. student in Daniel Ong's group at the Chinese University of Hong Kong — Aug. 2017 to July. 2019

- Studied interaction between light and plasmonic chiral metasurfaces under the excitation of surface plasmon polaritons
- Conducted experiment based on angle- and polarization-resolved spectroscopy
- Carried out finite element numerical simulation using COMSOL Multiphysics Software

Senior project in Swee K. Goh's group at the Chinese University of Hong Kong — Sept. 2016 to July. 2017

- Measured superconducting behavior, angular and magnitude dependence of bulk 1T'-$MoTe_2$ magnetoresistance on magnetic field
- Probed the Fermi surface of 1T'-$MoTe_2$ via measuring quantum oscillation in resistivity

Research Assistant in Adrian Lee's Cosmology Group at UC Berkeley — Jan. 2016 to Aug. 2016

- Designed and constructed apparatuses for thermal conductivity measurement under cryogenic temperature using Simon Chase fridge

Teaching Experience

Graduate student instructor at University of Michigan - Ann Arbor

- Physics 141 Elementary Laboratory I — Winter 2020
- Physics 136 Life Sciences Laboratory I — Fall 2019

Teaching assistant at the Chinese University of Hong Kong

- PHYS 4021 Quantum Mechanics II — 2017-2019
- PHYS 3061 Introduction to Computer Simulation of Physical Systems — 2017-2019

Conference and Presentation Highlights

National Central University Physics Conference (2018) (invited) — June. 2018

- Oral presentation: *Best excitation of surface plasmon polaritons on 2D achiral nanohole arrays and its role in polarization conversion*

***Conference on Lasers and Electro-Optics (2018*)** — May. 2018

- Poster presentation: *Determination of complex Hermitian and anti-Hermitian interaction constants from a coupled system via coherent control*

CUHK Physics Student Conference (2017) — May. 2017

- Oral presentation: Impurity effect on superconductivity and quantum oscillation in Type-II Weyl semimetal candidate MoTe2