

Mr. LI Sicong

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EDUCATIONAL BACKGROUND

Beijing Jiaotong University & University of Waterloo-Joint Program **09/2022-06/2026**

Bachelor of Engineering in Nanomaterials and Technology, Beijing Jiaotong University

Bachelor of Science in Materials and Nanosciences, University of Waterloo

Current GPA: 92.22/100

Modern Chemistry and its Interdisciplinary Applications

Online Course, Certificate of Participation

08/2025

RESEARCH EXPERIENCE

LinAB Laboratory, University of Waterloo

06/2025-08/2025

Research Intern

-Conducted literature reviews on polymer materials and presented findings in weekly group meetings, enhancing academic communication and research reporting skills.

-Participated in experimental preparation of reprocessable polymer materials, gaining hands-on experience in polymer synthesis and material characterization techniques.

-Assisted in data collection, documentation, and preliminary analysis to support research progress.

-Key Achievement: Contributed to the successful preparation of reprocessable polymer materials, providing baseline data for further optimization.

Online Research Seminar: Nanoelectronics, Optoelectronics and AI

05/2025-07/2025

Research Participant (Team Leader for Final Project)

-Completed a 7-week intensive seminar covering semiconductor physics, electronic band structures, optical properties, and nanoscale device engineering (p-n junctions, FETs, sensors).

-Trained in nanofabrication techniques (lithography, semiconductor manufacturing) and explored nanoelectronics for AI hardware (low-power edge computing, big data applications).

-Led final group project on Deep Ultraviolet Photodetectors Using Ultra-Wide Bandgap Semiconductors (AlN, GaN, Ga₂O₃, h-BN, diamond):

- Systematic benchmarking of material/device architectures for secure communication and space applications.
- Authored technical report with rigorous methodology, data-driven analysis, and comprehensive references.
- Delivered oral presentation as team leader with coherent structure and polished slides.

-Grade: A (Participation A, Assignments A, Final Project A); recognized as Excellent in the recommendation letter for analytical thinking, leadership, technical writing, and presentation skills.

PUBLICATIONS

Li, Sicong. "Fundamental Characteristics of Photodetectors and Applications of Two-Dimensional Materials in Photodetection." *Accepted at CONF-FMCE 2025: Semantic Communication for Media Compression and Transmission*, Oxford University, Glasgow, UK, Oct 24, 2025. To be published in *Applied and Computational Engineering (ACE)*, DOI: 10.54254/2755-2721/2025.GL26667

Li, Sicong., et al. (2024). Dual-Bandgap Janus Photonic Crystals from Single Emulsion Droplets: Rapid Preparation and Structurally Controllable Strategies. *Crystal Growth & Design (ACS)*. DOI: 10.1021/acs.cgd.3c01441

EXTRACURRICULAR ACTIVITIES

7th Career Exploration Week & 2nd Entrepreneurship Activity Week, Beijing Jiaotong University 04/2024

- Assisted students in understanding event rules and navigating activities.
- Maintained on-site order and ensured smooth execution of the program.
- Supported the initiative's goal of helping students explore self-awareness, career pathways, and action planning for future professional development.

Blue Envelope Volunteer Program, School of Physics and Engineering, Beijing Jiaotong University 03/2024

- Served as Communication Ambassador and Campus Coordinator, participating in a two-year volunteer program supporting rural children through letter writing.
- Paired with a student in Guizhou as a pen pal; provided guidance and encouragement through letters, fostering personal growth and inspiring the child's ambition to become a volunteer.
- Contributed to creating meaningful connections, using written communication to positively impact students' lives.

HONORS & AWARDS

Third-Class Academic Excellence Scholarship, Beijing Jiaotong University, 2023 – 2024

Beijing Municipal College Student Innovation and Training Program (2023–2024)

Project Title: Research on Controllable Preparation and Performance of Heterogeneous Photonic Crystal Composite Microspheres

Selected as a municipal-level innovation project, supervised by Prof. Zhao Xiang

Second Prize, Tianjin Youth Science and Technology Innovation Competition, 2018

Best Creativity Award, 4th Tianjin Youth Science and Technology Creative Design Competition (Junior High), 2018

First Prize, 4th Tianjin Youth Science and Technology Creative Design Competition (Junior High), 2018