

# WEIHAN LONG

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## EDUCATION

<b>University of Cambridge</b> China Scholarship Council Sponsored Joint M.Phil. Student Focus: Silicon photonic device design & integrated photonics	<i>Expected 2026 – 2027</i>
<b>University of Electronic Science and Technology of China (UESTC)</b> M.Phil., Electronic Science & Technology (A+) GPA: 3.86/4.0 Focus: Silicon photonic device design & integrated photonics	<i>Expected Jun 2027</i>
B.Sc., Electronic Science & Technology (A+) GPA: 3.82/4.0	<i>Jun 2024</i>

## HONORS & AWARDS

Honorary Bachelor's Degree ( <b>Top 2 in the College</b> ), UESTC	<i>2024</i>
Honorary Research Certificate, UESTC	<i>2024</i>
Outstanding Graduate, UESTC	<i>2024</i>
Top 5% – IEEEExtreme Programming Competition, IEEE	<i>2021</i>

## RESEARCH EXPERIENCE

<b>National Engineering Research Center of Electromagnetic Radiation Control Materials, Chengdu, China</b> <b>Polarization-Independent Ultra-Broadband Integrated Magneto-Optical Isolator</b>	<i>Sep 2024 – Present</i>
<ul style="list-style-type: none"><li>Simultaneously addressed major challenges in integrated isolators: polarization dependence and bandwidth limitation.</li><li>Solved the polarization sensitivity issue by achieving equivalent magneto-optical interaction for TE/TM modes.</li><li>For TE and TM modes, respectively achieved 20 dB theoretical isolation bandwidths of 239.88 nm and 295.83 nm.</li></ul>	
<b>Topological Multimode Beam Combining &amp; Steering</b>	<i>Mar 2023 – Nov 2023</i>
<ul style="list-style-type: none"><li>Leveraged topological multimode states in photonic crystals for robust beam combining.</li><li>Solved scattering loss via power-orthogonal excitation and introduced tunable topological waveguides.</li><li>Reached 93% combination efficiency and dynamic steering for high-power, multi-channel systems.</li></ul>	
<b>Broadband Magneto Optical Isolators &amp; Circulators on Si<sub>3</sub>N<sub>4</sub></b>	<i>Mar 2022 – Nov 2022</i>
<ul style="list-style-type: none"><li>Designed Mach–Zehnder isolators with dispersion compensation to equalize phase shifts.</li><li>Solved narrowband limits by engineering waveguide dispersion for broadband nonreciprocal operation.</li><li>Achieved 28 dB isolation, 29–90 nm bandwidth, j3 dB loss—enabling scalable WDM, LiDAR, and datacom.</li></ul>	

## PUBLICATION

Jing Y, Yang Y, **Long W**, Zhang T, Wu D, Wang J, Xiong Z, Chen N, Wang M, Chan CT, Yu Y, Bi L, Chen Y.  
*Experimental Realization of Highly Efficient Beam Combination and Steering via Topological Multimode*  
**Laser & Photonics Reviews** (2025)

## SERVICE

Member, IEEE UESTC Student Branch, participated in organizing academic seminars and student outreach programs.