

# Jinwen Lin

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## EDUCATION

### Zhejiang University

Hangzhou, China

*Bachelor's degree in Optoelectronic Information Science and Engineering*

*Aug. 2022 – Expected May. 2026*

- **GPA:** 4.08/4.3 or 3.96/4
- **Core Modules:** Laser Technology and Application(96), Physical Optics(90), Optical Inertial Technology(97), Fundamentals and Applications of Quantum Optics(95), Integrated Optoelectronic Devices and Designs(92)

## PUBLICATION

- [1] (Co-first Author) K. Y. Lau\*, **J. W. Lin\***, S. Firstov, et al, A Low-Threshold Nonlinear-Amplifying-Loop-Mirror Mode-Locked Bismuth-Doped Fiber Laser Using A 3x3 Coupler[J]. Journal of Lightwave Technology, 2025, 43(1):328-333.
- [2] **J. W. Lin**, K. Y. Lau, and J. R. Qiu, Research Status and Prospects of Bismuth-Doped Glass Fibers[J]. Chinese Journal of Lasers, 2025, 52(16): 1603016.
- [3] K. Y. Lau, Z. C. Luo, **J. W. Lin**, et al, Development of Figure-of-Nine Laser Cavity for Mode-Locked Fiber Lasers: A Review[J]. Laser & Photonics Reviews, 2025, 19:2301239.

## EXPERIENCE

### Low-threshold Mode-locked Bismuth-doped Ultrafast Fiber Laser at O-band Jan. 2023 – Present

*Undergraduate Researcher | Supervisor: Prof. Jianrong Qiu and Assoc.Prof. Kuen Yao Lau*

- Utilized bismuth-doped phosphosilicate glass fiber fabricated by the modified chemical vapour deposition method to generate high-quality emission for the optical communication O-band( $\sim 1260$  nm to  $\sim 1360$  nm)
- Constructed a nonlinear-amplifying-loop-mirror(NALM) mode-locked bismuth-doped fiber laser with a 3x3 optical coupler, which induced a phase shift of  $\frac{2\pi}{3}$
- Demonstrated that the initiation threshold of mode-locking in this novel structured laser cavity reduced by at least 45% and the output power increased at least 2 times than a conventional 2x2 NALM laser cavity

### The Multi-Scan Femtosecond Laser Direct-Writing Technology Jul. 2024 – Mar. 2025

*Undergraduate Researcher | Supervisor: Prof. Jianrong Qiu*

- Coded for direct-written optical waveguides served as connectors between optical fibers and silicon-based chips in order to enable flexible control of mode field diameter and reduce losses
- Utilized the multi-scanning method to achieve fine control of waveguide cross-sectional geometry, mode field and refractive index distribution

### MCM - ICM: Quantifying Wear and Human Traffic on Ancient Staircases Jan. 2025 – Feb. 2025

*Core Team Member | H-Honor: The American Mathematical/Interdisciplinary Contest in Modeling*

- Constructed three quantitative models for analysing wear dynamics and traffic patterns on ancient staircases
- Predicted the age from the extent of wearing utilizing machine vision and COMSOL simulation

## HONORS & AWARDS

- Undergraduate Natural Science Cultivation Foundation of Zhejiang University (**Top 1%**) Jul. 2024
- Zhejiang University First Prize Scholarship (**Top 3%**) Nov. 2024, 2023
- Outstanding Student Award (**Top 10%**) Nov. 2024, 2023
- Model Student of Outstanding Academic Performance (**Top 10%**) Nov. 2024
- Zhejiang Provincial Government Scholarship (**Top 3%**) Nov. 2023
- First Prize in Zhejiang University Optoelectronic Design Competition Jul. 2025
- Third Prize in Zhejiang Province College Student Physics Theoretical Competition Dec. 2023
- Third Prize in National College Mathematics Competition Dec. 2023

## TECHNICAL SKILLS

**Languages:** Chinese Mandarin (native), English (fluent)

**Software & Tools:** Zemax, MATLAB, Origin, Solidworks, Bambu Studio, LATEX, COMSOL, Lumerical MODE & FDTD, Wireshark, Multisim, Blender, Keil uVision

**Programming Languages:** C, Python