Jinwen Lin

Tel: +86 15193262848 | Email: lin.jinwen2005@gmail.com |Homepage: jinwenlin2005.github.io

Education

Zhejiang University Hangzhou, China

Bachelor's degree in Opto-Electronics Information Science and Engineering *Sep. 2022 – Expected Jun. 2026*

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

Publication

[1] K. Y. Lau*, **J. W. Lin***, S. Firstov, F. Afanasiev, X. F. Liu, and J. R. Qiu, 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. [Link](*equal contribution)

[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. [Link]

[3] K. Y. Lau, Z. C. Luo, **J. W. Lin**, B. B. Xu, X. F. Liu, and J. R. Qiu, Development of Figure-of-Nine Laser Cavity for Mode-Locked Fiber Lasers: A Review[J]. Laser & Photonics Reviews, 2025, 19:2301239. [Link]

Research Experience

Low-threshold Mode-locked Bismuth-doped Ultrafast Fiber Laser Jan. 2023 – May. 2025

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

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

A Photonic Integrated Erbium-Doped Waveguide Amplifier Jun. 2025 – Aug. 2025

Undergraduate Researcher | ***Supervisor**: Prof. Chao Xiang* | *Hong Kong University*

- Simulated the coupling loss of the edge coupler between Si_3N_4 spiral waveguide and UHNA3 fiber using Lumerical
- Utilized ion-implantation technology to fabricate erbium-doped Si_3N_4 spiral waveguide
- Built the setup of the waveguide amplifier to characterize the properties of the Er: Si_3N_4 spiral waveguide, demonstrating an on-chip net gain of nearly 10 dB

The Multi-Scan Femtosecond Laser Direct Writing Jul. 2024 – Jan. 2025

Undergraduate Researcher | ***Supervisor**: Prof. Jianrong Qiu* | *Zhejiang University*

- Simulated by COMSOL and coded for direct-written optical waveguides served as connectors between optical fibers and silicon-based chips to enable flexible control of mode field diameter and reduce coupling losses
- Utilized the multi-scan method to achieve fine control of waveguide cross-sectional geometry, mode field, and refractive index distribution

Dispersion Management in Integrated Heterogeneous Mode-Locked Laser Nov. 2025 – Present

Undergraduate Researcher | ***Supervisor**: Prof. Diqing Ying and Prof. Chao Xiang* | *Undergraduate Thesis*

- Simulated a single-mode, low-loss, anomalous-dispersive Si_3N_4 waveguide for on-chip dispersion engineering
- Introduced the Split-Step-Fourier-Method into the modeling of the extended cavity in mode-locked laser diodes, in order to achieve shorter pulse duration, higher pulse energies, and potentially on-chip soliton mode-locking or stretched pulses

Honors & Awards

- **National Scholarship** Nov. 2025
  Top 1% | Awarding body: Ministry of Education of the People's Republic of China
- **Top 10 College Students** Dec. 2025
  Top 1% | Awarding body: College of Optical Science and Engineering
- **Undergraduate Natural Science Cultivation Foundation** Jul. 2024
  50000 CNY | Awarding body: Zhejiang University
- **Zhejiang Provincial Government Scholarship** Feb. 2024
  Top 3% | Awarding body: Zhejiang Provincial Government
- **First Prize Scholarship** Nov. 2025, 2024, 2023
  Top 3% | Awarding body: Zhejiang University
- **Outstanding Student** Nov. 2025, 2024, 2023
  Top 10% | Awarding body: Zhejiang University
- **The 13th Zhejiang University Opto-Electronics Design Competition** Jul. 2025
  First Prize | Awarding body: Zhejiang University
- **Mathematical Contest In Modeling** May. 2025
  Honorable Mention | Awarding body: COMAP
- **Zhejiang Province College Student Physics Theoretical Competition** Dec. 2024
  Third Prize | Zhejiang Physical Society
- **National College Mathematics Competition** Dec. 2023
  Third Prize | Chinese Mathematical Society

Extra-Curricular Activities

Leadership

- Student Representative | The 37th Student Council May. 2024 – May. 2025
- Team Leader | Zhejiang University Yunfeng Debate Team Oct. 2023 – May. 2024
- Team Leader | WE TEAM Studio at Robotics and Intelligent Equipment Practice Base Oct. 2023 – Oct. 2024
- Member | Qizhen-Wenxue Innovation and Entrepreneurship Program Dec. 2022 – Dec. 2023
- Team Member | Zhejiang University Yunfeng Debate Team Oct. 2022 – May. 2023

Volunteer Work

- Four-star-level volunteer Certificate(Accumulated volunteer service hours of over 240 hours) Oct. 2022 – Nov. 2025
- Volunteer for the Finals of the 13th National College Student Opto-electronics Design Competition Aug. 2025
- Educational assistance for underdeveloped regions in western China Jul. 2023

Exchange Experience

- The University of Hong Kong, Summer Research Program 2025 Jun. 2025 – Aug. 2025
- "Global Talk Series" Online Exchange Program Jul. 2023

Technical Skills

Languages: Chinese Mandarin (native), TOEFL Best Score 104 (R27 L27 S24 W26)

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

Programming Languages: C, Python