

WEN CHI CHEN



PERSONAL DETAILS

No. 42, Yonglong 6th St., Dali Dist., Taichung City 412018, Taiwan (R.O.C.)
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SKILLS

Optical Simulation Tools: COMSOL, CST, Zemax

Modeling software: SolidWorks, AutoCAD

Laser: Pulse & CW Lasers, Laser Alignment

THz Analysis: AR THz Layer, THz Signal Detection

EDUCATION

National Tsing Hua University, Department of Electric Engineering
Undergraduate.

Sep 2017 - Jun 2021

- **Photonics Engineering.** Basic photonic & optical knowledge.
- **Opto-electronic Devices.** Photonic & optical application
- **Nonlinear Optics and Lasers.** High-energy & intensity laser-induced optical nonlinear effect.
- **Communication System.** Operated the communication tool using LabVIEW
- **Introduction to Biomedical Imaging.** x-ray, CT, MRI imaging analysis using Matlab

National Tsing Hua University, Institute of Photonics Technology
Master's Degree

Sep 2021 - Oct 2024

- **Photonics.** Advanced photonic principles and applications.
- **Integrated Photonic Devices.** Design of photonics waveguides on semiconductors by Rsoft.
- **THz Science & Technology.** Introduction of the latest THz applications.
- **Digital Optics Laboratory.** Wavefront modulation from digital gratings.
- **Deep Learning in Biomedical Optical Imaging.** Image identification by Python ML models.

PUBLICATION

- **Single-Electron Nano-Chip Free-Electron Laser.** <https://doi.org/10.1063/5.0097486>

A nanoscale free-electron laser driven by single electrons interacting with a dielectric nano-grating, enabling ultra-compact and coherent light generation for advanced photonic applications.

Generated the COMSOL simulation results to compare and analyze with those from CST.

- **Surface-Emitting Continuous-Wave THz Intracavity Radiation in Two Nd: YVO4 Lasers.**

Thesis for Master's Degree.

Generated CW THz radiation from a trapezoidal LiNbO₃, which is placed in two Nd: YVO₄ laser cavities. A self-designed and fabricated etalon is inserted in one of the cavities to optimize the THz gain.