

Chanseung Lee

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- Education

Kyung Hee University, Republic of Korea

- B.S. in Applied Physics & Electronic Engineering 2023 – 2027 (expected)

- Research Interests

Developing semiconductor-based photonic integrated circuits for next-generation quantum computers.

- Silicon Photonics: Towards integrated optical computers with strain-engineered on-chip lasers
 - Quantum Photonics: Towards integrated quantum processors with strain-engineered 2D quantum devices

- Research Experience

[Q-SPIN Laboratory](#) (Quantum semiconductor Photonic Integrated Lab), [KAIST](#)

Advisor: Professor Donguk Nam Research Intern, Dec 2025 – Feb 2026

- Modeling strain-engineered optical & quantum behavior
 - Exploring integration strategies for on-chip optical quantum computing

- Projects

- TCAD CMOS Process Simulation [\[link\]](#)

Built full NMOS process flow (oxidation → implantation → annealing → metallization)

Simulated ID-VG, ID-VD, Vth, gm, ro using Silvaco ATLAS, ATHENA

- Three-Stage Analog Amplifier (LTspice) [link]

Designed differential → gain → output stages - AC/DC/transient analysis and pole-zero extraction

- Skills

- TCAD (ATHENA, ATLAS)
 - LTspice (analog IC design)
 - Semiconductor device physics, photonics, 2D materials
 - Semiconductor Fabrication, MEMS