

The background of the slide features a large, light blue circular seal of Yonsei University. The seal contains a shield with a book, a torch, and a central emblem, with the year 1885 at the bottom. The text "YONSEI UNIVERSITY" is written around the top half of the seal, and Korean text is at the bottom.

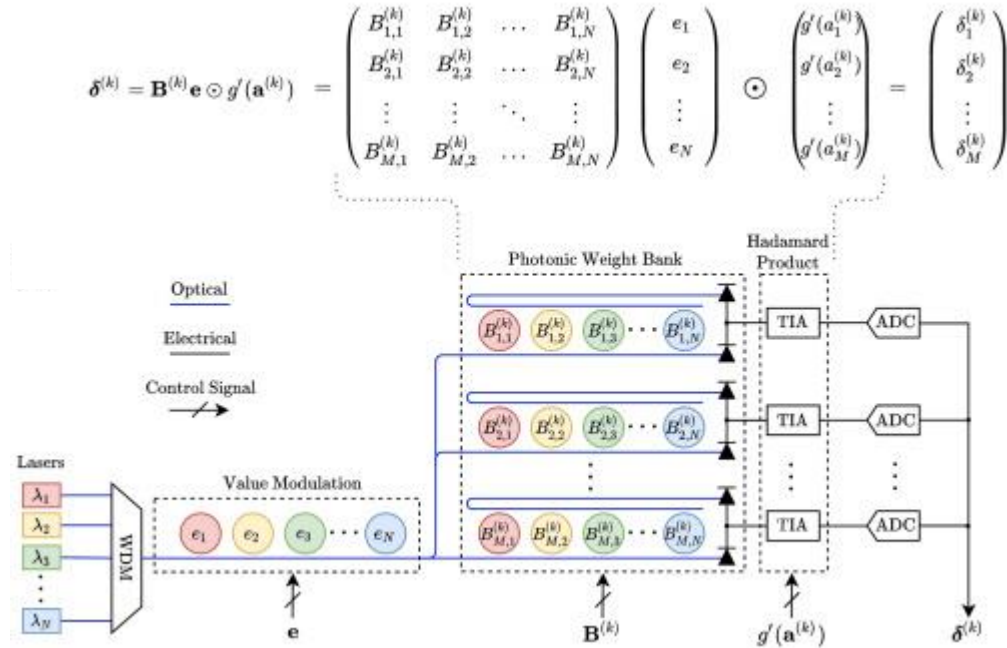
2025 Workshop

Minkyu Cho

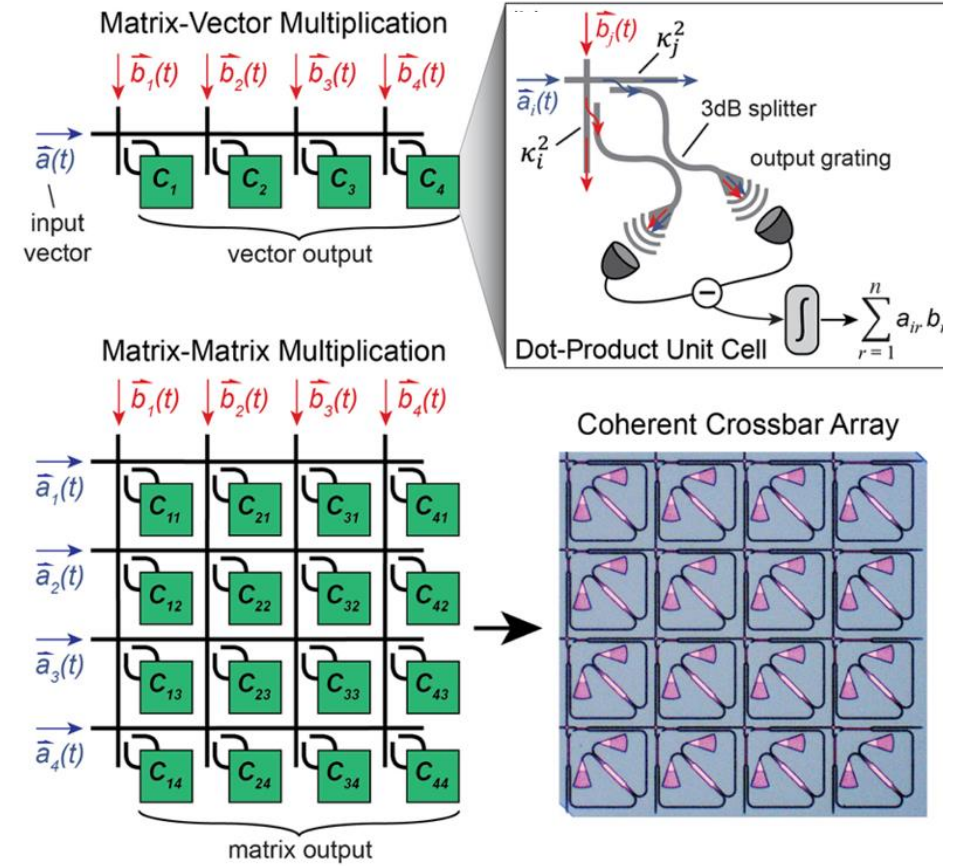
**Department of Electrical and Electronic Engineering,
Yonsei University, South Korea**

On-Chip Optical Core

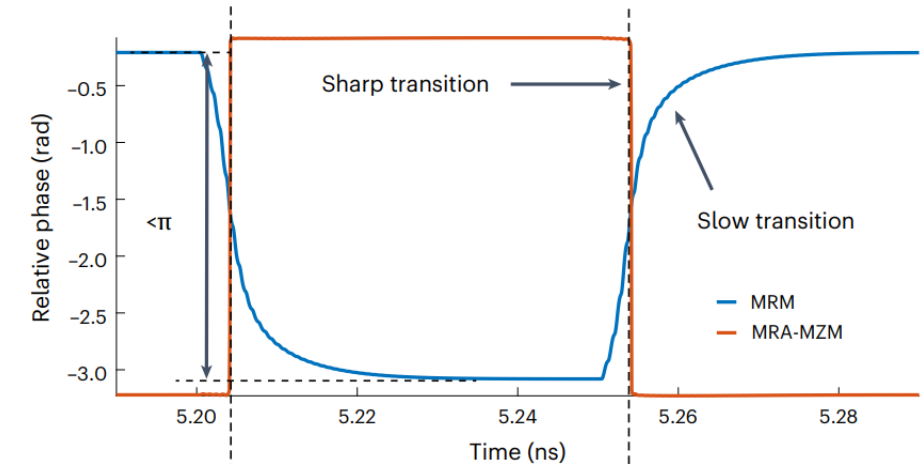
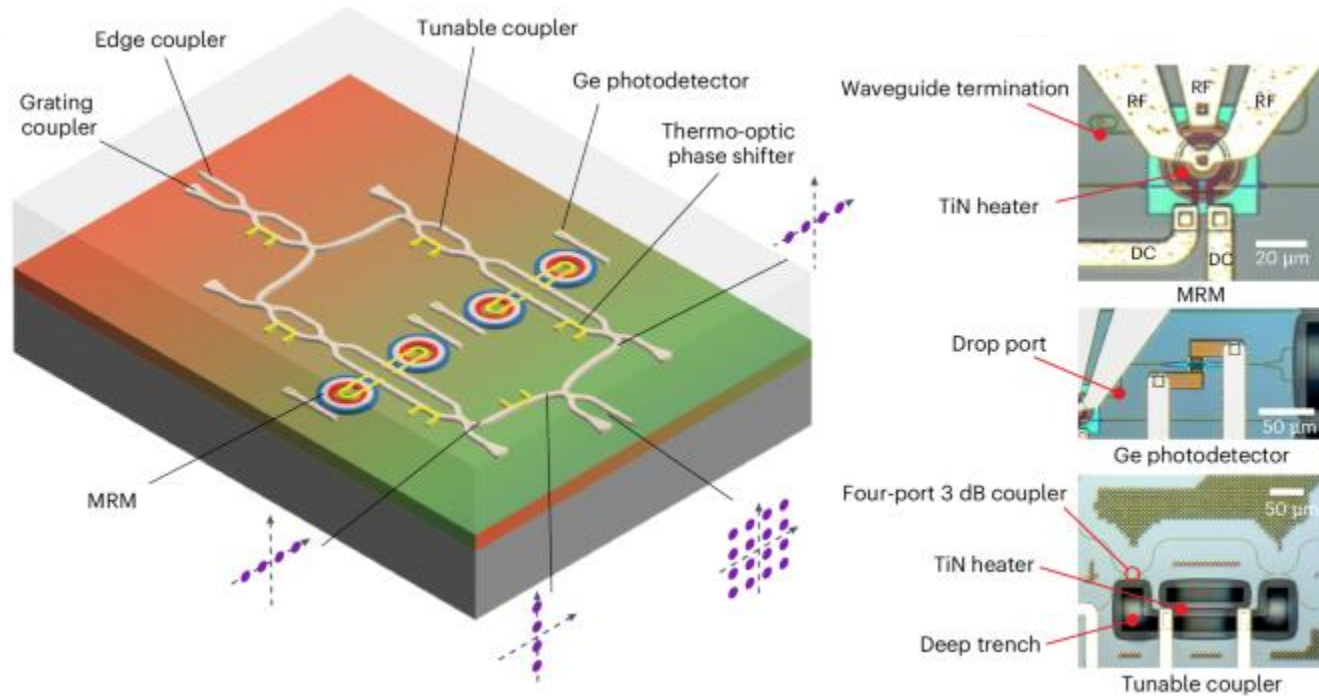
• Matrix-vector engine



• Matrix-matrix engine



On-Chip Optical Core



Geravand, Alireza, et al. "Ultrafast coherent dynamics of microring modulators." *Nature Photonics* (2025)

Designed Optical GEMM Core

- AMF (~03.01)

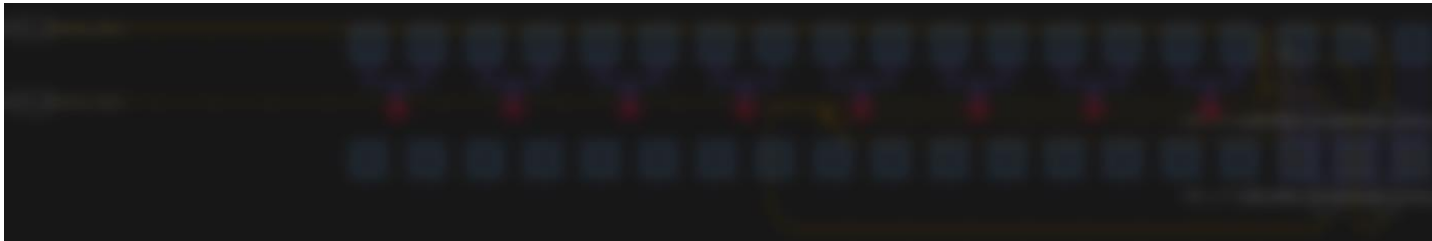


- NanoSOI (early Feb deliver)

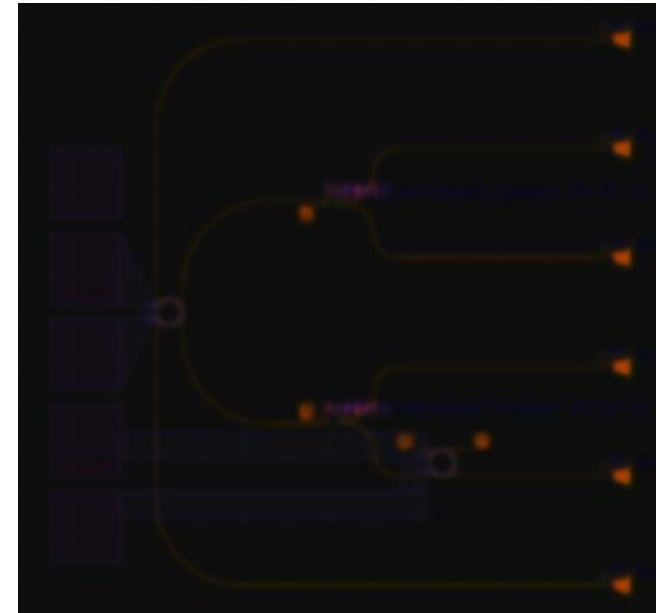


Designed Optical GEMV Core

- AMF (~03.01)



- NanoSOI (early Feb deliver)



Plan

- **Feb.** → AMF design, NanoSOI chip experiment
- **Mar.** → 졸업논문 작성, 예심 준비
- **Apr.** → TSMC design (w/ 용진)