

# Integrated Photonics Multi Project Wafer (MPW)

AIM Photonics Multi Project Wafer (MPW) provides access to the most advanced state-of-the-art 300mm semiconductor processing research fab in the world at SUNY Polytechnic Institute's Colleges of Nanoscale Science and Engineering. The MPW prototype vehicle is the most advanced integrated photonics wafer processing available. Companies benefit from cost effective, low risk access to a suite of PIC wafer processing.

## Benefits of AIM Silicon Photonics MPW

### Passive Process

- Small feature size of Si/SiN
- High power handling capability of SiN layers
- Polarization manipulation/control and trench support

### Full Active Process

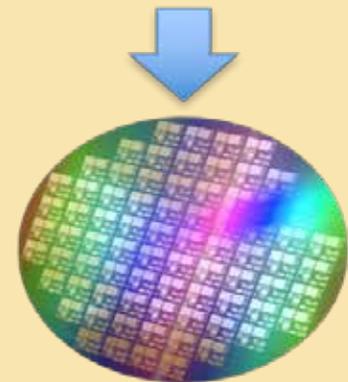
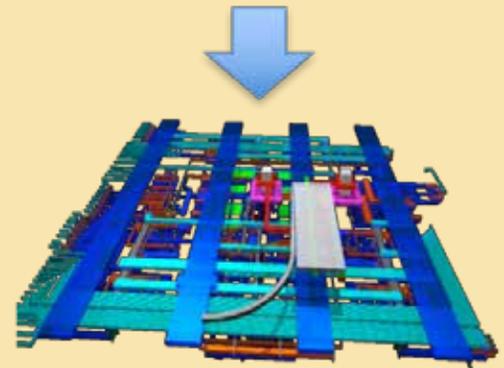
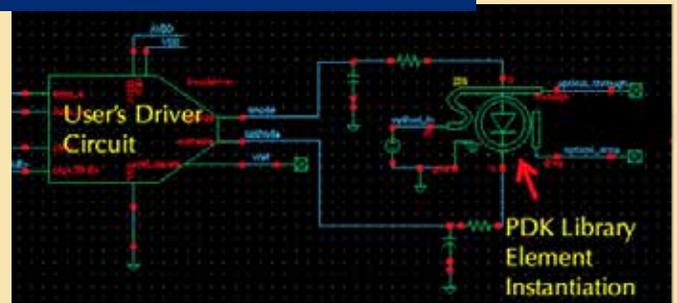
- Everything to design filters, modulators, switches & detectors from ~1300nm to ~1600nm

### Interposer Process

- Unique ability to combine lasers and photonics in a self-aligned interposer with ball grid array to solder on a board

### MOSIS is the MPW Aggregator

- DRC clean designs are submitted to MOSIS
- MOSIS also distributes the PDK
- Reservations for rider require down payment
- More info at:  
<http://www.aimphotonics.com/mpw>

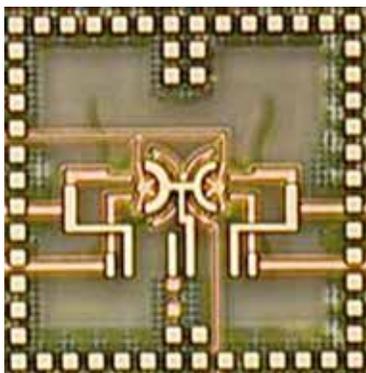
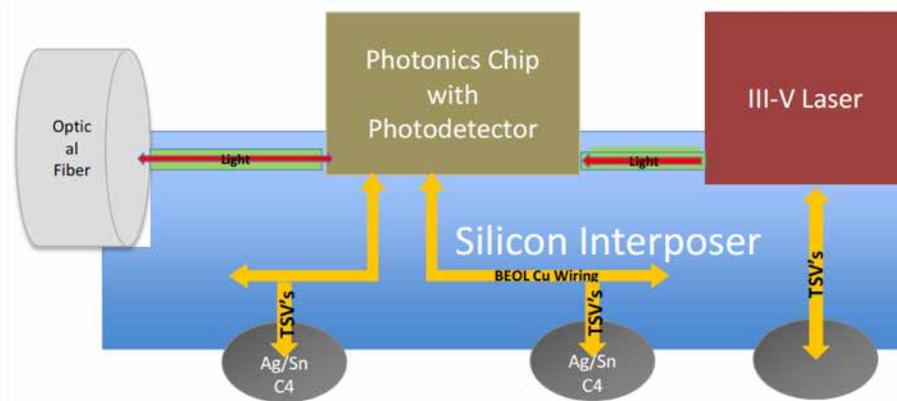


## Select MPW Processing Highlights

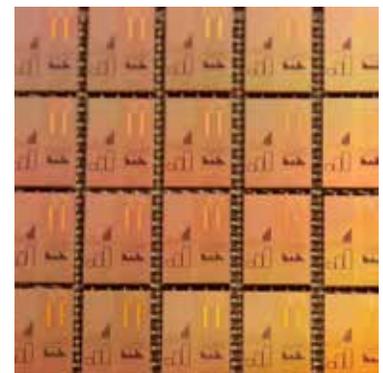
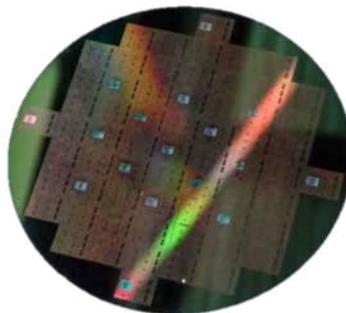
### Active (Full) Process

- SOI Substrate
- 1 level Si with ridge-etch
- 2 level SiN
- 6-level Si doping and 2-level Ge doping
- Hetero-epitaxial Ge
- 2- level Cu and 1-level Al interconnects
- Deep Si etch for edge coupling

### Interposer Process (Passive)



SUNY Poly AIM Photonics  
PIC test structure



PIC MPW chips designed by  
SUNY Poly AIM Photonics