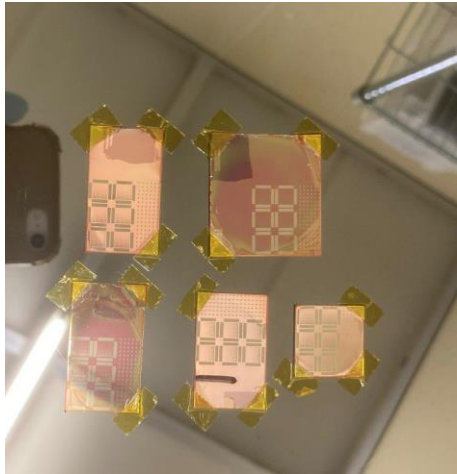# Nanoelectronic chip design: from physics principles to circuit design for production

Motivation: Neuromorphic hardware is a solution for the von Neumann bottleneck
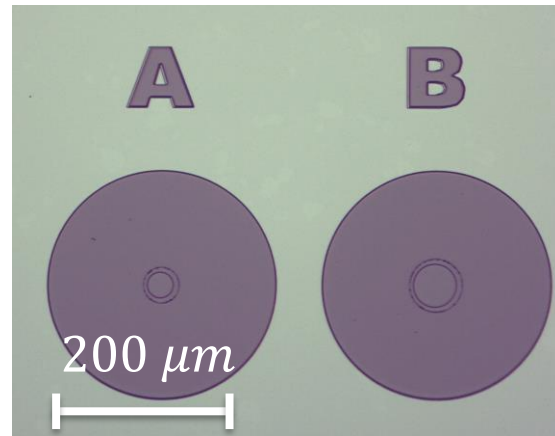
Thesis goal: Design and fabricate a simple neuromorphic chip with memristors

Fabrication

Devices: **Si/Ag**-based memristors
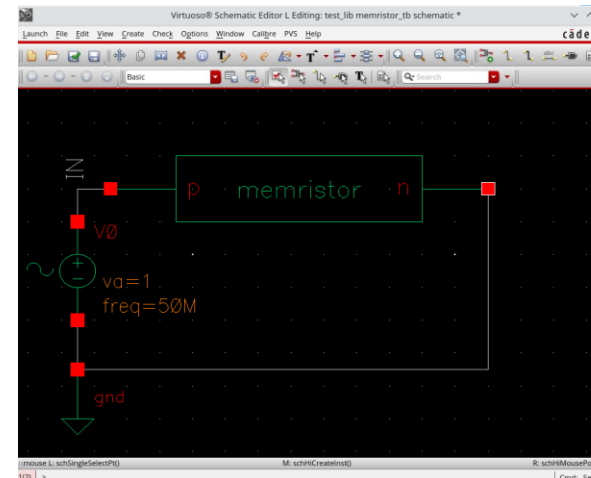

Samples during the fabrication process

$200\ \mu m$
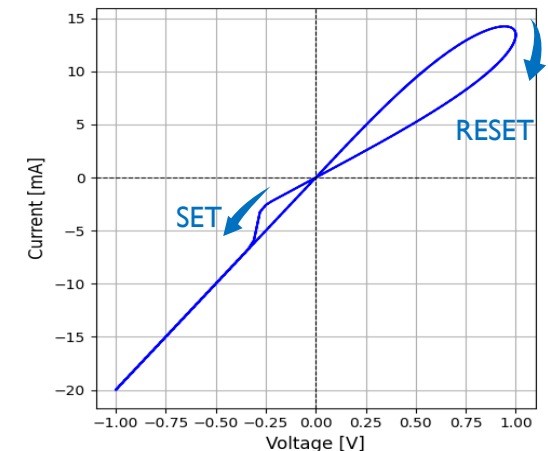
Final devices on the microscope

Simulation

Software: **Cadence** (industry-standard for circuit design)
Language: **Verilog-A** (hardware description language)

Cadence environment

I-V curve simulation