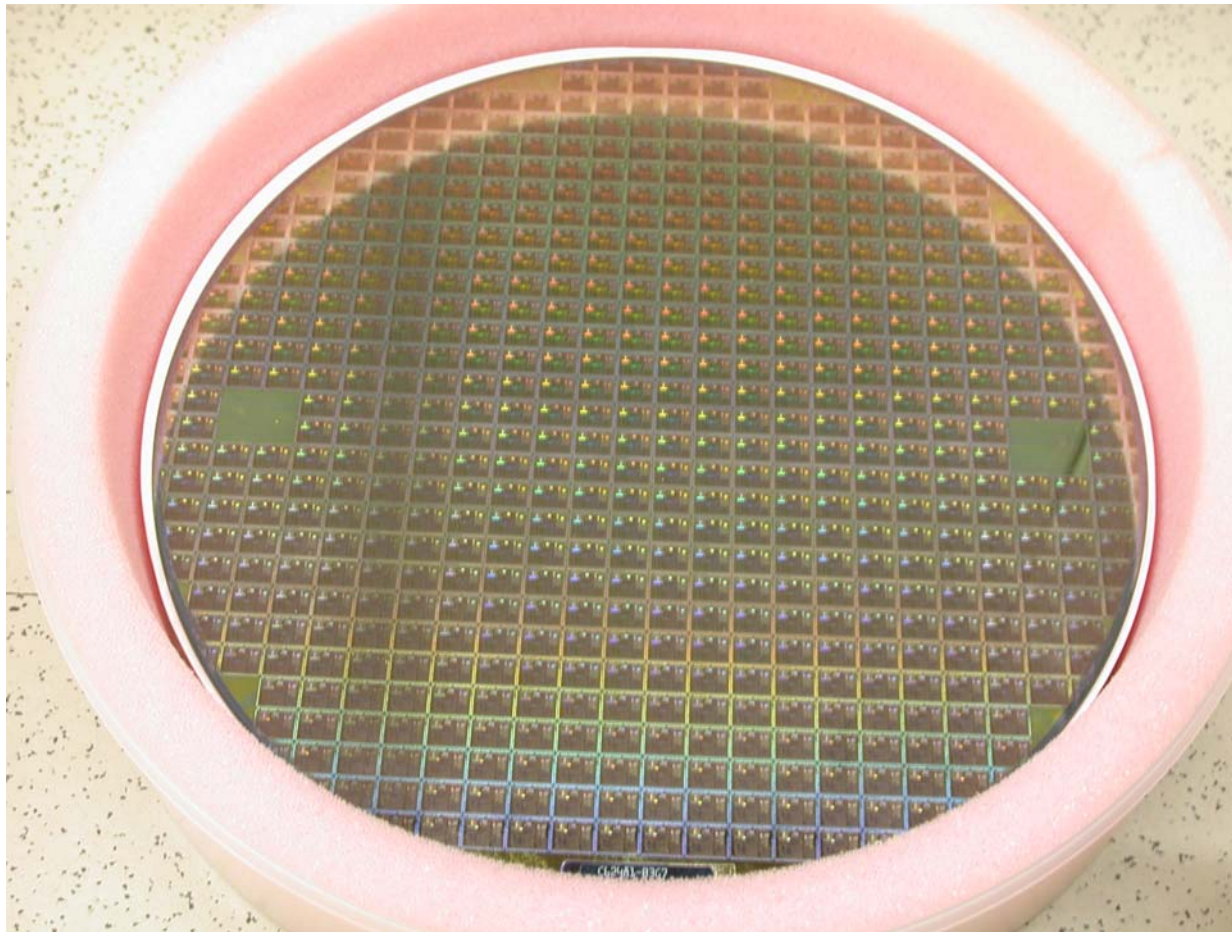


# CalNano Outreach Program

**UCI Nanotechnology**  
**Professor Burke**  
**Daniel Oh**

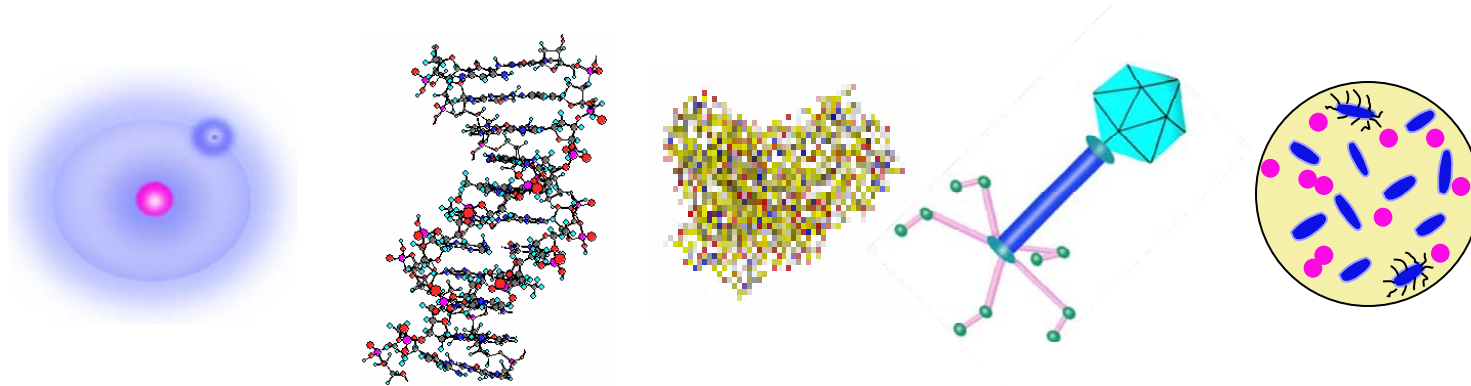
# A Wafer with Memory Chips



# Nanotechnology

- Nanotechnology: any fabrication technology in which objects are designed with individual atoms or molecules.
- Nanometer is  $10^{-9}$  meter.
- Man's average height = 1.75 meter = 1750000000 nanometers.

# Size Comparison

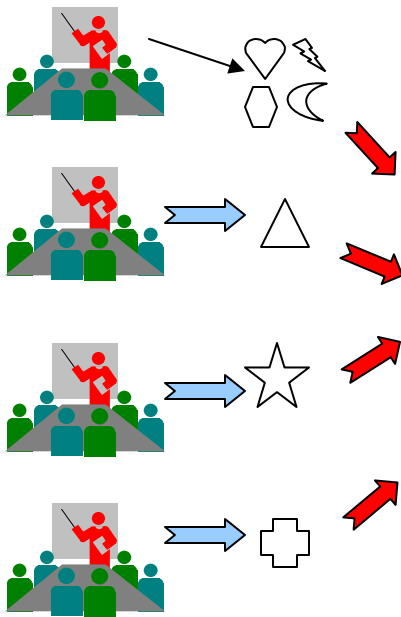


- |                               |                              |                              |                              |                              |
|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| <u>0.1nm</u>                  | <u>1 nm</u>                  | <u>10nm</u>                  | <u>100nm</u>                 | <u>1um</u>                   |
| <u><math>10^{-10}m</math></u> | <u><math>10^{-9}m</math></u> | <u><math>10^{-8}m</math></u> | <u><math>10^{-7}m</math></u> | <u><math>10^{-6}m</math></u> |
| <u>atom</u>                   | <u>DNA</u>                   | <u>molecules</u>             | <u>bacteria</u>              | <u>cell</u>                  |

# CalNANO Outreach and Education Plan

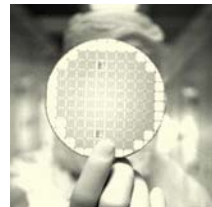
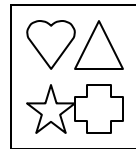
## Collecting Picutre

- Students design individual geometries
- Print to transparency



## Nanofab webcast:

- Undergraduate fabricates chip (300 students' designs per wafer )
- Webcast to schools of key processing steps

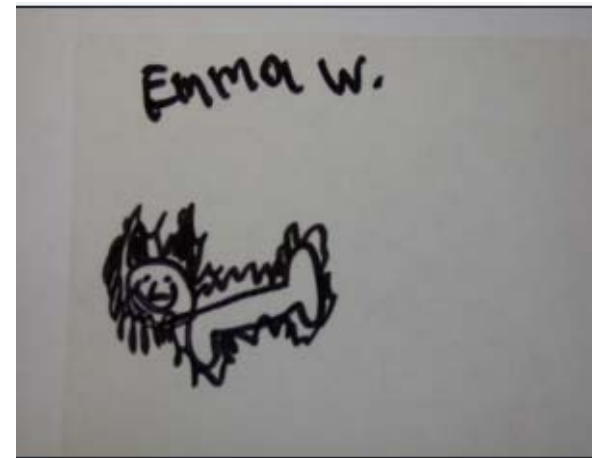
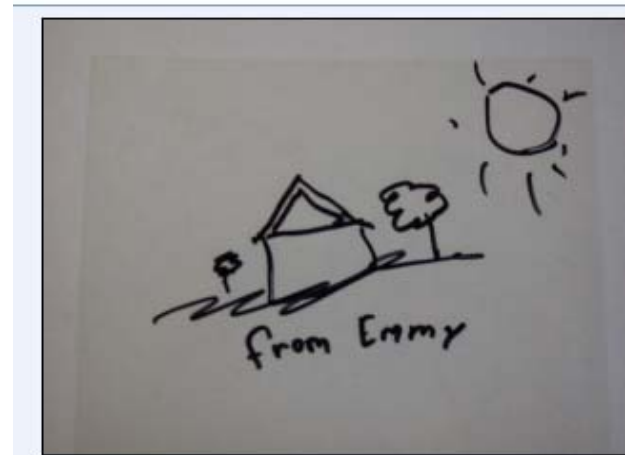


## School visit #3:

- Intro. lesson on nanotechnology.
- On-site microscope inspection by each student.



# Pictures From 1<sup>st</sup> graders



# Fabrication Process



# Pictures on the Wafer

