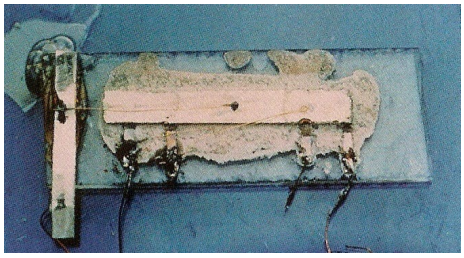
EECE 4410/EECE 5410
FALL 2021 TTh 5:00 pm – 6:15 pm
Introduction to Device Fabrication

This is a survey course on the fundamentals of integrated circuit (IC) and semiconductor device fabrication technology. Specialized microelectromechanical systems (MEMS) processing will also be studied. Students will develop an advanced understanding of all aspects of IC fabrication including: materials (Si, SiO_2, GaAs, Al, Au, etc.), processes (deposition, etching, lithography, oxidation/diffusion, etc.), and equipment (reactive ion etching, evaporator, plasma sputtering, chemical vapor deposition, etc.). This course will include lab demonstrations conducted in a Class 1000 cleanroom located in the lower level of Engineering Hall.

Cleanroom in EHall

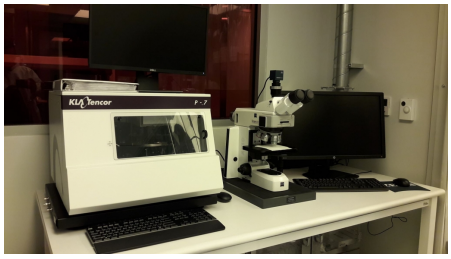
Photolithography
(Why is the room yellow?)

Solvent hood in EHall

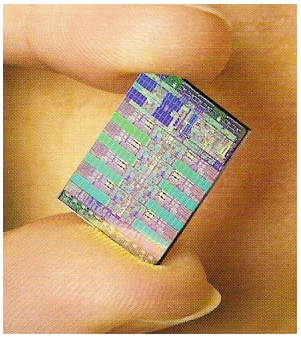


The first IC!

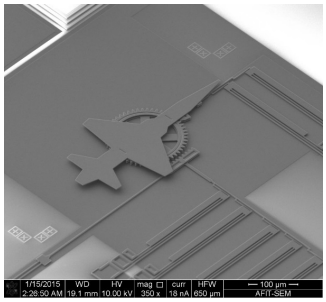
The first transistor!



Surface profiler and optical microscope in EHall



Modern day IC



A MEMS airplane?

Ronald A. Coutu, Jr., Ph.D., P.E.

Professor of Electrical Engineering
V. Clayton Lafferty Endowed Chair

Engineering Hall, room 248

Phone: +1 (414) 288-7316
Email: ronald.coutu@marquette.edu
Website: www.coutumems.com