

# EXPLORING YOUR CLEAN ROOM

## Wisconsin Center for Applied Microelectronics

The Wisconsin Center for Applied Microelectronics at the University of Wisconsin-Madison provides a research facility for microfabrication technologies, products and innovations. In order to give students a state-of-the-art education and to maintain leading-edge research programs, we continue to improve this advanced laboratory.

Location: The Center is located third floor of the Engineering Centers Building, 1550 Engineering Drive, Madison, WI 53706  
 Lab Manager: Dan Christensen, 608-262-6877  
 Website: <http://www.engr.wisc.edu/centers/wcam/>



## What's New in the WCAM?

The Denton Discovery 24 is a research grade sputter deposition system. It is a multi-cathode system configured in a con-focal, sputter-down manner. The system has: three DC magnetron target stations and one RF magnetron target station. A 200mm diameter rotating palette holds the samples during deposition. It is also capable of being RF pre-cleaned or biased during deposition. Each cathode will accommodate inter-changeable 3-inch diameter targets. The deposition may occur from multiple cathodes simultaneously in order to achieve a film which is a mixture of multiple targets. Also available is a quartz lamp to heat the wafers before and during deposition. High vacuum is achieved by a cryo-pump. Sputter gases available are: argon, oxygen, and nitrogen, they can be mixed in any ratio.



## Feature tool -- Did you know?



### POLYMER OVEN

This oven may not be one of our more attractive pieces of equipment but the oven offers a lot of potential for researchers who work

with polymers. It is a mechanical convection oven with the ability to flow nitrogen gas into the chamber.

The real potential of this oven lies with the digital controller and programming software. A user can develop a multi-step process with complex temperature ramps, dwell times, and cool down steps. The maximum temperature is 450°C. There are endless recipe possibilities.

And, it is easy to use. The researcher just places his sample inside the oven and launches the recipe. The recipe does the rest.

## Looking Inside the Clean Room

**In Person** – One distinctive feature of the WCAM Clean Room is the viewing windows. Anyone circumnavigating the hallway around the lab is able to view a working clean room environment. As a person



walks by, he can view researchers as they process their samples using various clean room equipment. This is research as it is happening.

How can you know who is in the clean room and what equipment are being used?

That is easy, too. There are monitors at the clean room entrance displaying the current list of clean room participants and equipment in use. This is instantly updated with changes as they occur.

Another monitor is dedicated to announcements concerning the clean room. With a quick glance during entry, a researcher is apprised of any news concerning the clean room or any of its tools.

**Website** – You are able to view the live activity in the clean room from our website camera. From our home website, just click on the “Look inside the Lab” link and view the clean room.



From this site, you can also choose to view a special video tour presentation of the clean room.