

## Ohio MEMS Association: Microsystems Academy

### Objective:

The Microsystems Academy provides high school students, community college students, and displaced workers the opportunity to develop hands on experience with the emergent Micro-Electrical-Mechanical-Systems (MEMS) and Nano technology fields. There are three unique aspects of this concept:

1. **Location:** The Academy is located in Midtown Cleveland and is within easy walking distance or RTA lines for city residents and students.
2. **Demand:** Microsystems technology is the future of manufacturing and the kind of technician level skills being developed are beginning to be in demand.
3. **Entrepreneurship:** Students at the Midtown center will have the opportunity to interact with MEMS start-up companies which can potentially lead to internships with those companies. Alternatively the students may want to become entrepreneurs themselves.



### Background:

In New York ([www.albanynanotech.org/info/news/1s\\_0s.cfm](http://www.albanynanotech.org/info/news/1s_0s.cfm)) and New Mexico ([www.tvi.edu](http://www.tvi.edu)) similar initiatives have been energizing and exciting for the students and communities involved, there is no project similar to this in the state of Ohio. The Microsystems Academy fosters Microsystems workforce development by integrating existing assets we have today (NOT by funding a new organization).

MEMS and Nanotechnology represents the “new face” of manufacturing, and Cleveland is fortunate to have the clustering of Orbital Research Corporation, Cleveland Medical Devices, iACTIV Corporation, the Ohio MEMS Association and other MEMS-related companies located within one building (the Midtown Innovation Center at 4415 Euclid Avenue). Indeed, the high-technology



microsystems-related researchers, technicians and equipment are the foundation of launching a Microsystems Academy. In addition, several small MEMS and Nano start-up companies are moving in to the Midtown Innovation Center, providing students direct exposure to high-tech entrepreneurial models and potential internships.

## Outcome:

Simple: New Economy Jobs. The Ohio MEMS Association is working to foster Microsystems innovation for our community. Nano and MEMS technology is expected to be a trillion dollar industry by the year 2015. Efforts to secure 10% of this market within the next 5 years for Ohio can result in the creation of 4,000 jobs. Many of the existing states (TX, CA, MI, NY, MA) have focused more on the R&D appealing 'wafer fabrication' component of MEMS technology (only one half of the production issues); increasingly, high-tech manufacturing firms (Xerox, IBM, Kodak, etc.) realize that the other half - Application Packaging technology – is now emerging as the critical path. The MEMS Academy provides an opportunity for Ohio to be at the leading edge of the critical element of Application Packaging for MEMS. The MEMS Academy reduces workforce development and “technology intimidation” barriers that seem so prevalent in our area.



This summer and fall we will train a total of 24 students during our inaugural year (CY2004) and over 67 during CY2005.

## What Might Success look Like?

It is hard to measure to what extent we are “energizing students or fostering entrepreneurship” but we have the following vision:

- The national press features Urban Cleveland as unique a place to be an Microsystems entrepreneur;
- Other Areas of the country desire to “franchise” this approach;
- Our High School students find within themselves the confidence and desire to start a Microsystems company;
- Our existing start-ups routinely hire technicians from local Community Colleges or interns from the High Schools.



## What non-financial resources are you looking for?



- Corporate liaisons who can share lessons learned about working with High Schools
- Mentorship by knowledgeable Urban leaders who may see problems or better understand training issues.
- Assistance from economic development experts who can help analyze or articulate economic benefits.
- Visibility to the corporate culture in Cleveland to grow the opportunities to those that pass through the Microsystems Academy