

## Pressure Sensor Workshop August 10 – 13, 2010

University of New Mexico  
MTTC- Manufacturing Training and Technology Center

### Participant Preparation:

- Participants need to read safety material and review the pre-assessment quiz as required in the email
- Students will receive access to all educational materials.

### Participant Materials (SCME Provided)

- Silicon Nitride Coated Wafers for Pressure Sensor
- Participants will have an opportunity to select kits to be shipped to them

**Participants are encouraged to bring their own laptops and cameras.**

**Discussion Led Format for presentations – Ask questions!**

### Day One - Tuesday

7:45 – Hotel Pick Up

8:00-8:30

- Welcome and Introductions – Pleil, Madsen, F. Lopez
- Overview of Activities and Expectations - Pleil
  - Anna's Paper Work
  - Pre workshop survey – Computer Lab
  - Agenda Review for the Week – Computer Lab

8:30-11:30

- Learning Module Overview – Online – Computer Lab
- MEMS DVD/ Discussion - Classroom
  - Or Remedial Safety for those who didn't complete online training in the Computer Lab
- Homework: DVD Activities

11:30 – 12:30 Lunch at the MTTC Tango Cafe

12:30-14:30

- Process Flow Chart and Flash Movie
- PS Process Story Board

14:30-16:00

- Safety Review and Cleanroom Tour - Madsen

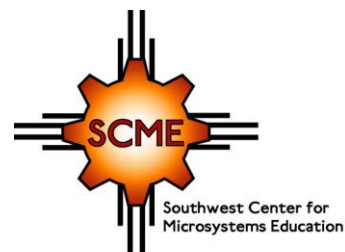
16:00-16:10

- Break

16:10- 17:00

- Written Safety Test – Classroom – Madsen/Pleil

17:00 - Dr. Pleil will drive participants back to the hotel



## Description Pressure Sensor Cleanroom Activity 1

- Gowning Procedure
- Wafer Handling
- Backside Pattern – four wafers – Coat, Expose, Develop, two for each group
- Inspect – staged wafer
- RIE Nitride Plasma Etch – two wafers staged, one for each group
- Inspect - Nitride Etched staged wafer
- Resist Strip – two wafers staged, one for each group
- Inspect – staged Nitride Etched resist stripped wafer

## Day Two - Wednesday

7:45 – Hotel Pick Up

8:00 – 11:45pm

- Group A Cleanroom – Pressure Sensor Activity 1
- Group B Classroom –
  - Review DVD activities
  - MEMS DVD Assessment / Discussion
  - Pressure Sensor Model Kit

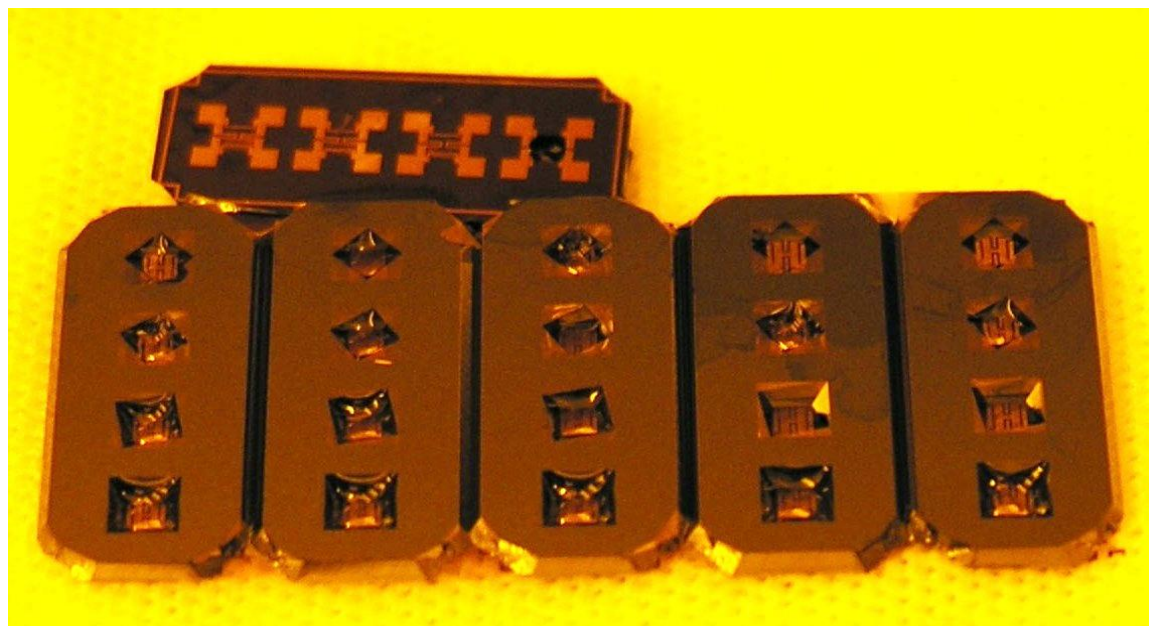
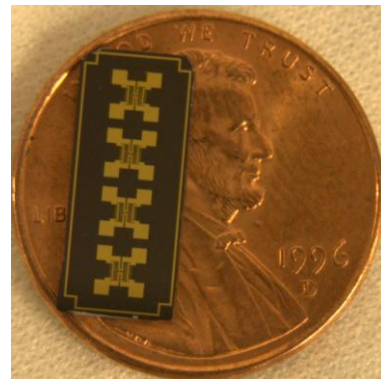
11:45 – 12:45 pm – Lunch

12:45 – 16:30

- Group A Classroom –
  - Review DVD activities
  - MEMS DVD Assessment / Discussion
  - Pressure Sensor Model Kit
- Group B Cleanroom – Pressure Sensor Activity 1

16:30-17:00

- Dr. Pleil will drive participants back to the hotel



## Description Pressure Sensor Cleanroom Activity 2

- Frontside Pattern – Liftoff – four wafers – Coat, Expose, Develop, two for each group
- Inspect – staged wafer post front side pattern
- Metal Deposition Demo – one wafer staged in the chamber with gold or actual run of 5 wafers
- Inspect – post gold deposition wafer
- Lift off Demo (2 wafers, 1 for each group), optional
- Inspect – post liftoff staged

### Day Three – Thursday

7:45 – Hotel Pick Up

8:00 – 11:45

- Group A – Cleanroom – Pressure Sensor Activity 2
- Group B – Classroom
  - Crystallography Kit – Breaking Wafers & Origami
  - Rainbow Wafer Kit

11:45 – 12:45 – Lunch

12:45 – 16:15

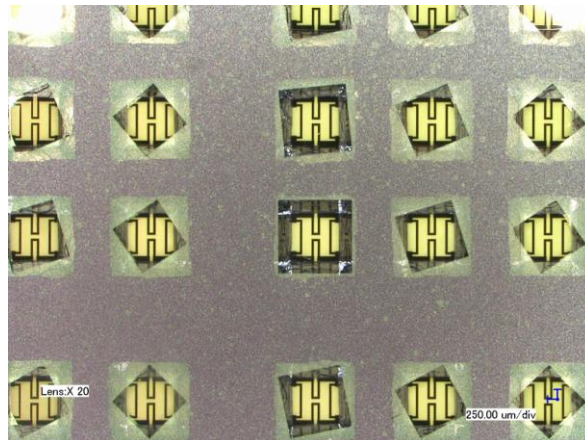
- Group A – Cleanroom – Pressure Sensor Activity 2
  - Group B – Classroom
    - Crystallography Kit – Breaking Wafers & Origami
    - Rainbow Wafer Kit
- 
- Session on MEMS Innovator Kit Overview – Optional
  - Return to Hotel





## Description Pressure Sensor Anisotropic Etch and Probe Activity 3

- Demo backside etch in KOH – one wafer
- Inspect - completed wafer staged
- Probe Wafer – completed wafer staged



## Day Four – Friday

7:45 – Hotel Pick Up

8:00 – 11:45

- Crystallography Assessment
- Lift-off Kit
- Micromachining PPT / Crossword

11:45 – 12:45 – Lunch

12:45 – 14:15

- All – Cleanroom and Probe Station – Pressure Sensor Activity 3
  - We will split into two groups

14:15-14:30 Break

14:30- 17:00

- Pressure Sensor Process Kit
- WB Assessment (Survey)
- Wrap up

