



MERIT
2006 FAIR



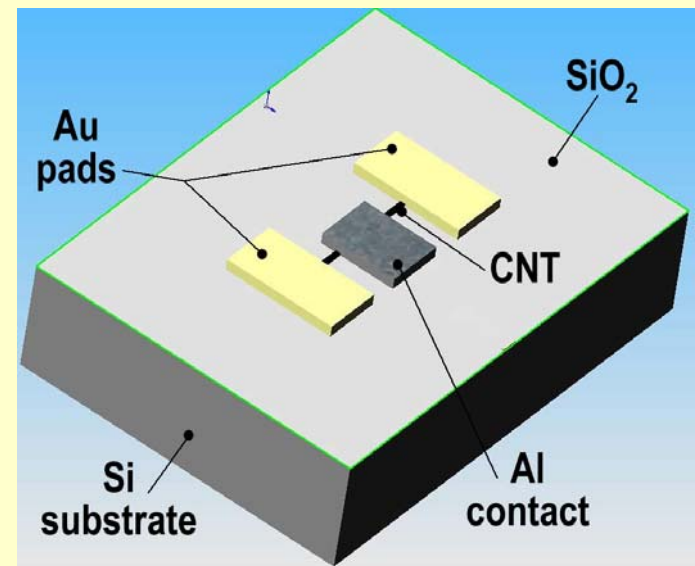
Carbon Nanotubes for Sensing Applications

Kristen Dorsey, Gökhan Esen, Michael Fuhrer,
Barbara Nichols, Alma Wickenden

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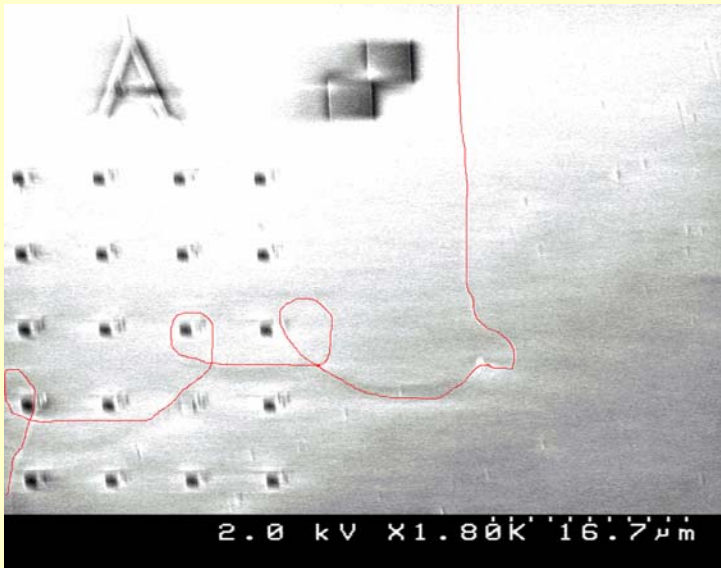
Project Goals

- Design and fabricate a CNT gas sensor device
- Measure device behavior for several test situations
- Determine if devices can be used for capacitive sensing
- Model governing device behavior

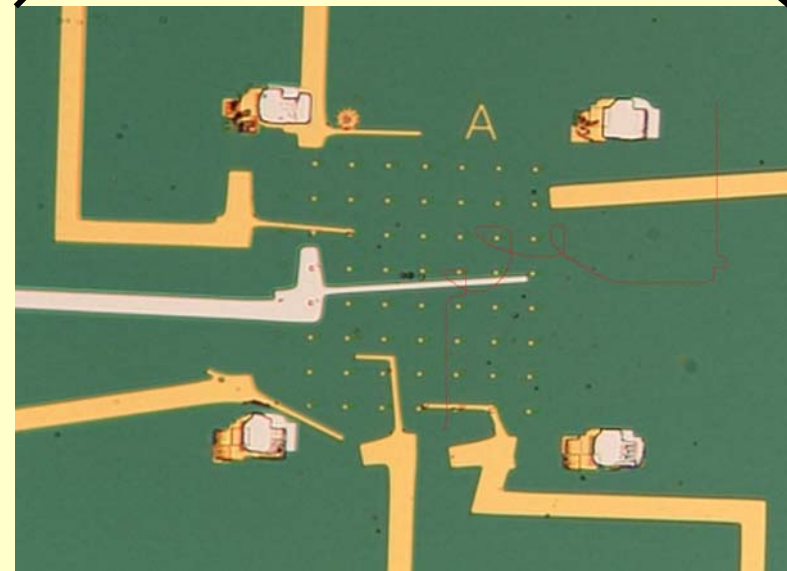
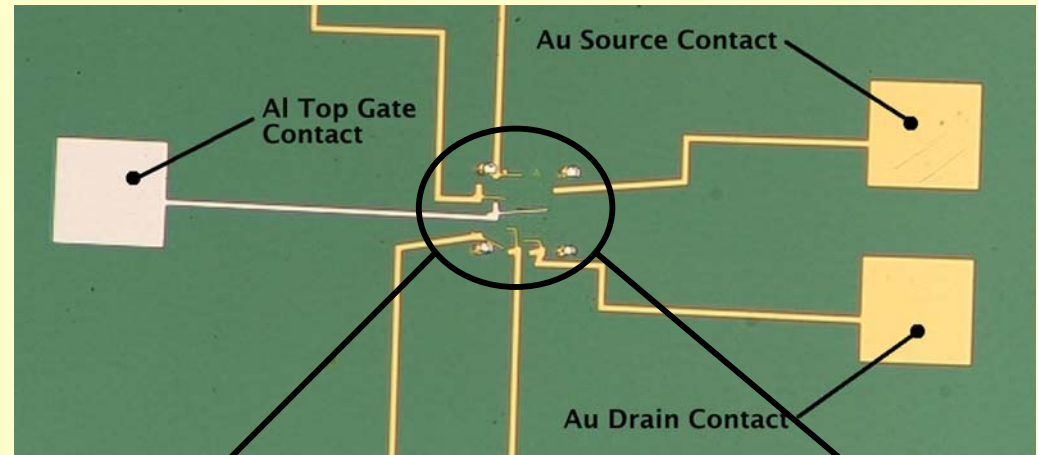


3-D CNTFET Device Model

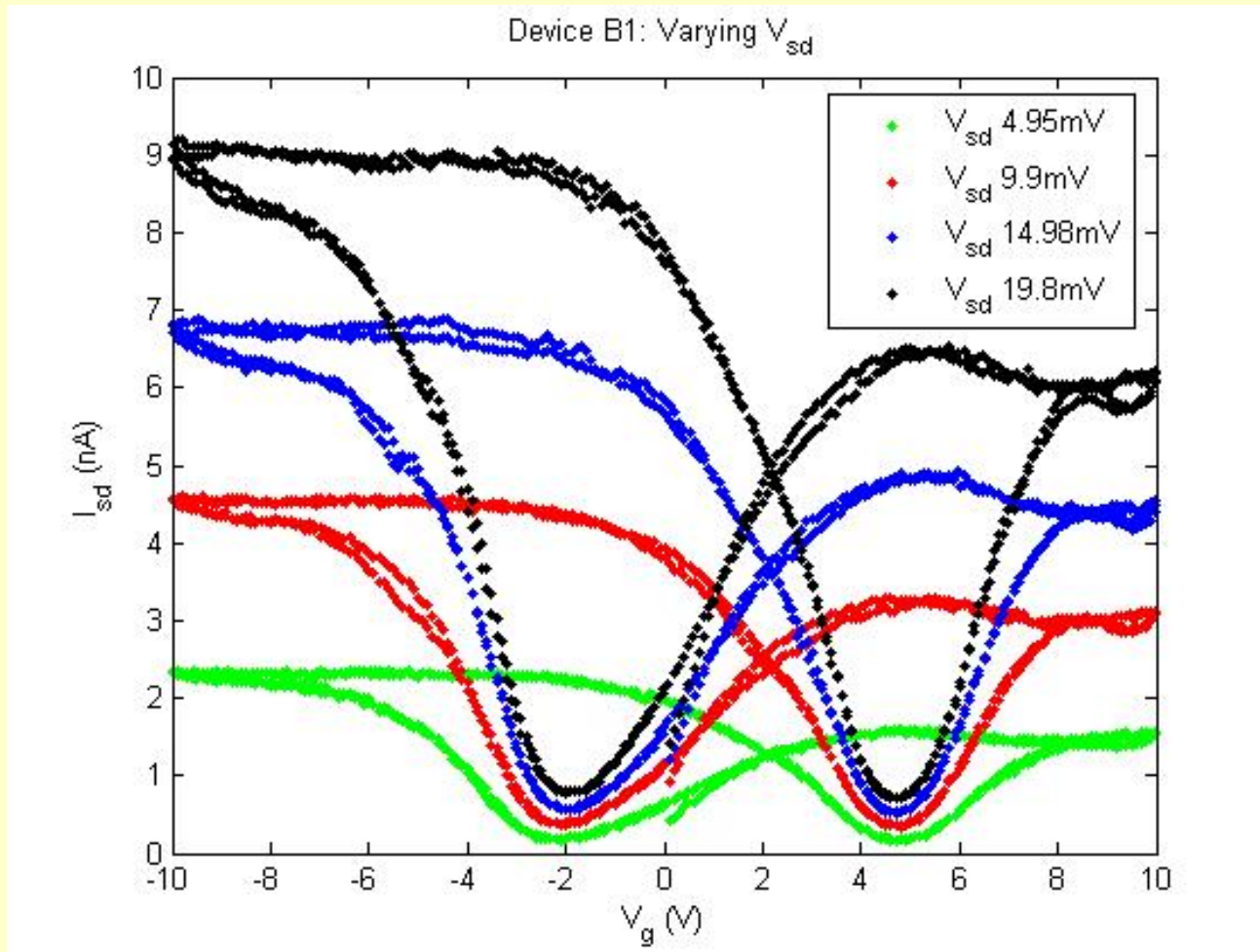
Device Fabrication



Alignment Markers for
Locating CNTs



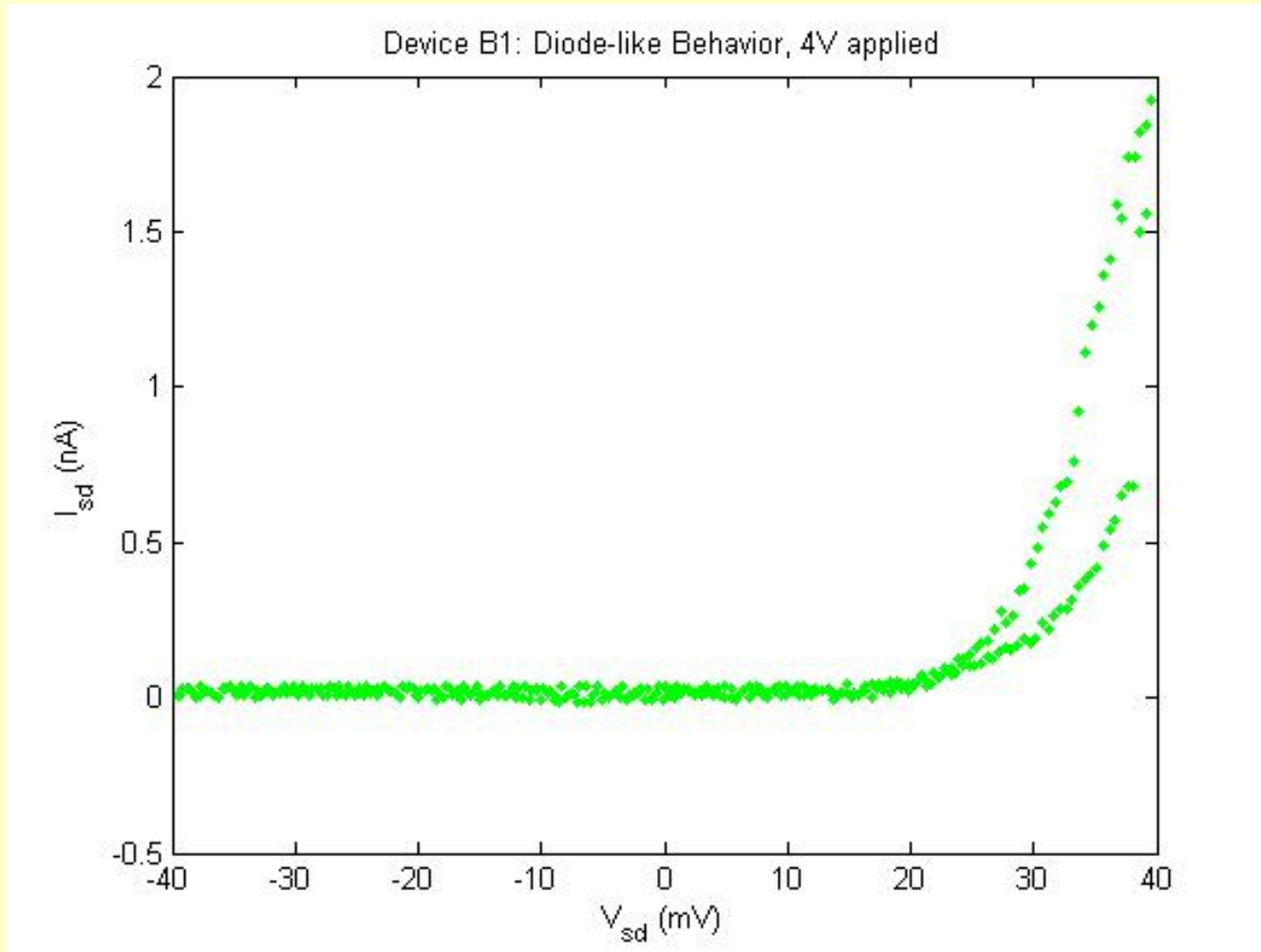
FET Behavior



I_{sd} - V_g curve

Back Gate FET

Diode Behavior



I_{sd} - V_{sd} curve

Al-Au Contacts

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