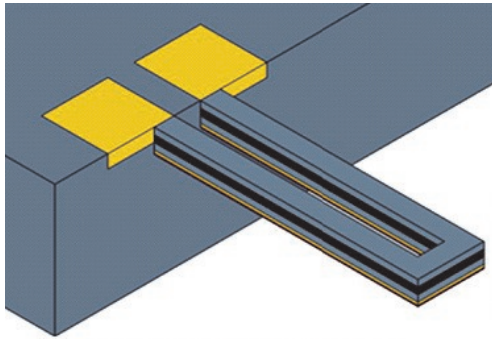


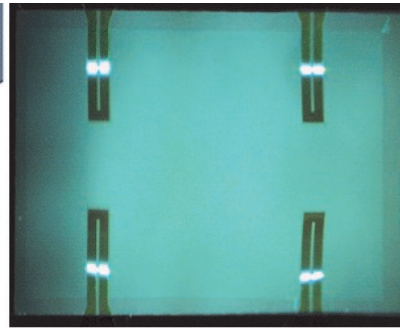
## NanoSniff's Revolutionary MEMS Sensors

### Piezoresistive MEMS Silicon Cantilevers

- A Cantilever is a diving board like structure that is anchored at one end and the rest is suspended.
- It can deflect both upwards and downwards due to compressive and tensile stresses causing strain in the whole structure.
- The Piezoresistive structure enables measurement of this strain in the form of change in resistance between two conducting points at the base of the cantilever.
- Therefore, the Piezoresistive MEMS cantilever is capable of transducing a nano-mechanical motion (i.e. deflection) into an electrical signal.



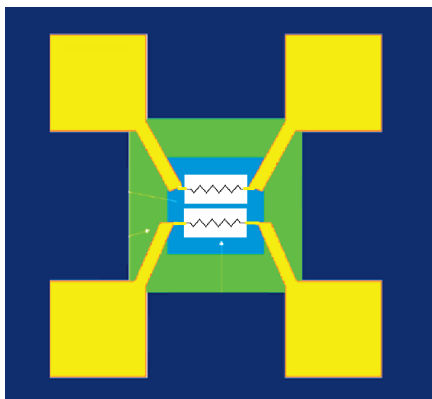
MICROCANTILEVER SCHEMATIC



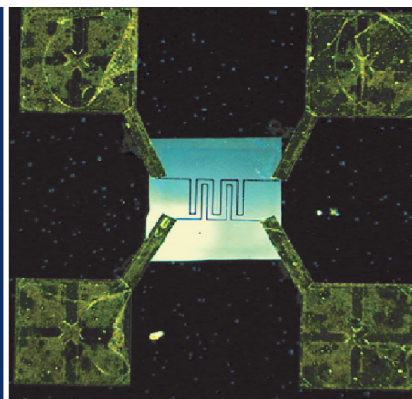
MICROCANTILEVER MICROSCOPIC

### Platinum based MEMS Heaters with integrated temperature sensor

- MEMS Heaters are micrometer sized hotplates.
- They are composed of thin suspended membranes that have a resistive coil sandwiched between electrically insulating, but thermally conducting layers.
- Our MEMS Heaters come with a thermally coupled temperature sensor coil (RTD) for real-time temperature measurement.
- Upon supplying an input voltage to the heater coil, the temperature of the membrane rises due to resistive heating.
- A constant current is given to the RTD coil to measure its resistance, thereby measuring the temperature of the membrane (resistance-temperature relation).



MICROHEATER SCHEMATIC



MICROHEATER MICROSCOPIC