

Suggested Research Projects

Microfluidics Projects

1. Micro Turbine Engine (MIT)
2. Micro Thrusters (JPL)
3. Inkjet Printer Heads
4. Micro Mixing Devices
5. Gas flow in microchannels
6. Micro-scale Aircraft
7. Micro Valves
8. Chemical Analysis on a Chip
9. Micro Pumps
10. Flow Sensors (shear stress, pressure)
11. Automotive Applications (Pressure Transducers)
12. Micro Mass Spectrometer
13. Fluidic Interconnections
14. Electrokinetic Flows (pumps, instabilities, etc.)
15. Integrated Circuit Cooling (Coology)

Bio-Medical MEMS

1. Gene Probe Chip (e.g. Affymetrix)
2. Capillary Electrophoresis
3. Micro PCR (DNA amplification)
4. Cytometers
5. DNA Sequencing
6. Bio-warfare sensors (Anthrax)
7. Proteomic Chips (High Throughput Screening)
8. Point of Care Devices (eg. Istat-corp)

Miscellaneous Micro Fluidics

1. Blood sucking insects: *Rhodnius prolixus*
2. Swimming Bacteria or Viruses
3. Swimming Sperm
4. Cell Transport in Biological Systems
5. Biological Surfaces
6. Air Bearings (Computer Hard Disc Drives)