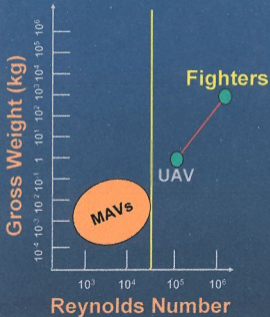


LOW REYNOLDS NUMBER REGIME

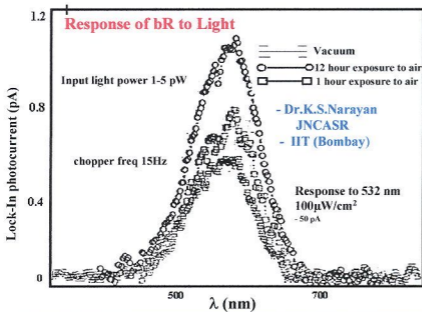


At low Reynolds numbers:

- Increase in profile drag
- Reduction of C_L max
- Reduction in Lift/drag ratio

Aerodynamic performance of airfoils is reduced

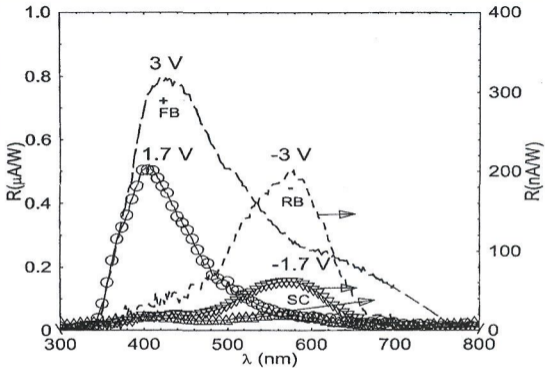
NANO BIOTECHNOLOGY - Bottom up approach
Light Sensitive Protein - Bacteriorhodopsin (bR)
(Day Imaging Sensor)



CDFD

Centre for DNA
Finger Printing &
Diagnosis

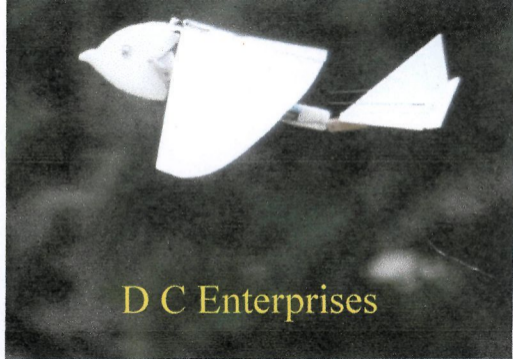
Hyderabad



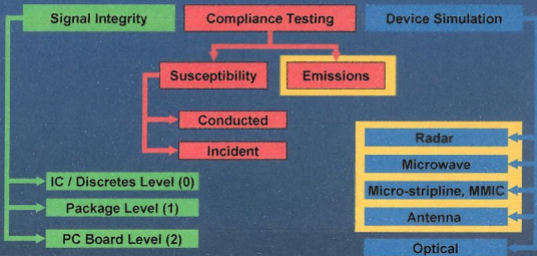
Spectral Response : bR on Conducting Polymer

Effect of Bias

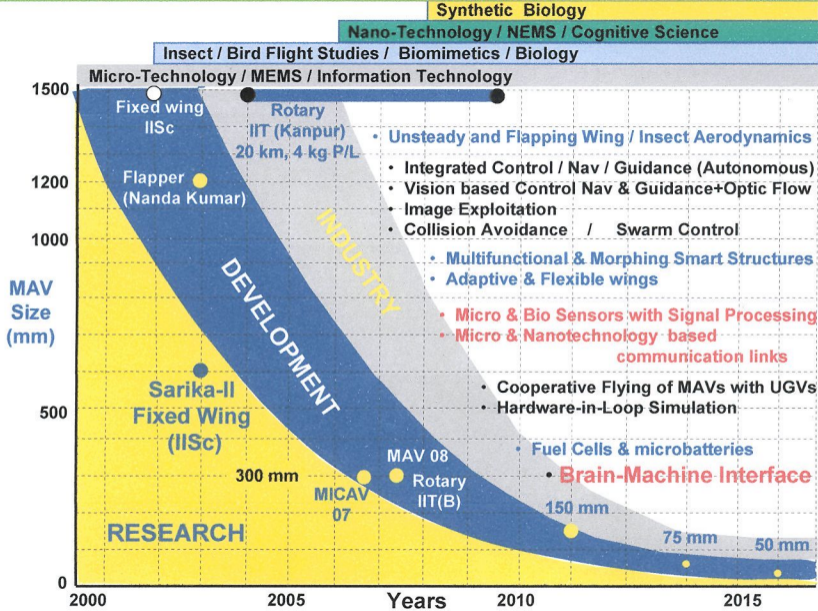
PhD Thesis Manoj A.G. - JNCASR : August 2003



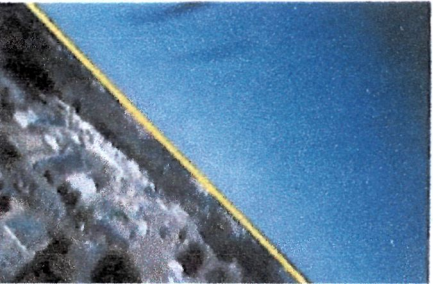
SIMULATION

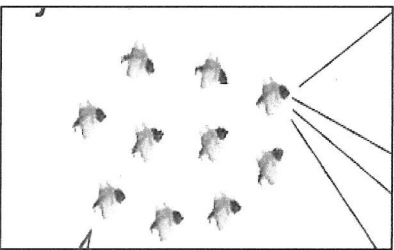


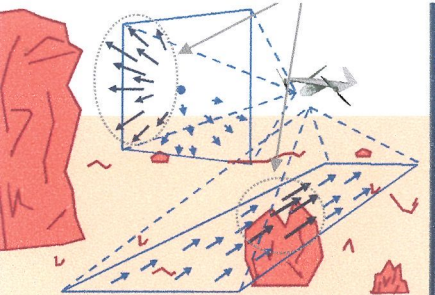


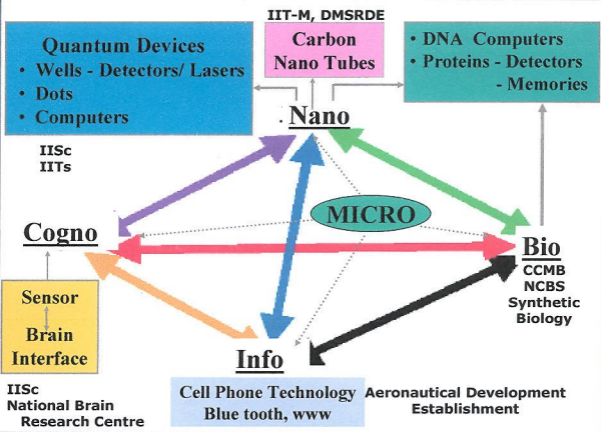


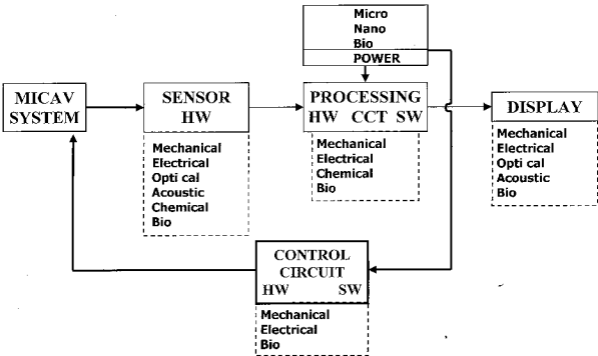












BIOLOGICAL MATERIAL

+

TRANSDUCING MICROSYSTEM

- Tissue
- Microorganisms
- Organelles
- Cell receptors
- Enzymes
- Antibodies
- Nucleic acids

- Optical
- Electrochemical
- Thermometric
- Piezoelectric
- Magnetic

Applications of Biosensors

- Information capture
- Affinity microarrays for DNA, proteins
- Biosensors for toxic gases, explosives & bio agents

Schematic of Biosensors

