

**The Indian Institute of Technology Bombay (IIT-B)****July. 2001 – April. 2002**Powai, INDIA (at The Department of Physics ([www.iitb.ac.in](http://www.iitb.ac.in)))

**Growth and Characterization of metal filled carbon nanotubes:** Extensive literature search was done to understand the critical parameters for nanotubes growth. Metal filled MWNTs were successfully grown using plasma CVD and their TEM and EDS data were analyzed. A growth process is developed to fill these Transition metals (Ni and Co) to almost 50% tubes.

**The Physical Research Laboratory (PRL)****May. 2001 – July. 2001**Ahmedabad, INDIA ( [www.prl.ernet.in](http://www.prl.ernet.in) )

**Ultrashort pulsed beam propagation:** This project involves the theoretical understanding of production of ultra short pulses ( few cycles, one cycle and  $\frac{1}{2}$  cycle) in collaboration with an experimental group at PRL. Propagation and optical properties of these femto (sub-femto) second pulses are studied in vacuum, dispersive linear and non-linear media.

**The Indian Institute of Technology Bombay (IIT-B)****July. 2000 – Dec. 2000**Powai, INDIA (at The Department of Physics ([www.iitb.ac.in](http://www.iitb.ac.in)))

**Tunneling Magnetoresistance (TMR) and its applications:** Theoretical project involving concept of spin dependent tunneling, GMR and TMR. Tested accepted theories for new materials and determining the expected value of TMR.

**Centre for advanced technology (CAT)****Dec. 2000- Jan. 2001**Indore, India ([www.cat.ernet.in](http://www.cat.ernet.in))

**Fifth school on the physics of beams:** The School was on experimental high energy physics. Topic covered were accelerator physics, transverse and longitudinal beam dynamics, cyclotron, synchrotron, storage rings, free electron lasers along with experimental demonstrations of superfish for r.f. cavity, beam position monitor, assembly of FEL magnets and dipole magnetic field measurements.

**Indian Institute of Sciences (IISc)****Sep.-2001**Bangalore, India ( [www.iisc.ernet.in](http://www.iisc.ernet.in) )

**National workshop on nanomaterials: Synthesis, Modification and Characterization by ion beam:** This workshop was on techniques involving fabrication of nanocrystalline particles and other nanostructures and modification of thin films using ion beam.

**The Indian Institute of Technology Bombay (IIT-B)****Nov.- 2000**<http://www.me.iitb.ernet.in/yantriki>)

**Yantriki 2000** – National robotics competition organized by IIT Bombay, INDIA. We designed a robot to play soccer on water against an opponent team. We lost to the winner on pre-quarterfinal round.

**The Indian Institute of Technology Bombay (IIT-B)****Nov. 2001**<http://www.civil.iitb.ernet.in/~lastraw>)

**Last-straw 2001** - “bridging the gap” competition organized by IIT Bombay, INDIA. We required to make a bridge using straws for highest load testing.