

# INTERNATIONAL ADVANCED RESEARCH CENTRE FOR POWDER METALLURGY AND NEW MATERIALS (ARCI)

(An autonomous R&D Centre of Department of Science and Technology, Govt. of India)

## **CENTRE FOR CARBON MATERIALS (CCM)**

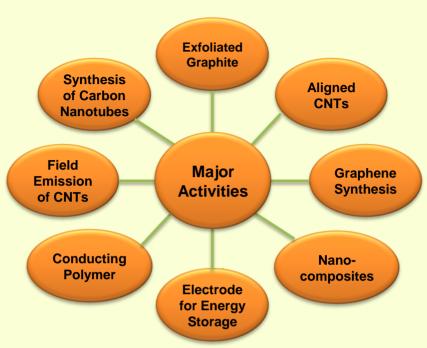


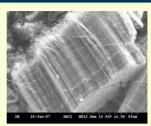


**Exfoliated Graphite** Worm

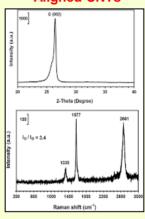


Flexible Graphite **Sheet** 





Aligned CNTs



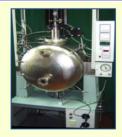
Raman Spectrum

- **Developing Innovative Processing Techniques for Technology Oriented Product Development**
- **Material Synthesis and Fabrication**

- **Characterization and Testing**
- **Prototype Development**
- **Technology Transfer**

#### MAJOR PROCESSING **CAPABILITIES**

- Exfoliation of Graphite
- Flexible Graphite Sheets
- Graphite Seals
- Graphite Gaskets
- Bipolar Plates for Fuel Cell
- **Graphite Boards**
- Oil Adsorption
- Synthesis of carbon nanotubes
- Synthesis of Graphene
- Field Emitter (Aligned CNTs)
- Nano-electrodes for Supercapacitor
- CNTs based Nano-composites
- Conducting Polymers (CNTs)
- Nanofluids (CNTs)
- **CNTs** based Sensor



Arc discharge Set up



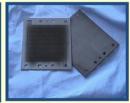




### **Exfoliated Graphite Products**

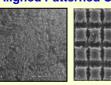




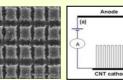


**GNP** 

**Aligned Patterned CNT & Field Emission** 



**CVD Set up** 









**TMA** 

#### MAJOR FACILITIES

- Exfoliation of Graphite Pressing and Rolling
- Arc Discharge Set up
- **Chemical Vapor** Deposition
- Fluidised Bed Reactor
- Arc-under water
- Sputtering Unit
- Planetary Mill
- CHARACTERIZATION Thermal Diffusivity (Cond.)
- Analyser (LFA) Simultaneous Thermal
- Analyser (STA)
  Thermo Mechanical Analyser (TMA)
- Zeta Sizer
- Rheometer
- **UV** Spectrometer



**Sputtering Unit** 

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