SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

CATEGORY – 1 UNIVERSITY BY UGC

CENTRE FOR NANOSCIENCE AND NANOTECHNOLOGY

Research | Awareness | Innovation

The Centre for Nanoscience and Nanotechnology (CNSNT) was established in January 2006 at the Sathyabama Institute of Science and Technology, Chennai campus to accomplish the goal of enhancing advanced research in the areas of Nanoscience and Nanotechnology. The main research focus of CNSNT lies in engineering the materials at nanoscale for plethora of applications such as energy, space, defence, healthcare, and environment sectors. Towards the global recognition of the Centre, 1000+ papers were published in peer reviewed highly reputed international journals, and 100+ international and national patents were published/granted. The CNSNT has received more than 30 crore rupees research grants from various national and international funding agencies. Since 2014, the "Centre of Excellence for Energy Research (CEER)," funded by the MHRD, Government of India, under the Frontier Areas of Science and Technology (FAST) scheme, has been successfully operating at CNSNT. The Centre also actively organizes several training and awareness programmes, workshops, national and international conferences on recent trends and developments of Nanoscience and Nanotechnology on various themes of global interests. The Centre is undertaking research & development and consultancy projects from various industries and research organizations in India aiming towards innovative products development.

www.centrefornanotechnology.com

Our Vision and Mission

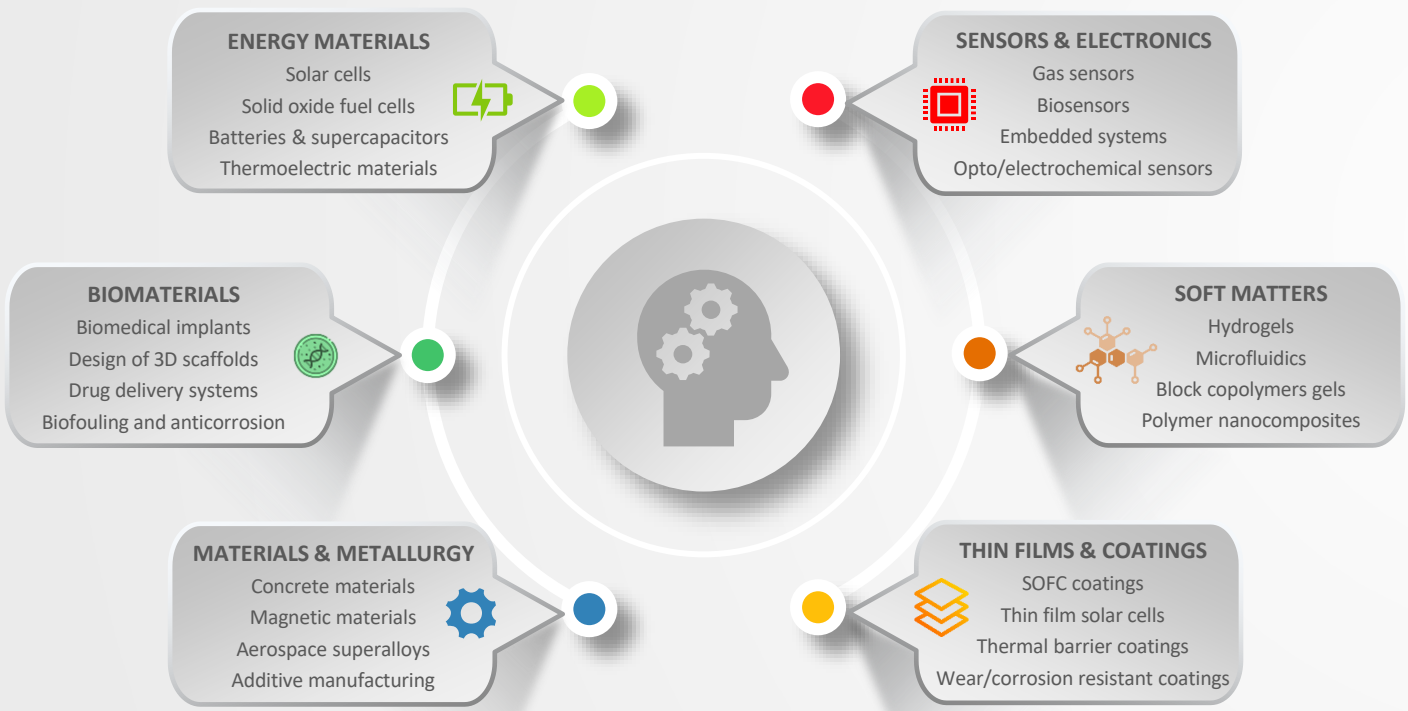
VISION

To accelerate the innovation in nanoscale research aiming towards revolutionary technologies with enduring societal impact

MISSION

- To develop inventive technologies that redefine scientific and engineering possibilities using cutting-edge research in nanoscience and nanotechnology
- Harness the power of nanoscale advancements to address global challenges in energy, healthcare, environment, and technology for a more sustainable future
- Foster interdisciplinary collaboration and knowledge dissemination to ensure more equitable and innovative world

Research at CNSNT



Industrial Focus:

Smart Windows | **Energy Sectors** | **Biomedical** | **Electronics** | **Mechanical**

Milestones of CNSNT till 2025

07 Published more than 1000 research articles in international journals

06 MoU signed with 20+ International universities & 10+ companies in India

05 Filed/published/granted 100+ National/International patents

04 Received research grants >30 crore rupees from GOI funding agencies

03 25+ candidates completed doctoral degrees & 10+ postdoctorates

02 Established Centre of Excellence through MHRD, GOI under FAST Scheme

01 Centre for Nanoscience & Nanotechnology Established in the year 2006

Synthesis Facilities at CNSNT

Deposition Techniques

- RF/DC Magnetron Co-Sputtering
- Electron Beam Evaporation (EBPVD)
- Pulsed Laser Deposition (PLD)
- DC Magnetron Sputtering
- Thermal Evaporation
- Chemical Vapor Deposition (CVD)
- Electrospinning Setup
- Spin and Dip Coatings

Nanomaterials Synthesis

- Ball Milling
- Wet Chemical Synthesis Labs
- Hydrothermal Method
- Microwave Synthesis
- High Speed Centrifuge
- High-Temperature Furnace (1400°C)
- High-Temperature Vacuum Furnace
- Rotary Evaporator










Characterization Facilities at CNSNT

- X-Ray Diffractometer (XRD)
- X-Ray Photoelectron Spectroscopy (XPS)
- Micro Raman Spectrophotometer
- Field Emission Scanning Electron Microscopy (FESEM)
- High-Resolution Scanning Transmission Electron Microscopy (HRSTEM)
- Energy Dispersive X-ray Spectroscopy (EDS)
- Atomic Force Microscopy (AFM)
- Ultraviolet-Visible-Near Infrared Spectroscopy (UV-Vis-NIR)
- Fourier Transformation Infra-Red Spectroscopy (FT-IR)
- Electrochemical Workstation - Biologic Instruments
- BET Surface Area Analyzer
- Potentiostat/Galvanostat/Impedance Analyzer (EIS)
- Fluorescence Spectrophotometer
- Hall Effect Measurement System
- DEKTAK Stylus Profilometer
- Linear Reciprocating Tribometer (LRT)
- Olympus Optical Microscope
- Metal Inverted Microscope
- Advanced Photoreactor Facility
- Epifluorescence Microscope

Our Funding Agencies

MHRD Govt. of India

Department of Science & Technology, Government of India

Department of BioTechnology, Government of India

MINISTRY OF EDUCATION MALAYSIA

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