National MEMS Design Centre (NMDC)

MEMS Design Centre at our college was inaugurated on 30th March 2012 by Dr. V. Ramgopal Rao, IIT Bombay and Dr. S. Mohan, IISc Bangalore for the benefit of users from this region. Later the centre has been renamed as a national MEMS design Centre equipping with site licenses of software's programs such as COVENTOR MEMS+, Intellisuite and COMSOL (as a Class kit of 30 licenses) under National Program on Micro and Smart Systems (NPMASS). Also have collaboration with IITB, Mumbai and IISc, Bangalore. Centre motivates the research activity in the field of MEMS by proper utilization of the facilities provided by NPMASS from design to fabrication of prototype MEMS products and specific field applications.

National MEMS Design Centre Inauguration by Dr.V.Ramgopal Rao & Dr.S.Mohan

SVEC will also facilitate external researchers from other interested institutes (academic or National labs subject to individual software licensing conditions) to use the design tools. In this centre all the departments share the simulation facility supported by NPMASS and fabrication will be done in IITB or IISc Bangalore. The departments are required to promote the area of MEMS through independent department course at UG/PG levels to involve students and faculties in developing MEMS related projects and research activities. In the absence of required in -house comprehensive facilities for complete fabrication of MEMS, the short term strategy is

to focus on design modeling and characterization.

National MEMS Design Centre Visit by Mr.Manoj Manchu, Dr.T.Lazar Mathew, and Other Delegates after shifting the Centre

Many of the faculty members were chosen the specialized topics on their discipline and their work is under progress. In the Institution we were organized training programs on MEMS Design using COMSOL Multiphysics and MEMS Design using CoventorWare. Many faculties attended various programs like conferences/workshops/training programs in India. The output generated by the centre is in the form of Prototypes, two research projects were completed and two were under progression.

VISION

To be the pioneer in coordinating and facilitating strategic collaboration between various research centers, educational institutions, industrial sectors by undergoing application oriented research in the area of MEMS/NEMS.

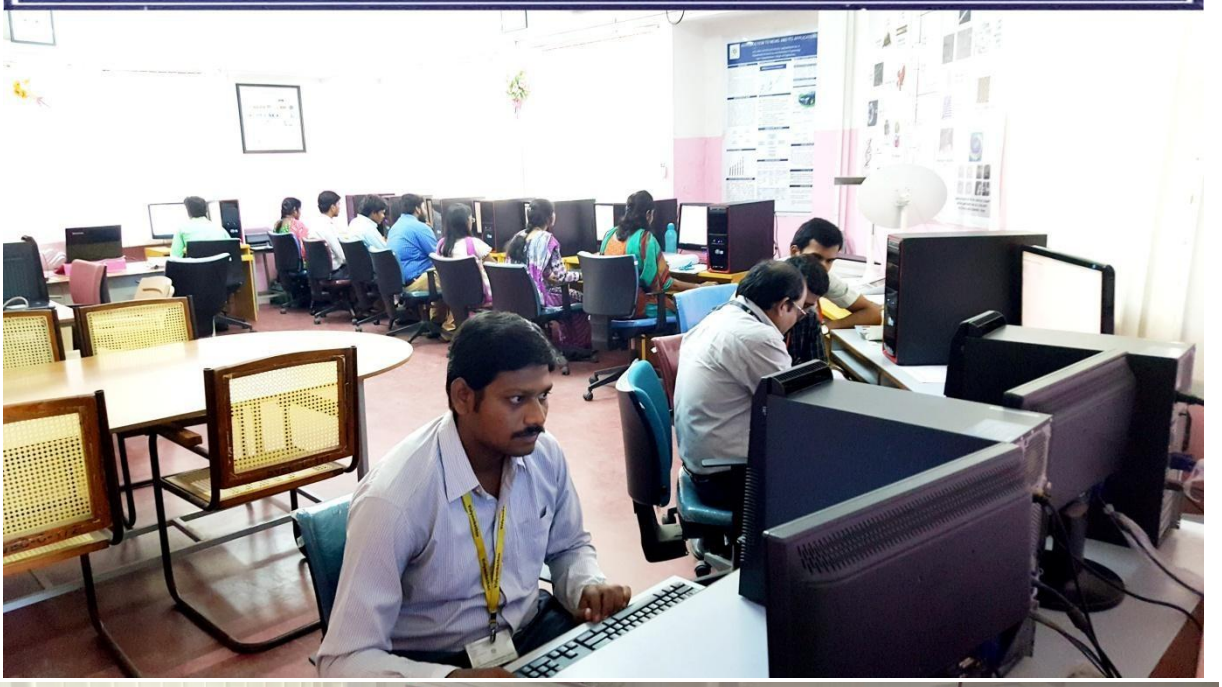
MISSION

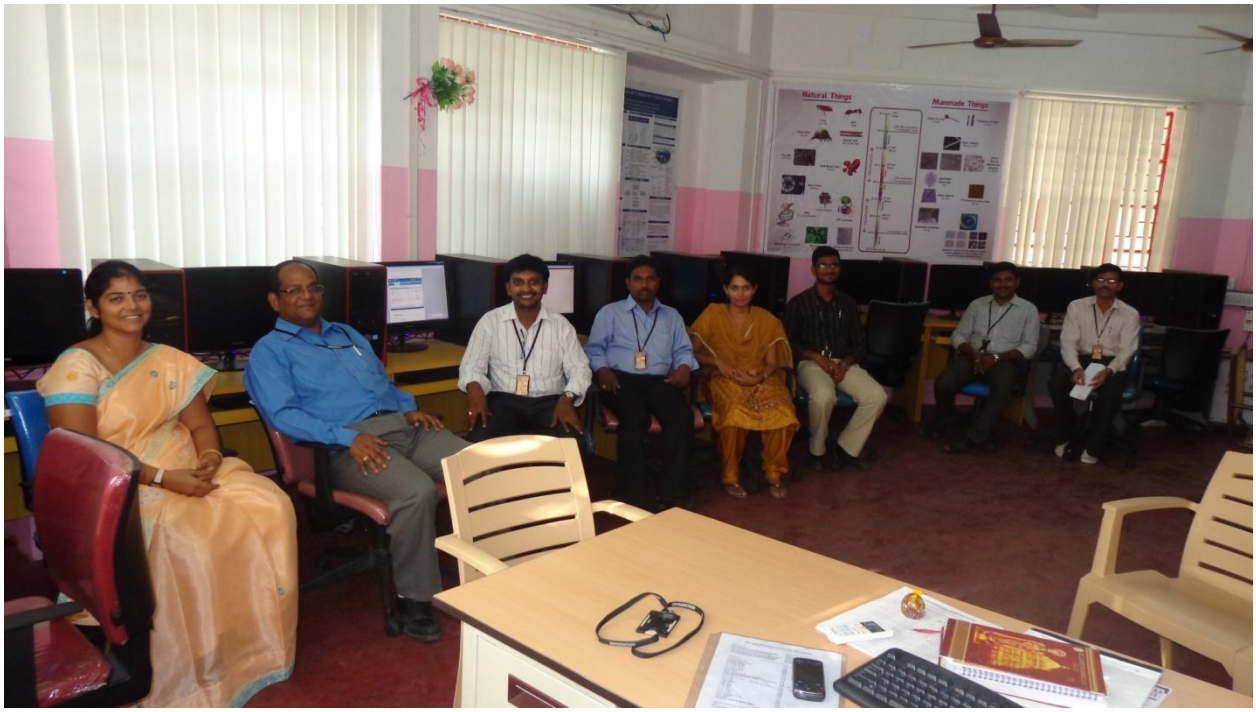
- Encourage the faculty, students and other researchers about research opportunities in MEMS/NEMS.
- Furnish resources for translating ideas into concrete research activities.
- Identify potential Academia & Industry partners for commercialization of research done at the centre.
- Become a leading transformational hub for innovative and collaborative research for advanced sensing and micro/nano technology aiming at diversified applications.

Objectives

- To conduct research in MEMS technology and its applications in the field of Surface Acoustics, Gas Sensors for Environmental Monitoring.
- To undertake funded research projects in the field of Hydrogen Leakage Monitoring.
- To develop Sensors for Robotic – Exoskeleton application.
- To conduct research in the field of MEMS technology for Biomedical Applications.
- To transfer technology from research and development among Academic Communities and Industries.

NATIONAL MEMS DESIGN CENTRE
(UNDER NPMASS)





COLLABORATIONS

- **NanoSniff Technologies Pvt. Ltd**., IIT Bombay, Powai, Mumbai with Dr.Nithin Kale, Chief Technology Officer.
- **IIT Madras**, Chennai with Professor Ram Prabhu, Department of Physics.
- **IIT Tirupati** with Professor N.L Murthy.
- **NIT Raipur** with Dr. Alok, Department of ECE.
- Incumed, a Research and Development division of **RELISYS Medical Devices Limited, Hyderabad.**
- **Indian Institute of Engineering Science and Technology (IIEST) SHIBPUR**, West Bengal with Dr.S.Maity.
- **Raiganj State University**, West Bengal with Dr. P. Chakraborty.
- **Gurunanak Institutions Technical Campus**, Hyderabad with Dr.K.Shanthi, Professor & Head, Department of EEE.
- **A.N.G.Ranga Agricultural University**, Tirupathi, with Dr T.N.V.K.V.Prasad, Senior Scientist, Dr P. Sudhakar, Professor & Head.
- **K G Hospitals**, Coimbatore, with Dr. V. Raj Kumar, Oncologist.

Research Facilities & Equipment Available in the Centre

S. No.	Name of the Equipment
1.	COMSOL Multiphysics (1+ 30 User) Simulation Software
2.	OmniCant (Hardware Equipment) for Characterization
3.	Hind HIVAC deposition unit (Nanoelectronics Lab)
4.	Digiqual Vacuum/Tabular Furnace (Nanoelectronics Lab)
5.	Heater With Magnetic Bit (Nanoelectronics Lab)
6.	Chemical Bench (Nanoelectronics Lab)

7.	Spectrospin Spin coater (Nanoelectronics Lab)
8.	Thickness monitor unit (Nanoelectronics Lab)

Research Deliberations

'Bharat Ratna' Prof. C.N.R. Rao

Dr. V. Ramgopal Rao, Director, IIT Delhi

Mr. B. Ramanjaneya Sharma,
Senior Technical Staff Member, IBM, USA

Prof. D.N. Singh, IITBombay

Prof. S.R. Rao, DBT

Dr. T. Srinivas, IISc, Bangalore

Dr. Lazar Mathew, Former Director, DRDO

Dr. Prahlada, Professor Emeritus
Padma Shri Awardee, Former Director, DRDL.