

Profile of Prof N C Shivaprakash



PERSONAL DETAILS

- Born on 4th June 1955.
- **Formerly at Department of Instrumentation and Applied Physics, Indian Institute of Science, Bangalore 560012**

CURRENT AFFILIATIONS

- Adjunct Professor, NIT Meghalaya, Shillong (2022 -
- Adjunct Professor, NIT Jalundhar, Jalundhar (2021 –
- Emeritus Professor , Visveswaraya Technological University, Karnataka (2020 -

ACADEMIC QUALIFICATION

- Bachelor and Master degrees in 1976 and 1978 from Mysore University.
Ph.D degree in 1982 from the Mysore University

AREA OF RESEARCH

- Electronic Instrumentation, Analytical Instrumentation, Embedded systems and Development of a high pressure DTA and its applications, cry cooler based Cryosorption Pumps, conducting polymers and OLEDs.
- Completed many R & D and consultancy projects funded by DRDO, ISRO, DST, UGC and CSIR.

R and D PROJECTS

Has developed indigenously many Instruments which have potential applications in space programme, fusion applications and defense research. A few of the development works are listed here.

- A novel high pressure Differential Thermal Analyzer (DTA) has been developed. This is an analytical instrument developed indigenously as commercial ones are very expensive. Developed instrument is used at very high pressures and temperatures.

This has been extensively used in the phase transition studies of chalcogen materials.

- Organic Light Emitting Diodes (OLEDs) have potential applications in saving the power consumption. Fabrication of Organic Light Emitting Diodes using polymeric anode has been done. Also design and developed Electrochromic conducting polymers for smart pixel display applications.
- Developed a cryocooler based high efficiency cryosorption pump whose pumping speeds are higher at least by a factor of 1.5 compared to the commercial pumps in specific pressure ranges. This uses a material of high adsorbing capacity along with an adhesive of high thermal conductivity. The developed pump will be quite useful for fusion applications.
- Design and fabrication of flexible cryogenic transfer lines to transfer Liquid Helium and Liquid Nitrogen to end applications has been successfully done. This development work is very useful for fusion applications.
- Magnetic sensors play a major role in electric vehicles. Developed a monolithic thin film magnetic sensors with a combination of Anisotropic Magnetoresistance and Planar Hall Effect for 360 degree and Giant Magnetoresistance for turn counting. Development of multi-turn sensor with magnetic, nano-wire are under progress. A multinational company Honeywell is involved in this work with our group.

RESEARCH PUBLICATIONS

- Over the last 42 years of research career, contributed substantially by publishing and presenting **over 170 papers** in reputed International and National journals.

PROFESSIONAL AFFILIATIONS

- **Senior member of IEEE (USA)**
- Fellow of Institution of Electronics and Telecommunication Engineers,
- Fellow of Institution of Engineering and Technology,
- Fellow of Instrument Society of India.

AWARDS, MEDALS & RECOGNITION

- Master examination with **I RANK** and got 5 Gold Medals,
- Recipient of **Young Scientist Award** (1983) of the Karnataka Association for Advancement of Science

RESPONSIBILITIES

- Chairman/expert member in committees of MoE, AICTE, NBA, NAAC and UGC New Delhi.
- Member of Selection Committees of many IITs, NITs and Universities.
- Chairman/member of Governing councils, Senate and Academic Councils of Institutions of repute and Universities.
- Referee/ Reviewer of many International and National Scientific Journals

- Member of Joint Review Mission of World bank TEQIP project,
- Mentor and performance auditor of TEQIP funded Institutions.
- Delivered many key note and **invited** talks at the International and National conferences India and abroad.

Visited USA, Canada, Germany, Netherlands, UK, Sweden, France, Russia, Ukraine, Poland, Japan, Berlin, Indonesia, Singapore and Spain