

ABOUT US

The Department of Instrumentation and Applied Physics falls under the Division of Physical and Mathematical Sciences and the Faculty of Engineering. The department was established in the year of 1996.

FACULTY

S Asokan, PhD (IISc, Bengaluru)

Professor and Chair

Fiber Bragg Grating Lab

N C Shivaprakash, PhD (Mysore University, Mysore)

Chief Research Scientist

Partha Pratim Mondal, PhD (IISc, Bengaluru)

Associate Professor

Nano Bio Imaging Lab

Abha Misra, PhD (IIT, Bombay)

Associate Professor

Nano-Microsystems Lab

Sanjiv Sambandan, PhD (University of Waterloo, Canada)

Associate Professor

Flexible Electronics Lab

Atanu Mohanty, PhD (Polytechnic University)

Associate Professor

Mass Spectroscopy Lab

G R Jayanth, PhD (Ohio State University, USA)

Associate Professor

Nanometrology Lab

Sai Siva Gorthi, PhD (EPFL, Switzerland)

Associate Professor

Opto and Microfluidics Instrumentation Lab

T K Mondal, PhD (IISc, Bengaluru)

Principal Research Scientist

Chandni U, PhD (IISc, Bengaluru)

Assistant Professor

Nanoscale Devices Lab

Asha Bhardwaj, PhD (IIT, Delhi)

Assistant Professor

NanoStech Lab

Baladitya Suri, PhD (University of Maryland, USA)

Assistant Professor

Quantum Technologies Lab

Jayaprakash, PhD (IISc, Bengaluru)

Assistant Professor

Frontiers in Imaging Spectroscopy and Theranostics

V C Vani

Senior Scientific Officer

CURRENT STUDENTS

M.Tech - 7

M.Tech (Research) - 6

Ph. D - 59 (Included QIP & ERP)

Int. Ph. D - 1

ADMISSIONS

The department offers MTech course programme and two research programmes namely PhD and MTech (Res). For further details:

<http://iap.iisc.ac.in/academics/mtech-program/>

<http://iap.iisc.ac.in/academics/research-programs/>

CONTACT

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INSTRUMENTATION AND APPLIED PHYSICS (IAP)



RESEARCH

- **Imaging and Sensing**

Fiber Optics, Thermal Wave Spectroscopy, Fiber Bragg Grating sensors, Optical Switching, Photoconductivity studies, Single photon sources and detectors in the microwave regime, Biosensors, Optoacoustic Imaging, Tomography, Image Reconstruction and Analysis, Signal Processing.

- **Microscopy and Nanoscale Imaging**

SPM, Fluorescence Microscopy, AFM, Multiphoton Microscopy, Nanoscopy, 3D Nanometrology, Multidimensional Imaging and Reconstruction, Nanomechanical properties of biological samples, Bioinstrumentation and Bioimaging, Magnetic tweezers.

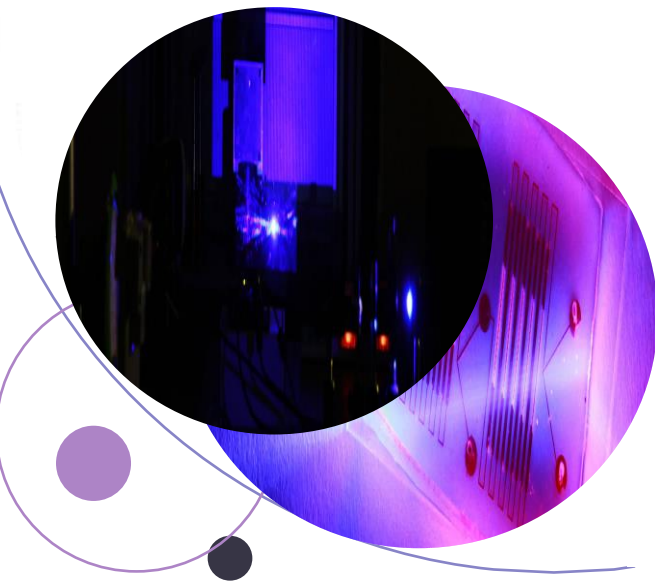
- **Material Science and Engineering**

Novel semiconductors, Chalcogenide based phase change memory materials for data storage and optical materials for integrated optics, Nano-materials, Meta-materials, Mechanics of Nanostructures, Mass Spectrometry, Self-assembly, mitigating losses in superconducting circuits for use in quantum computation, Thin Film Piezoelectric materials for use in Hybrid Quantum Devices.

- **Surface Engineering**

Thin film growth mechanism and correlation between structure and property, Plasma surface modification.

- **Microfluidics and Lab-on-Chip**



- **Integrated Systems and Electronics**

MEMS, Semiconductor Device Physics, Electronics on Flexible substrates, Piezoelectric sensors, Electromagnetism, scalable architecture for quantum computation with superconducting circuits.

- **System Design and Instrumentation**

Design and development of measurement systems like precision (nm) motion control, Optics-based stress sensing systems

- **Energy Systems and Environment**

Thin film batteries, general principles of energy harvesting, solar photovoltaics, Thermo electrics, novel solutions for energy storage, water desalination and purification, carbon capture.

