Department of Electrical Engineering

I.I.T. Bombay

The Department of Electrical Engineering (EE) is one of the major Departments of IIT Bombay since its inception in 1958. The department is very active in teaching and research in different areas of EE. The department is considered to be one of the most progressive department in the Institute, with its bars / cut-offs for various academic activities set higher than the institute prescribed limits.

The department has currently seven research specializations, (i) EE1: Communications and Signal Processing, (ii) EE2: Control and Computing, (iii) EE3: Power Electronics and Power Systems, (iv) EE4: Microelectronics and VLSI, (v) EE5: Electronic Systems, (vi) Integrated Circuits & Systems, and (vii) Solid State Devices. The department has hired several young faculty members in last ten years in almost all the areas. It strives to conduct advanced research in all above areas. The department also adapts state of the art teaching methodologies for post-graduate instructions. The department is actively engaged in research areas ranging from practical implementation to theoretical investigations.

There has been tremendous development in the Department in the last five years. In 2019 two more specializations, Integrated Circuits & Systems and Solid State Devices have been started in the department, making the total number of specializations equal to seven. The department has hired several young faculty members in last few years, making the total number of faculty members in the department equal 63. The faculty members are working in different disciplines of EE as well as carrying out interdisciplinary research.

Faculty members of the Department are recipients of many distinguished awards such as Shanti Swarup Bhatnagar Prize, Prof. K. Sreenivasan Memorial Award, Prof. SVC Aiya Memorial Award, Dr. Vikram Sarabhai Research Award, Ram Lal Wadhwa Award, INAE Young Engineer Award, Alexander von Humboldt Fellowship and many others. Many faculty members are Editors of IEEE and other national and international journals. They are also Fellows of organizations like IEEE, IETE, INAE, IASc, NASI and INSA.

The department has received generous contributions from several donors in the past. The department received major donation from one of its alumni- Girish Gaitonde in the year 2000. Ministry of Human Resources Development, Department of Electronics and Information Technology, Bhabha Atomic Research Centre, Department of Science and Technology, Defence Research Development Organization, Indian Space Research Organization, Mahanagar Telephone Nigam Ltd, Bharat Sanchar Nigam Ltd, L&T Infotech, Tata Teleservices, Bharti, Texas Instruments, Intel, Microsoft Research, Tata Consultancy Services, Applied Materials (USA) and Hitachi (Japan) are the major funding agencies. Total 183 research grants costing about Rs. 317.6 Cr has been received by the department in the last five years. Significant funding which have made valuable contributions to the department are as follows:

- Center for Excellence in Nanoelectronics (with support from Ministry of Communications and IT) setup in 2005.
- National Center for Photovoltaic Research (with support from Ministry of New and Renewable Energy) setup in 2010.
- Tata Teleservices IIT Bombay Center for Excellence in Telecom (with support from Tata Teleservices and Department of Telecom) setup in 2008.
- Power Anser Lab (with support from Tata Consultancy Services) setup in 2007.
- Girish Gaitonde Lecture Hall Complex (with donations from Mr Girish Gaitonde) setup in 2000.
- Wadhwani Electronics Lab (with donations from Mr. Romesh Wadhwani) setup in 2001.
- L. R. Gadre Wireless Complex (with donations from Mr. Aniruddha Gadre) setup in 2004.
- Bharti Center for Communication (with support from Bharti Foundation) setup in 2009.

The research outcomes have been published in the form of 908 journal papers and 934 conference papers, in last five years. Further, the total number of patent applications filed during last five years is about 171.
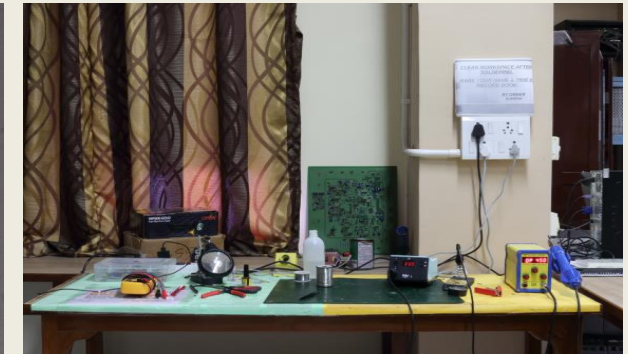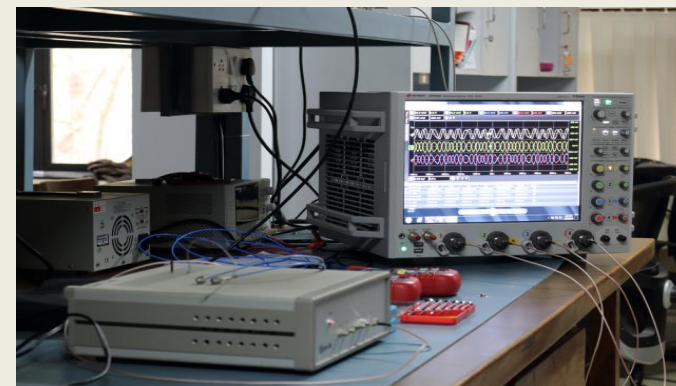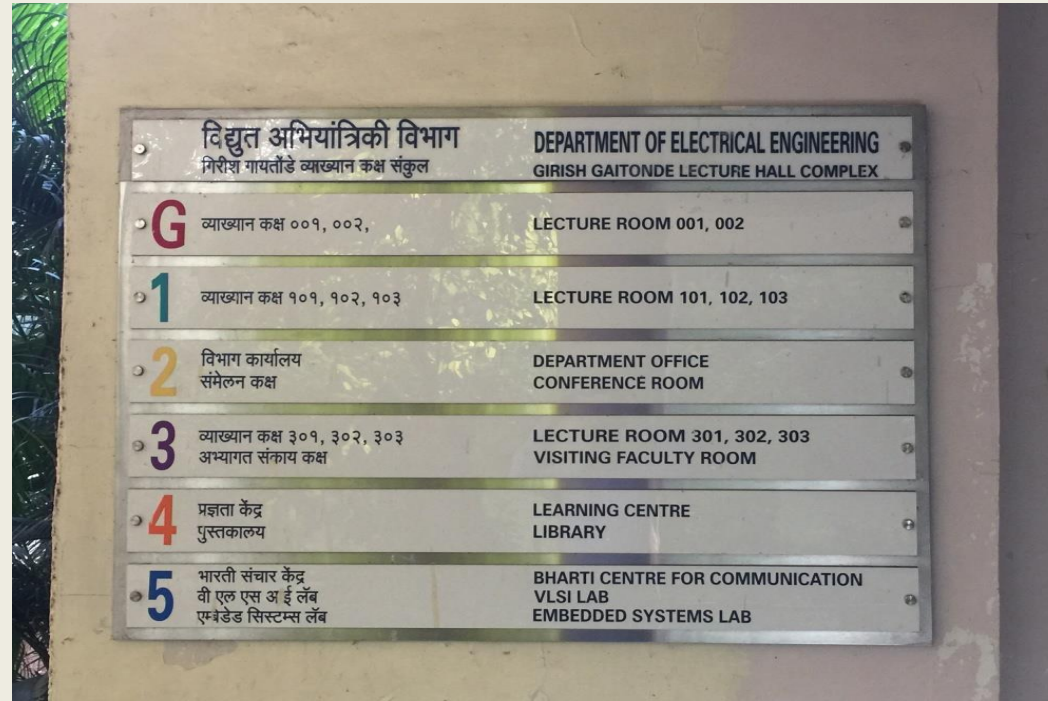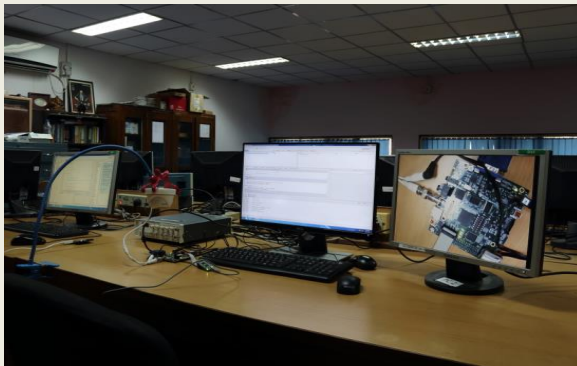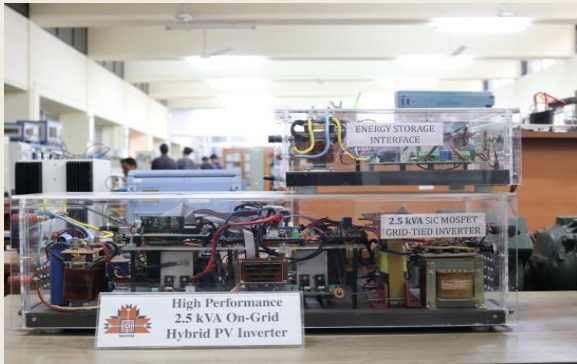
The Department mission is:

1. To serve the technical R&D and educational needs of the nation and international professional community (service)
2. To develop an academic and professional system to enable excellent research and researchers (individual development)
3. To engage, lead and collaborate with education and technology network towards building seamless technology and human resource development system. (ecosystem development)

Department of Electrical Engineering

Indian Institute of Technology Bombay
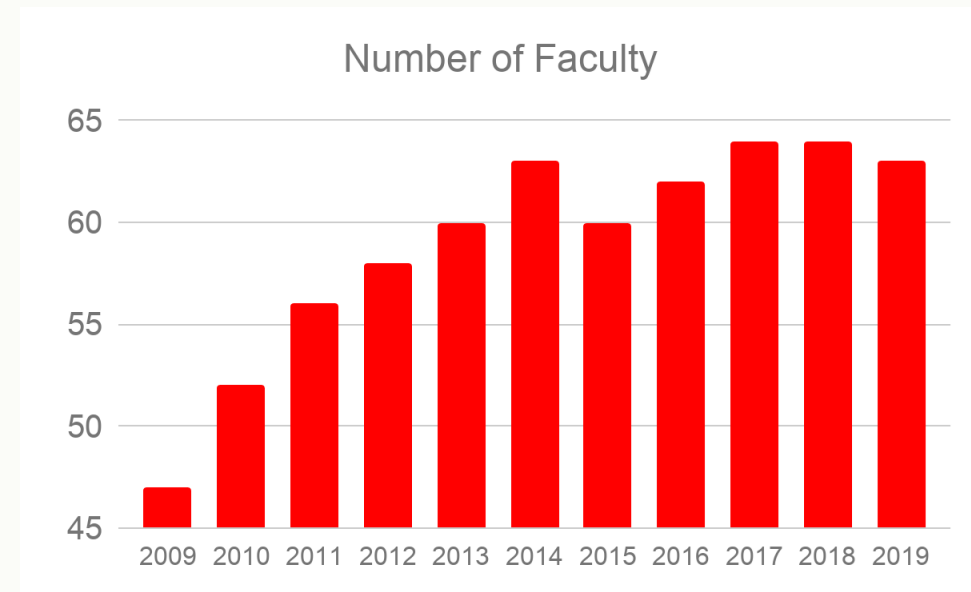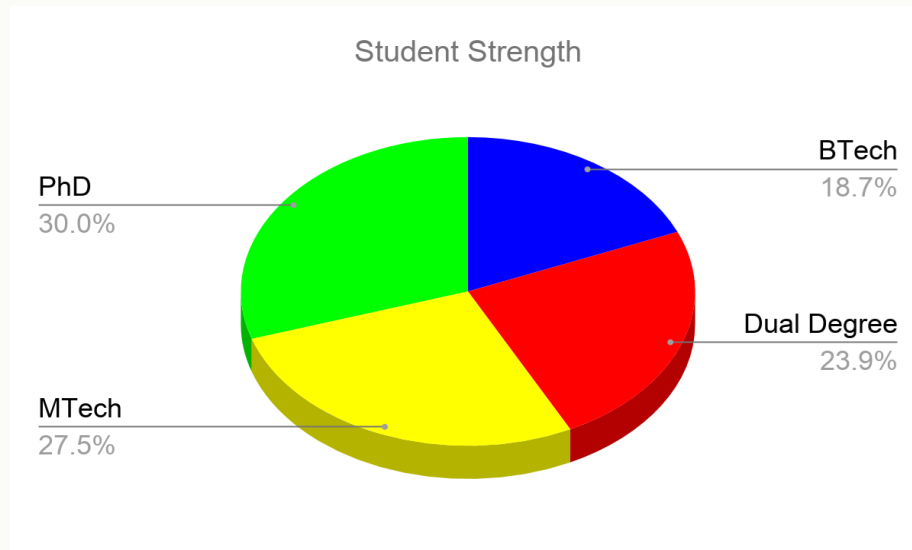
Presented by – Prof. B. G. Fernandes (Head)

ENERGY STORAGE INTERFACE

2.5 kVA SiC MOSFET GRID-TIED INVERTER

High Performance 2.5 kVA On-Grid Hybrid PV Inverter

विद्युत अभियांत्रिकी विभाग
गिरीश गायतोंडे व्याख्यान कक्ष संकुल

DEPARTMENT OF ELECTRICAL ENGINEERING
GIRISH GAITONDE LECTURE HALL COMPLEX

G	व्याख्यान कक्ष ००१, ००२,	LECTURE ROOM 001, 002
1	व्याख्यान कक्ष १०१, १०२, १०३	LECTURE ROOM 101, 102, 103
2	विभाग कार्यालय संमेलन कक्ष	DEPARTMENT OFFICE CONFERENCE ROOM
3	व्याख्यान कक्ष ३०१, ३०२, ३०३ अभ्यागत संकाय कक्ष	LECTURE ROOM 301, 302, 303 VISITING FACULTY ROOM
4	प्रज्ञता केंद्र पुस्तकालय	LEARNING CENTRE LIBRARY
5	भारती संचार केंद्र वी एल एस आई लॅब एम्बेडेड सिस्टम्स लॅब	BHARTI CENTRE FOR COMMUNICATION VLSI LAB EMBEDDED SYSTEMS LAB

Among the largest Electrical Engineering departments in the country

� Over 1300 students

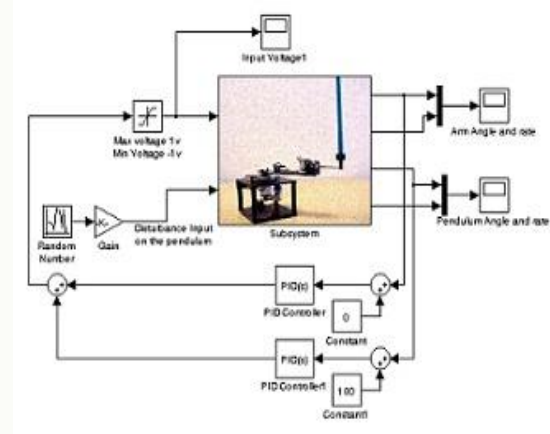✣ 66 faculty, 34% increase in faculty strength over the last 10 years

Student Strength

- BTech 18.7%
- Dual Degree 23.9%
- MTech 27.5%
- PhD 30.0%
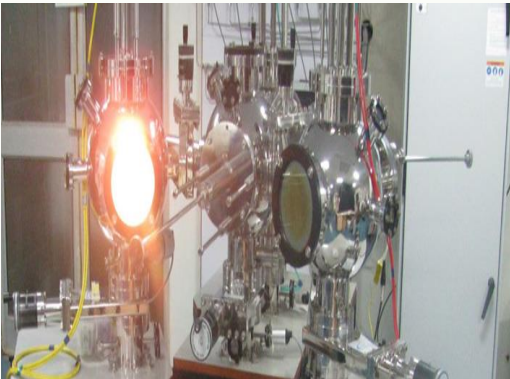

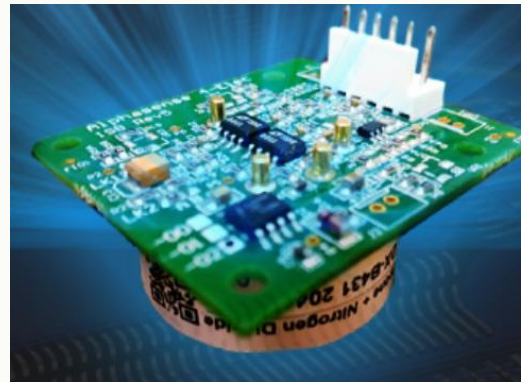Number of Faculty

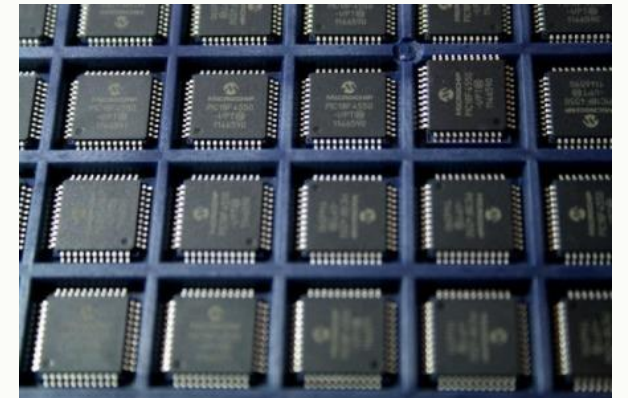Communication and Signal Processing

Control and Computing

Power Electronics and Power Systems

Solid State Devices

Integrated Circuits and Systems
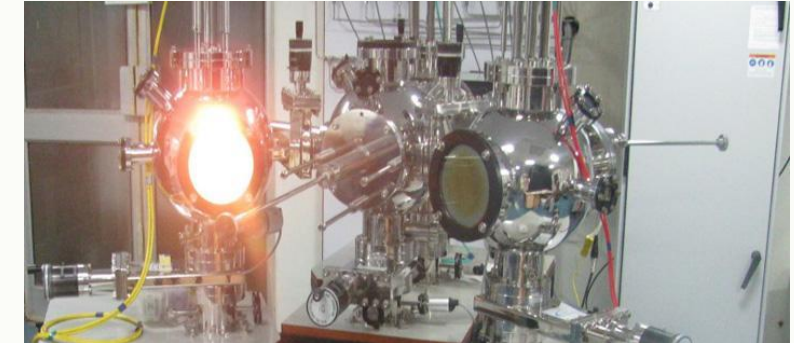

Electronic Systems

Selected Centres and Labs

National Centre for Photovoltaic Research and Education (NCPRE)

Wadhwani Electronics Lab

Centre of Excellence in Nanoelectronics

Medical Deep Learning and Artificial Intelligence Lab (MeDAL)
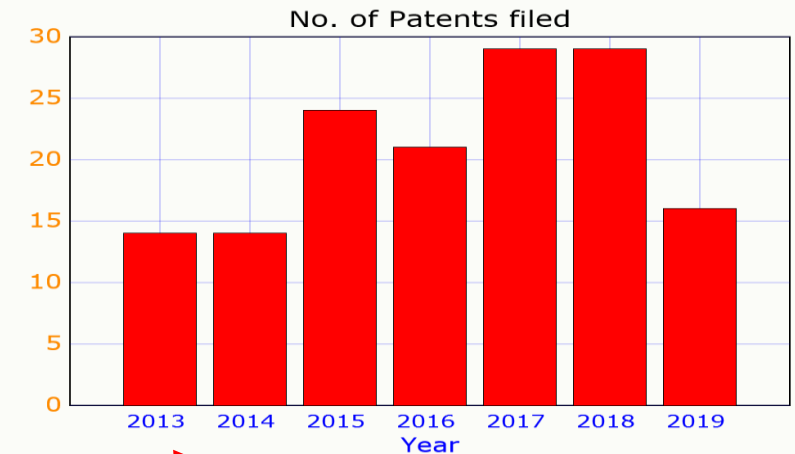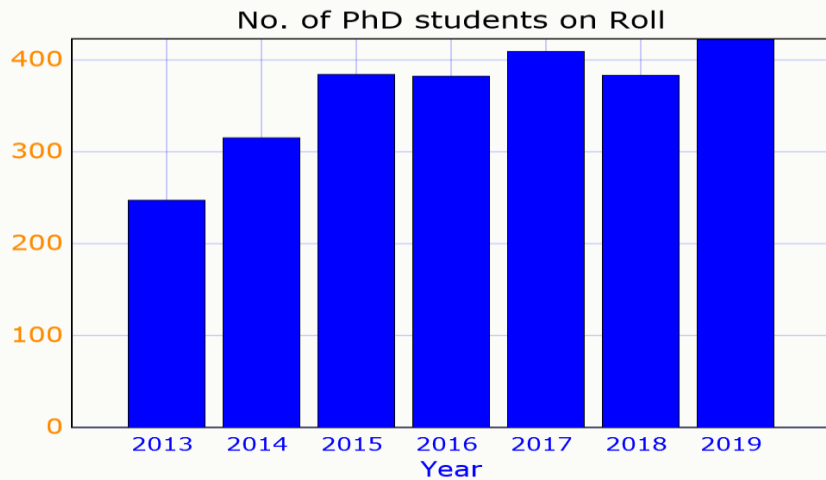

Texas Instruments Digital Signal Processing Lab (TIDSP)

Tata Teleservices IITB Centre of Excellence in Telecommunications

- Multiple high profile labs and centers of research and excellence

- Significant increase in number of research scholars, publications and patents

- 183 research projects totalling about Rs. 317 Cr in last 5 years

No. of PhD students on Roll

No. of Patents filed

	2015	2016	2017	2018	2019	Total (5 years)
Journal Publications	120	173	183	198	234	908

Startups incubated by EE faculty members and students

Power Anser Labs