

# One Week Online Short Term Course on

## Technological Innovations and Challenges in Biomedical Instrumentation

(23<sup>rd</sup> to 27<sup>th</sup> November 2020)

Sponsored By



Organized by



Department of Electrical Engineering  
and  
Department of Biotechnology

G. B. Pant Institute of Engineering & Technology  
Ghurdauri, Pauri Garhwal- 246194  
Uttarakhand  
(website- [www.gbpec.ac.in](http://www.gbpec.ac.in))

### ABOUT THE COLLEGE

Govind Ballabh Pant Institute of Engineering & Technology (GBPIET), Pauri, Uttarakhand is an Engineering Institute established by the Government of Uttar Pradesh in 1989 for imparting Engineering Education and promoting technological environment in Garhwal region, the state and country. It started its first academic session from 1991-92 and since then the Institute has always been a pioneer in solving practical problems and priorities of present scenario of the region. As a panacea, it aims at shaping engineers, whose number is at par with its counterparts anywhere in the country. The students of GBPIET have already made a mark for themselves in prestigious organizations and reputed institutes in India & abroad. Presently, the institute is an Autonomous Institute of the Government of Uttarakhand, affiliated to the Uttarakhand Technical University (UTU), Dehradun since academic year 2006-07.

### ABOUT THE ELECTRICAL ENGINEERING DEPARTMENT

The Department started B.E. program in Electrical Engineering in 1997. The focus of the department is to prepare Electrical Engineering graduates with adequate information on large-scale system simulation and analysis tools, design capabilities and conceptual background for handling Electrical Power Systems, Industrial process, Embedded Instrumentation and Control strategies. The Department has well equipped infrastructure with the latest state-of-art laboratories having simulation & synthesis tools that emphasizes upon various research oriented projects and

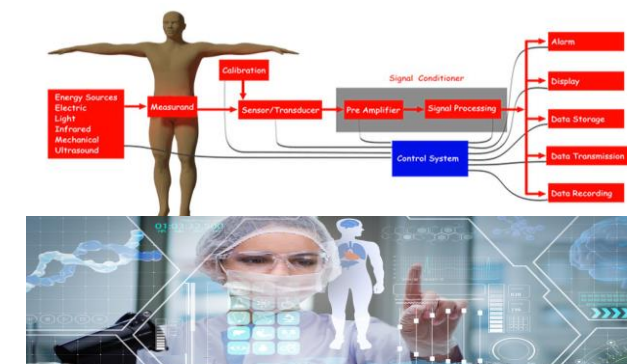


The Department has also introduced specialization in M.Tech Power System Engineering to meet the present industrial demands. The Department is also offering doctoral degree under the guidance of highly qualified, experienced and dedicated faculty to provide both classroom teaching and practical instructions. The Department research is also focused in the field of Electrical Power System, Electrical Machines, Control, Instrumentation, Microprocessors, Power Electronics and Digital Signal Processing.

### ABOUT THE BIOTECHNOLOGY DEPARTMENT.

Biotechnology Engineering at G B Pant Institute of Engineering and Technology was established with the objective of integrating life sciences with engineering to develop cutting-edge technology through research, training and technical innovation. The department runs B.Tech, M.Tech and Ph.D program that provides a strong foundation in Biotechnology which can lead students to both industry as well as research/academia.

Apart from fundamental research, the goals of the department are also targeted to meet the demands of the biotechnology based industries. The department has initiated efforts to establish advanced research laboratories in all the thrust areas. The department is equipped with advanced infrastructure required for Molecular Biology, Microbial Technology, Bioinformatics, Plant Tissue culture, & Environment Biotechnology.



## Objectives of FDP

The reach of technological innovations continues to expand and, as it progresses, transforms all industries. In healthcare, in almost all processes, technology is increasingly playing a part, from patient registration to data tracking, from laboratory testing to self-care tools. Biomedical Instrumentation is an interdisciplinary subject that plays an important role in the product development and their industrial applications and maintenance in the healthcare sector. This subject aims to build a bridge between academia and medical society to contribute in the healthcare treatment including diagnosis, monitoring, treatment and therapy. Prominent Biomedical fields include development of various diagnostic and therapeutic medical devices ranging from clinical equipment to micro implants, imaging equipments such as MRIs, ECGs, EMGs, EEGs and pharmaceutical drugs.

The objectives of this Short Term Course (1) To highlight the innovations and challenges in biomedical instrumentation. (2) To provide sound mathematical and theoretical prerequisites necessary for pursuing research in the area of biomedical instrumentation and bio- signal processing.

The topics to be covered during this course are as follows:

- Non-invasive diagnostic instrumentation
- Instrumentation for sensory measurement
- Instrumentation for clinical laboratory
- X-Ray and radioisotope instrumentation
- Safety and Reliability Aspects of Biomedical Instrumentations
- Patient care and monitoring
- Biosensors
- Research trends in Biomedical Instrumentation and Signal Processing

## Call for participation

Faculty members of UGC/AICTE recognized Universities and Engineering colleges all over the country, research scholars and Industry personals. However priority will be given to the faculty members.

- Seats are limited and the selection will be done on first-come-first serve basis.
- E-certificate will be provided on course completion to the participants having **100 percent attendance.**

## Committee

### Patron

Prof. (Dr.) Mahipal Singh Chauhan  
Director, GBPIET Pauri Garhwal, UK

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### Coordinators

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Dr. Ajeet Singh  
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## Advisory Committee

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Director, BTKIT Dwarahat, UK

Prof. (Dr.) Manoj Kumar Panda  
State Project Advisor, SPIU, Dehradun, UK

Mr. Sandeep Kumar  
Registrar, GBPIET Pauri Garhwal, UK

## Resource Persons

Dr. Ram Bilas Pachori, Professor, Department of Electrical Engineering, IIT Indore.

Dr. N.D. Londhe, Associate Professor and HOD EED, NIT Raipur

Dr. Felix O.M. Joseph, Assistant Professor, Department of Electrical Engineering, IIT Roorkee.

Dr. A.K Wadhvani, Professor, Department of Electrical Engineering, MITS Gwalior

Dr. Deepak Joshi, Assistant Professor, Centre for Biomedical Engineering, IIT Delhi.

Dr. Pankaj Srivastava, Professor, Mathematics, MNNIT Allahabaad, Prayagraj

Dr. Basant Kumar, Associate Professor, Electronics and Communication Engineering, MNNIT Allahabad, Prayagraj

Dr. Sourav Chandra, Post Doctoral Fellow, Northwestern University/ Rehabilitation Institute of Chicago.

Dr. Narotam Sharma, Scientist at DNA Labs – A centre for applied sciences, Dehradun, Uttarakhand

Dr. Prem Raj Singh, Senior Application Specialist. Qiagen India Private Limited, New Delhi

## Registration Process

- **No fee** will be charged from participants.
- **Link for registration:** <https://bit.ly/2GQSN4i>
- The brochure of the program may be downloaded from the Institute website [www.gbpec.ac.in](http://www.gbpec.ac.in)
- Last date of registration: **20.11.2020**