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### IMPORTANT DATES

Last date for registration: 05.02.2021

### Participation and Registration

Faculty, Research Scholars from various institutes and Industry persons.  
Minimum 60% of marks in quiz is required and only active participants will get the certificate. Quiz will be conducted at the end of the FDP.

### NO REGISTRATION FEE

<https://forms.gle/AH2xxNSZwBSM4TiG6>

OR



### RESOURCE PERSONS

The speakers for the course will be from Premier academic Institutes from India and Abroad and from Industry.

### COURSE CONTENT

- PCM, FBG based Sensor applications
- PV from silicon to new materials.
- Dielectric materials and its application
- Materials for aerospace applications
- Conducting and laminating materials for machines and materials for power energy equipment.

**BMS College of Engineering  
Bengaluru-560 019**

**Two-week e-FDP**

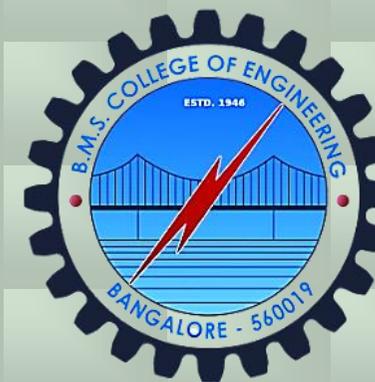
On

**Advanced and New Generation  
Materials in Electrical and  
Electronics Engineering**

Sponsored by

Centre of Excellence in Advanced Materials Research  
(TEQIP-1.2.1)

Feb 8<sup>th</sup> to Feb 19<sup>th</sup>, 2021



**Organizers**

Center of Excellence in Advanced Materials Research

**Department of Electrical and Electronics  
Engineering  
BMS College of Engineering  
Bengaluru-560 019**

&

**In collaboration with  
FET, MJP. Rohilkhand University  
Bareilly U.P.**

## ***ABOUT BMS COLLEGE OF ENGINEERING***

BMS College of Engineering was founded in the year 1946 by Late B M Sreenivasaiyah, and nurtured by his illustrious son, Late B S Narayan. BMSCE is the first private sector initiative in Engineering Education in India. BMSCE is in the field of Engineering Education over 7 decades of dedicated service. BMSCE today offers 13 Under Graduate & 16 Post Graduate courses, both in conventional and emerging areas. At present, 15 Departments are recognized as Research Centers offering PhD/MSc Engineering by Research in Science, Engineering, Architecture and Management. First Institution in the state bestowed with NBA Accreditation in Tier I Format (Washington Accord). World Bank funded TEQIP Phase I and Phase II Institute and Partner Institution of the Melton Foundation, USA which advocates Global Citizenship. Autonomous Institute (UGC approved) since 2008.

## ***ABOUT THE DEPARTMENT***

The Department of Electrical Engineering was established in 1946 and subsequently emerged as Department of Electrical and Electronics Engineering. The Department has the distinction of having its graduates known worldwide for their contributions and accomplishments in varied domains. The focus of the department is to equip students with capabilities through a wide exposure to all aspects facilitating their development as professionals. This enables them to adapt to the societal needs and the progressive technological requirements. The department receives grants from Govt. of Karnataka and offers an undergraduate program B.E, Electrical and Electronics, with a sanctioned intake of 60. The department is NBA Accredited under Tier I of Washington Accord and has a Student Faculty Ratio of 14:8:1. The department offers M.Tech, program in Power Electronics which started in 1991 with a sanctioned intake of 18 which is also NBA Accredited. It has a research Centre under VTU since 2003. It is a recognized AICTE QIP Research Centre since 2012, AICTE NDF (National Doctoral

Fellowship Scheme) Research Centre since 2018. The number of awarded Ph.Ds. till date is 13 and currently 26 research scholars are pursuing their research in various domains.

## ***ABOUT CENTRE OF EXCELLENCE IN ADVANCED MATERIALS RESEARCH***

Centre of Excellence in Advanced Materials Research initiative will support long-term materials research and development leading to potential breakthroughs in areas such as Synthesis, Characterization and Processing of Nano Composites, Polymer Composites, Phase Change Memory Materials and their application in the manufacturing of relevant industrial components. This initiative addresses development of a balanced infrastructure for Under Graduate and Post Graduate education and training of human resource in future advanced materials. COE also foster institute-industry collaborative efforts to develop programs, partnerships and joint ventures which will build on the strengths of each and thus creating new opportunities for leadership in high quality research and innovation in advanced materials.

## ***ABOUT THE FDP***

Materials have always played an essential role in the performance and economy of any technological system. The field of materials is immense and diverse. The materials used in conducting, insulating and magnetic areas of electrical equipments have significant role to play in the performance for a particular application. The advent of new materials is based on enhanced knowledge of good processibility and hence the manipulation of their properties to suit a particular application. More rapid consumption of materials has paved way for new and advanced materials for diverse applications. Also, an innovative method in the design and production of new materials have rejuvenated the technological trajectories in traditional materials and has resulted in improved material characterisation. The efficiency of equipments and the machines used in industries

largely depends upon selection of materials for cores and pole pieces which strengthen the magnetic fields created. The moving parts in motors and switchgears which require specially chosen materials considering the design features of the particular component. Transformers and high tension switchgear have insulating oil, which besides insulating, also acts as coolant. Motors, transformers, relays, have their coils wound on cores. The core materials require high permeability, quick magnetizing and demagnetizing characteristics. Semi conducting materials find application in various fields like photo-voltaic, optics, memory devices. Therefore the choice of materials for equipments in electrical and electronics domain should be made with great care and well thought through. It is necessary to be aware of how many objects of everyday life have been transformed or improved by the application of material science and engineering. The flexibility offered by the material science and engineering domain increases the options in replacement of a given material. The potential to produce materials required for high technology industries should be exploited. Also, there is an emphasis to find eco-friendly materials as alternatives. Thus, material study, research and technology development becomes important with the objective of producing more knowledge intensive materials. This FDP thus provides the participants a good opportunity to enhance their interest and knowledge shared by eminent researchers extensively working on novel materials and their target applications in varied fields.

## ***OBJECTIVES AND OUTCOMES***

- To familiarize the faculty and research scholars to create awareness about the recent advancement in conducting, semiconducting, insulating, magnetic materials used in electrical equipment.
- To highlight importance of material characterization.
- To encourage more in-depth studies in the domain of material research and applications.