MEDITRONICS

DEPARTMENT OF BIOMEDICAL ENGINEERING

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BMESI Sponsored Certificate Course on Medical Device Development and Regulations

PROF. DR. JITENDRA TORAVI

HEAD OF DEPARTMENT, BIOMEDICAL ENGINEERING

Hello Everyone,

At the onset I would like to wish a very Happy New Year to my students, faculty, colleagues and readers. I Welcome all my students to the new semester in year 2022.

As per University of Mumbai guidelines we will be initiating the coming semester in online mode for few weeks and then decision will be taken on the mode of conducting classes as per guidelines received. Students are motivated to enrol themself for free online courses on- Coursera, Edx, Fintech, TCS ion and Matlab platform with their VIT Login id for value addition.

In addition to this all co-curricular and extra curricular activities will be conducted in Online Mode.

Stay Safe Stay Healthy

> " The greatest glory in living lies not in never falling,
> but in rising every time we fall
> -Nelson Mandela "

BMESI SPONSORED CERTIFICATE COURSE on MEDICAL DEVICE MANUFACTURING AND REGULATIONS

BMESI-VIT Chapter and BMSA Student Chapter organized a joint event-*Certificate Course on Medical Device Manufacturing and Regulations*. This program was sponsored by Biomedical Engineering Society of India.

The objective of this Certificate course was to conduct Webinar Sessions and Hands on Workshop on Latest Technologies for building Biomedical Applications. The course was conducted in online mode with participants from VIT and other colleges across India. Participant included students, faculty and research scholars etc.

As a part of this course series a Workshop on "Implementing IOT Based Projects" was conducted on 02nd October 2021. The speaker for the workshop was Mr. Anand Panchal (Program Manager-ION Energy). Mr. Anand focussed on entire development cycle for IOT based products. Some of the critical applications like MQTT and IOT were demonstrated during the session. Next session was Webinar on "Importance of Testing for Biomedical Equipment" conducted on 09th October 2021. The speakers for the session was Mr. Deepak Raina (Zonal Manager-Fluke Biomedical). This was the concluding session of the Certificate Course Series.
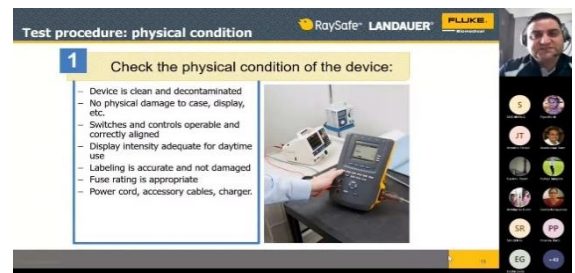
Glimpses of the Certificate Course on Medical Device Manufacturing and Regulations

Department Staff

DR. GAJANAN NAGARE
PROFESSOR

EDUCATION QUALIFICATION:
PHD-BIOMEDICAL ENGINEERING

TEACHING & RESEARCH EXPERIENCE:
18 YEARS

AREA OF SPECIALIZATION:
BIOSENSORS, HEALTHCARE DEVICES, MEMS & EMERGING TECHNOLOGIES

PROF. SUVARNA UDGIRE
ASSISTANT PROFESSOR

EDUCATION QUALIFICATION:
ME-ELECTRONICS ENGINEERING

TEACHING EXPERIENCE:
12 YEARS
INDUSTRIAL EXPERIENCE
10 YEARS

AREA OF SPECIALIZATION:
BIOLOGICAL MODELING, NETWORKING IN MEDICAL SYSTEMS & MEDICAL DEVICES

FACULTY ACHIEVEMENTS

Prof. Geetha Narayanan from the department has worked as a Resource Person in the "Virtual Labs Outreach Workshop" for the faculty of all Disciplines of Polytechnic Institutes. The event was organized by PVG's COET & GKPIOM, Virtual Labs Regional Center (Pune) RCID 01 & Nodal Center 20. In Coordination with Virtual Labs-Indian Institute of Technology Bombay.

Prof. Geetha Narayanan has Participated in the Webinar on "Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act 2013" organized by National Productivity Council.

Dr. Gajanan Nagare and Mr. Ishan Vatsaraj (B.E. Student) presented a poster titled Early detection of Parkinson's Disease using Ensemble Classifiers and Deep Learning in the IEEE Bombay Section Signature Conference(IBSSC).

Prof. Arunkumar Ram from the department completed AICTE-ISTE Sponsored Refresher program on Future Trends in Biomedical Engineering organized by NMIMS-Mukesh Patel School of Technology and Management.

Know an Alumna

Ms. Prachi Govalkar (2014 Batch)

I am working as a Research Engineer in Natural Language Processing at Fraunhofer IIS, Erlangen, Germany. My work involves back end research in getting our text-to-speech technology up and running. Mostly, I design listening tests, often required in this ever-evolving field, basically comparing audio signals at a subjective level. Sometimes, I am also responsible for deploying Deep Learning models to improve the audio quality of our technology.

Ms. Prachi Govalkar (2014 Batch)

VIT has had an immense impact in shaping my personality and building my confidence. From participating in various extra curricular activities, be it Group Debates, Flashmobs to managing events by Technical Council in the annual festival Verve, it gave me a platform to discover my abilities. The professors are highly knowledgeable and provide the correct guidance to prepare for the subjects. Our department went above and beyond in organizing industrial/hospital visits and internships. It provided me a raw exposure to how our curriculum is actually practiced in the outside world, and that it has a significant impact on the society.

My advice to all the juniors would be to work smart, get your concepts right when it comes to studies and grasp all the opportunities to develop yourselves. We are living through a pandemic, and it may rob you of the college experience you dreamed of, but don't let this hinder your goals in any way, as this too shall pass. Let this quote by American billionaire Charlie Munger stay with you, 'Opportunity comes to the prepared mind'.

STUDENT ARTICLE

BUSINESS ANALYTICS INTO HEALTHCARE (Ms. RIYA MODI-S.E. STUDENT)

Ms. Riya Modi (SE Student)

These days, the healthcare industry is moving swiftly from volume-based reimbursement (approach to a value-based reimbursement approach, which aids healthcare providers, patients, and payers alike. Healthcare organizations are eyeing to improve their eminence of services at the least cost, and patients, in turn, obtain a higher quality of care at an inferior value.

Predictive business analytics is used widely in the healthcare industry to make quicker and more cognizant decisions pertaining to patient care. The esteem of Electronic Health Records (EHRs) in recent years has also been a crucial factor for the growth in demand for predictive analytics.

But why is it so vital to leverage business analytics in today's healthcare scenario? The answer lies in evolving a value framework that is holistic, patient-centered, and addresses business goals. Business analytics in healthcare is emerging as a vital area of research owing to assist the health care organizations in solving minute to gigantic problems and making righteous decisions. Analytics is now slowly rolling from just being at the operational analytics level to a higher level of strategic analysis. It is diversifying from simple evocative analytics towards predictive, prescriptive, and diagnostic health analytics.

Healthcare organizations collect data on the operation of various services rendered by hospitals and perform analytics on this medical data. They make use of data visualizations, such as dashboards and scorecards to recognize trends or patterns in inpatient care. This method can identify performance gaps and previously overlooked patterns in inpatient care and can be availed to come up with more reliable strategies to obtain a better balance between the service and cost.

Business analytics helps hospitals analyze and locate the root causes of difficulties and based on that, create key performance indicators to augment the performance. For example, waiting time of patients, patient readmissions, length of a patient's stay in the hospital, and so on can be tracked down to its most significant factors. Predictive analytics uses past data to envisage future trends, such as, which patients might plump for surgery, and which patients might not, which patients have chances of further developing complications after surgery, or what are the probabilities of the spread of an epidemic disease.

THE

Editorial Team

PROF. ARUNKUMAR RAM

Chief Editor