



# ENGMEDNEWS

Newsletter of Biomedical Engineering Society of India

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## Editor-In-Chief:

**Dr. Niranjana Sampathila**  
Dept. of Biomedical Eng.  
Manipal Institute of Technology  
Manipal University,  
Manipal, India - 576104

## Editors:

**Dr. Jeevan M**  
Dept. of Biomedical Eng.,  
MIT, Manipal University,  
Manipal, India - 576104

**Mr. Harikishan Shetty**  
Biomedical Engineer  
Manipal University  
Manipal, India - 576104

## Message from Editor-in-Chief



### *Greetings!*

Machine Learning, Artificial Intelligence and Automation lead a new direction in the 21th Century Science and Technology with a focus of research mainly on interdisciplinary in nature. One of the major branch of interdisciplinary studies, Biomedical Engineering, bridges the Medical and Engineering disciplines, and revolutionise the next generation medical devices, technologies that support a healthy life and provides enhanced quality healthcare service.

Included here the Technical events "Seminars, conferences and workshops" conducted by the associated institutions and it gives a good platform to share latest developments in the field. Now 48 Institutions are "Institutional member" of Biomedical Engineering Society of India (BMESI). The achievements or contributions in the community are shared through this e-newsletter. Active participation of all the members, local chapters within this scientific community improves quality of innovations and research activities. With your continued cooperation and support we are able to bring "ENGMEDNEWS" with the latest updates and important activities.

• **Dr. Niranjana Sampathila**

## UPCOMING EVENTS

- **GIAN Course on Systems Design for Remote Healthcare (Course ID: 171001D03)**

A: Fundamentals Of Remote Healthcare : December 18 - December 22, 2017

B: Design Of Remote Healthcare Systems : December 26 - December 29, 2017

[http://www.gian.iitkgp.ac.in/files/brochures/BR1507114457Systems\\_Design\\_for\\_Remote\\_Healthcare\\_Brochurev1\\_0.pdf](http://www.gian.iitkgp.ac.in/files/brochures/BR1507114457Systems_Design_for_Remote_Healthcare_Brochurev1_0.pdf)

<http://www.gian.iitkgp.ac.in/GREGN/index>

- **BioAsia2108, Hyderabad:**

C:\Users\Admin\Downloads\BioAsia2018-Save-the-date-emailer-02 (2).html

**NOTE:** For publication, the interested personnel can send the relevant information on upcoming biomedical events, events held, scientific articles, award ceremonies, biomedical start-up/entrepreneurship. Please send the information supplemented with Photographs to the following mail address:

[bmesi.engmednews@gmail.com](mailto:bmesi.engmednews@gmail.com) and [bmesiindia@gmail.com](mailto:bmesiindia@gmail.com)

## **Dr. Gopalakrishna Prabhu K**

Director, Manipal Institute of Technology &  
Pro Vice Chancellor (Technology & Management)  
Manipal University, Manipal



Professor Dr. Gopalakrishna Prabhu K, the Director of Manipal Institute of Technology (MIT), Manipal University, Manipal (since September 2015), has been associated with the Manipal Group for over two decades in various academic and leadership positions. One of his most notable achievements is that he served the University in the prestigious post of Registrar for seven and half years prior to his present assignment as Director of the Institute. He has also taken an additional responsibility as Pro Vice Chancellor (Technology & Management), Manipal University effective April 01, 2017.

Born on October 29, 1966, Dr Gopalakrishna Prabhu K obtained his Bachelor's Degree in Electronics & Communication Engineering from BIET, Davangere, Mysore University (1989). He received the M.Tech degree in Biomedical Engineering from MIT, Manipal with the first rank from Mangalore University (1994). He was awarded the PhD from IIT Madras (2001). He joined the Manipal Institute of Technology, Manipal as Lecturer in the Department of Electronics and Communication Engineering in 1989. Since then, he has served the institute in various capacities such as Head of the Department of Biomedical Engineering, Associate Director (Research & Development) at MIT, Deputy Registrar (Technical) of Manipal University and eventually as Registrar of Manipal University.

As an acclaimed teacher, he has been able to carve out a niche for himself, disseminating his mastery in the field in a lucid and creative manner. With his passion for research, he was able to contribute significantly to his area of expertise with a number of quality papers in reputed national and international journals. Some of his important International publications (as a solo author and co-author) in the recent years are published in: Asian Pacific Journal of Cancer Prevention (2015), International Journal of Futuristic Computer Applications (2010), Journal of Biomedical Science and Engineering (2010), International Journal for Medical Engineering and Informatics (2010). National Academy of Medical Sciences honoured him with the national accolade, "Shri Shyam Lal Saxena Memorial Award" for his best-published work in Biomedical Engineering in 2007 at Academy's convocation held at Hyderabad. Dr. Prabhu is an active member of the "Biomedical Engineering Society of India" (BMESI), a professional body and was the Secretary of this association during 2002-08. He has co-authored a CRC book publication titled "Image analysis for tissue microarray datamining" which primarily focuses on datamining applications for bioinformatics. He also holds a US patent for his work on a novel synthesis procedure of filtering using dual OTAs and grounded capacitors. Recently he was awarded with the "Udupi District Kannada Rajyostava Award" in the category of Education (Engineering). The award was handed over by the District Minister, Shri Pramod Madhwaraj on the occasion of Rajyostava Day Celebration in Udupi.

Above all, Dr. G K Prabhu is known for his meticulous approach, commitment to the causes he stands for and the ability to execute the best possible action plan, keeping in mind the ideals, vision and mission of the organization.

- **3 Day Workshop on Basics of Optimization:** Theory and Practice, May 4-6, 2017. The Department of Biomedical Engineering conducted a workshop during the MIT golden Jubilee celebration of MIT. During this three day workshop the basics of optimization theory and algorithms for various optimization methods and techniques were covered, along with hands-on programming using MATLAB. Dr. Ganesh Murthy C.N.S, Principal Engineer, Mercedes-Benz Research and Development India Pvt Ltd., Bangalore was the Resource person for this workshop.



- **IEEE Kolkata Section & IEEE Joint CSS-IMS Chapter Kolkata Outreach Program** in collaboration with the Department of Biomedical Engineering, North Eastern Hill University (NEHU), Shillong, Meghalaya (9th October, 2017).



Group Photograph of speakers and participants during IEEE Outreach Programme at NEHU, Shillong.



Dr. Dinesh Bhatia (Convener) felicitating Prof. H. Lamin, Pro Vice Chancellor, NEHU, Chief Guest of the Programme.

This program was first of its kind, and provided a platform for young faculty members, scholars and students working in different fields to acquire knowledge and skills from esteemed speakers. The various theme areas of the program were Cardiovascular Health Monitoring; CT Image-based Cancer Detection, Medical Imaging & Image Processing, Machine Learning Tools for Signal processing, Artificial neural network and Bioinstrumentation. The targeted audiences of the outreach program were students, researchers, engineers and faculty members in related fields of biomedical engineering, computer engineering and electronics engineering. Thirty participants registered for the IEEE outreach program from various Institutes in the North-Eastern region of the country.

The program marked its start with the inaugural session. Prof. H. Lamin, Pro Vice-Chancellor of NEHU, Shillong highlighted the session as the Chief guest of the day. Prof. Goutam Saha, Dean School of Technology, NEHU, Shillong as the Guest of honour of the day. The session three key speakers are: Dr. Rajarshi Gupta, Associate Professor, Department of Applied Physics, University of Calcutta currently he is Secretary of Joint IEEE Control Systems Society-Instrumentation & Measurement Society (CSS-IMS) Chapter Kolkata, and a member of Executive committee in IEEE Kolkata Section, Dr. Kaushik Das Sharma, Associate Professor, Department of Applied Physics, University of Calcutta, presently he also serves as Executive Committee Members of IEEE Kolkata Section, IEEE Joint CSS-IMS Kolkata Chapter and IET (UK) Kolkata Local Network and Dr. Jayanta K. Chandra, Associate Professor & Head, Department of Electrical Engineering, Purulia Govt. Engineering College, West Bengal. Along with them Dr. Dinesh Bhatia, Convener and Head, Biomedical Engineering Department, NEHU, Shillong and Mr. G.K. Mourya and Mr. Shyamal Mandal as Coordinators of the IEEE Outreach programme were also present.

- The department of Biomedical engineering, SRI RAMAKRISHNA ENGINEERING (SNR) COLLEGE, Coimbatore, in association with the professional society BMESI had organized literature presentation "READ & READ" on 17.03.2017 to the III year students of Biomedical Engineering.

The session aimed to develop the presentation skills of the third year students by collecting relevant material to their project idea and consolidating the discussions made in the base paper thus preparing and presenting the reviews and supporting literature for their project. The head of the department Dr G Gopu, Professor and head, BME inaugurated the event and extended the welcome address to the participants. The students were made to present their idea in a group. The rules of the contest were dictated to the students. The assessment criteria for the session were based on the presentation skill set content and the technical content of the presentation. The panel of jury was selected among the professors of electronics, biomedical instrumentation and rehabilitation engineering who reviewed the presentation and panelled the session.



- **The Department of Biomedical engineering in association with the professional society BMESI had organized idea contest "THINK BMed" on 15.03.2017 to the second year students of Biomedical engineering, Sri Ramakrishna Engineering College.**

The session aimed to develop the presentation skills of the second year students by identifying an innovative idea and preparing an effective presentation limited to 5 minutes. The head of the department Dr G Gopu, Professor and head, BME inaugurated the event and extended the welcome address to the participants. The students were made



to present their idea in a group. The rules of the contest were dictated to the students. The assessment criteria for the session was based on the innovation content and the technical content of the presentation. The guest of the day was **Er. Puspanathan, Managing Director, BIONIX Medical Systems, Salem** who chaired the session and evaluated the presentation. He provided more valuable suggestions to the participants in improving their concepts. He also discussed on the fesiability and viability of commercializing certain innovative projects which is of societal impact.

## AWARDS/ACHIEVEMENTS

Dr. Manjunath K N, Faculty of Computer Science and Engineering, M.I.T has successfully defended his Ph.D. thesis in July 2017 and has been awarded Doctor of Philosophy by Manipal University. His research title "Computer Aided Assessment of Colon Polyps in CT Colonography using Image Processing Techniques", which is an application of image processing in solving the problems in Radiology (using virtual colonoscopy images). He worked as full-time Research Scholar at Department of Biomedical Engineering, M.I.T. under Dr. T.M.A. Pai Ph.D. Scholarship Scheme from Jan 2013 to Aug 2016. He carried out his research under the supervision of Professor. Dr. G. K. Prabhu, Pro-VC (Technology and Management), Manipal University and Professor, Department of Biomedical Engineering, M.I.T. and Dr. Siddalingaswamy P. C., Associate Professor, Department of Computer Science and Engineering, M.I.T., Manipal. The work was carried out in association with, Radio-diagnosis and Imaging, Gastroenterology and Hepatology from Kasturba Hospital, Manipal University. His research interests include: Radio Diagnosis (Medical Imaging, Processing and Analysis, CBMIR, Diagnostic Imaging Modality Big Data Analytics, Cancer Diagnosis using Medical Images), Radiation Therapy Systems (Treatment Planning Systems in Radiation Therapy, Registration, and Fusion of Medical Images)



# BOOKS

## MEDICAL INFORMATICS (2015)

by PHI Learning Pvt. Limited, Delhi ISBN No. 978-203-5075-5

### Author: Dr Dinesh Bhatia

Associate Professor & Head, Biomedical Engineering Department,  
North Eastern Hill University (NEHU), A Central University (MHRD, GoI)  
Shillong-793022, Meghalaya, India



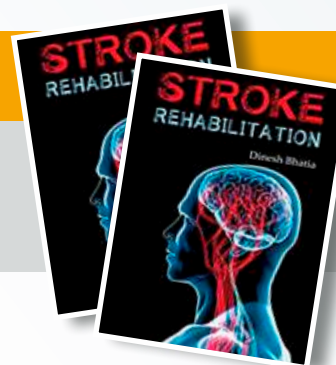
This is an up-to-date text that presents a detailed exposition of the concepts of Medical Informatics with a simple and student-friendly approach. The topics are comprehensively described and are supported with illustrations, figures and tables which make it a unique offering for both the students and the teachers. The author has brought all his teaching and research experience to make this book easy to read and understand. The stress is mainly given on the integration of medical informatics in healthcare management, in the context of Indian scenario. The book emphasizes the role of computers in the area of medical services including nursing, clinical care, dentistry, pharmacy, public health and biomedical research. The main focus in healthcare nowadays is given to create, maintain and manage large and complex electronic information data that can securely gather, store, transfer and make accessible Electronic Health Records (EHRs) and Electronic Medical Records (EMRs). The book, organized in an easy-to-read style is highly informative, and attempts to keep up with the quick pace of changes in this field. The book is primarily designed for the undergraduate and postgraduate students of biomedical engineering and paramedical courses. It will also be of great value to the healthcare professionals.

## STROKE REHABILITATION (2016)

by ABS Books Limited, Delhi ISBN No. ISBN 978-93-86088-05-5.

### Author: Dr Dinesh Bhatia

Associate Professor & Head, Biomedical Engineering Department,  
North Eastern Hill University (NEHU), A Central University (MHRD, GoI)  
Shillong-793022, Meghalaya, India



This book is an up-to-date comprehensive book that presents a detailed exposition of the concepts using a simple and student friendly approach. The illustrations presented in this book make it a unique offering for students and teachers. The author has brought all his teaching and research experience to make this book easy to read and understand. The stress is mainly given on current interventions in the field of stroke rehabilitation with available techniques to improve and develop sound devices for physically challenged. It provides the conceptual base needed to comprehend and utilize rehabilitation strategies and emerging technologies through easy to understand examples that describe how assistive devices lead in the delivery of improved health care facilities to the masses. It is highly recommended for engineering, physiotherapists, rehabilitation specialists, paramedical students as well healthcare professional working in the field and for established investigators making them aware of new approaches and algorithms.

### Biomedical Engineering Society of India – Membership Subscription

For individual members: Annual subscription fee: ₹100 + One time Registration fee: ₹ 20.

Life membership fee: ₹1,500 + One time Registration fee: ₹20.

For Institution: Life membership fee: ₹15,000 + One time Registration fee: ₹100.

For Students: Membership fee per annum: ₹50 + One time Registration fee: ₹20.

The application forms for Life memberships (Individual & Institutional) are also given at the end of this newsletter.

E-mail: [bmesiindia@gmail.com](mailto:bmesiindia@gmail.com), Web: <http://www.bmesi.org.in>



# Biomedical Engineering Society of India

## Application Form for Life Membership

Name in full:	Nationality:
Place of Birth:	Date of Birth:
Address A. Office: _____	
B. Home: _____	
E-mail Id: _____	
Please tick the address preferred for mailing: Office <input type="checkbox"/> Home <input type="checkbox"/>	
Present position, Length of Service and Responsibilities:	
Nature of experience and interest in Biomedical Engineering including publications: (Attach additional sheets if necessary)	
Education (Degree, Year of passing etc):	
Membership of other professional organisations:	
I certify that the statements on this application are correct and agree to abide by the rules and bylaws of the society.	
Date:	Signature of Applicant
Note: Application money payable with this form: Life Membership Subscription Rs 1500/- and registration fee.	
Details of payment:	
DD No. <input type="text"/>	Bank: <input type="text"/>
Demand Drafts should be made payable to the BIOMEDICAL ENGINEERING SOCIETY OF INDIA, payable at Udupi or Manipal. Completed application form together with payment should be sent to:	
<b>Mr. Muralidhar Bairy G, Joint Secretary, BMESI, Department of Biomedical Engineering, Manipal Institute of Technology, Manipal-576104</b>	
<b>FOR OFFICE USE</b>	
Application Received on:	Member Receipt No:
Membership No:	Elected on:
Sent on:	



# Biomedical Engineering Society of India

## Application Form for Life membership (Institution)

Name of the Organisation	Nationality: Indian/ Multinational
Place of Head office:	Year of Establishment:
Address for communication:	
Phone :	
Fax :	
E-Mail :	
Brief Profile of organisation: (sheet may be enclosed):	
Whether Biomedical course / Department / Division exist?	
Certification/ Recognition (like, ISO 9000, ISI etc.)	
Membership of other professional organisations:	
I certify that the statements on this application are correct and agree to abide by the rules and bylaws of the society.	
Date:	Signature of Applicant
Note: Application money payable with this form: Life Membership Subscription Rs. 15,000/- and Reg. fee Rs.100/- Details of payment:	
DD No. <input type="text"/>	Bank: <input type="text"/>
Demand Drafts should be made payable to the BIOMEDICAL ENGINEERING SOCIETY OF INDIA, payable at Udupi or Manipal. Completed application form together with payment should be sent to:	
<b>Mr. Muralidhar Bairy G, Joint Secretary, BMESI, Department of Biomedical Engineering, Manipal Institute of Technology, Manipal-576104</b>	
<b>FOR OFFICE USE</b>	
Application Received on:	Member Receipt No:
Membership No:	Elected on:
Sent on:	



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