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Message from Editor-in-Chief

New year Greetings

We wish all the members and associated people a cheerful new year 2018. As the new year renews all the happiness and good tidings, hope the joyful spirit keeps glowing in your heart forever. May the New Year be filled with brightness and hope so that darkness stays away from you.

We hope the year 2018 encourages young scientists to start with their new startup which makes India self-dependent.

• *Dr. Niranjana Sampathila*

HAPPY NEW YEAR 2018

Quote

Quality is not an act it is a habit

-Aristotle

Intelligence is the ability to adapt to the change

-Stephan Hawking

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 and bmesiindia@gmail.com

Dr. A. G. Ramakrishnan

Professor and Chairman
Department of Electrical Engineering
Indian Institute of Science, Bangalore
<http://mile.ee.iisc.ac.in/AGR/index.htm>



Angarai Ganesan Ramakrishnan has been the Chairman of Electrical Engineering Department at the Indian Institute of Science, Bangalore since 2015. He also heads the Medical Intelligence and Language Engineering Lab housed in his Department. The lab is committed to applying academic research to solve real world problems and is one of the premier research centers in India focussing on a wide range of areas such as deep learning, machine learning, speech recognition, medical image processing, document image analysis and recognition, online handwriting recognition, text to speech synthesis in Indian languages and natural language processing.

Dr. Ramakrishnan is a graduate (Electronics and Communication Engineering, 1980) of PSG College of Technology, University of Madras. He obtained his M.Tech (Electrical Engineering, 1982) and Ph.D (Biomedical Engineering, 1989) from IIT, Madras. After a short stint as a research engineer at BPL India Ltd., he went on to do research in alternative medicine as a postdoctoral fellow in 1991 at Fetzer Institute, Kalamazoo, MI, USA. He joined IISc in 1992 and was a Senior Research Scientist at HP Labs India from 2002 to 2003.

He has graduated 26 research students and guided 76 M.Tech projects and a high number of BE interns. Dr. Ramakrishnan has published in journals such as Journal of the Acoustical Society of America, IEEE Transactions on - Biomedical Engineering Medical Imaging, Information Technology in Biomedicine, Speech, IEEE Signal Processing Letters, Biomedical Signal processing and Control, Pattern Recognition Letters and Pattern Analysis and Applications and ACM Transactions on Asian Language Processing. Based on his Ph.D work, which dealt with the analysis of sensory nerve action potentials and somatosensory evoked potentials on leprosy patients, he received the Thangam Vasudevan Award from the Indian Association for Biomedical Sciences and Sir Andrew Watt Kay Young Researcher's Award from the Royal College of Physicians and Surgeons, Glasgow. For his projects 'Gift of New Abilities' and 'Madhura - The Gift of Voice', he received Manthan Award in 2014 and 2015. In 2016, he was honoured with Jaya-Jayant Award for Teaching Excellence in Engineering by the IISc Council. He was the President of Biomedical Engineering Society of India from 2002 to 2008. He is a Fellow of IE (I) and the IETE and a Senior Member of the IEEE, USA. Presently he is serving as the Vice President of Indian Unit for Pattern Recognition and Artificial Intelligence and as an Associate Editor of Sadhana. He is a member of the Karnataka Knowledge Commission since 2017.

His new research interests are auditory neuroscience of bilingualism, brain-computer interfaces and physiological and neural mechanisms of action during the practice of yogasanas, pranayama, japa and different types of meditation.

He firmly believes that the only effective way to take India forward is to strengthen the education at the primary and secondary school levels in every nook and corner of the country and educating the children of the importance of nutritious diet, simple but effective daily exercises including deep breathing, communication skills and a vision for the self and the country.

Events held at the Department of Biomedical Engineering of KLE DR. M. S. Sheshgiri College of engineering and technology, Belgaum

The Department conducted its Annual In-House Management-Cum-Technical Event, "Product Analysis Competition 2017" on 12th September 2017, at KLE Dr. MSSCET, Belgaum. The dignitaries Shri. S. K. Venkataram (Retd., Principal KLS Vasant Podar Polytechnic, Belgaum), Mr. Chinmay Kantak (CEO, Goa Orthopedic Centre, Goa) and Mr. Prakash Mane (Operation Head, Nihon Kohden ECO Medilines, Belgaum) graced the event. There were 25 participants, and the Team A (ANTRANG) and Team B (LIFELINE), exhibited their oratorical and technical skills, teamwork and leadership skills.



The department has organized a Three Day workshop on Lab VIEW on 18th, 19th and 20th September 2017. The workshop was inaugurated by the Principal, Dr. Basavaraj Katageri and Mr. Sunilkumar, Managing Director VI Solutions Bangalore. Mr. Sunilkumar spoke salient features and organization structure of the workshop and briefed about the scopes and recent developments in the field of virtual instrumentation.

The Department has arranged a Guest Lecture on "Opportunities in the field of Bio-Medical Engineering" for all the Biomedical Engineering Students by Mrs. Evelyn Immanuel, Senior Product Manager Aindra Systems, Bangalore on 23rd September 2017.



Smt. Disha Chougule, Director, Creintors Storage Solutions Pvt. Ltd. Belagavi, delivered a guest lecture on 04th September 2017, during the "Induction program" for 3rd semester students.

DIAMOND JUBILEE LECTURE SERIES AT THE DEPARTMENT OF BIOMEDICAL ENGINEERING, MIT, MAHE, MANIPAL

The Department of Biomedical Engineering conducted a series of 9 lectures for the students & the faculty on the occasion of Diamond Jubilee celebration of Manipal Institute of Technology, Manipal University, Manipal. Mr. Sanjeev Hiremath delivered the first Lecture of the series, entitled "From the Flying Hospital to Error Log Data Analytics: the journey of a Biomedical Engineer" on January 18, 2017. On February 09, 2017, Dr. Rajeshwari Kumar, Research Scientist, Outreach Program from The University of Texas at Dallas, USA, delivered a lecture entitled "New frontiers in sensing technologies from nano - to macro-". The HOD, Nuclear Medicine, KMC, Manipal, Dr. Rajesh Kumar delivered a lecture on "Imaging in Nuclear Medicine" (April 07, 2017). On April 11, 2017, Dr. RV Om Kumar, Scientist-F and Head of Molecular Neurobiology Division, Rajiv Gandhi Centre for Biotechnology (Department of Biotechnology, Govt. of India) Thiruvananthapuram, Kerala, delivered a lecture on "Molecular basis of Learning and Memory".

Dr. Prabin K Bora, Professor, EEE Department, IIT Guwahati, Assam, delivered a lecture on "Matrix Estimation: An Application to Signal Denoising" (May 06, 2017). Dr. A G Ramakrishnan, Professor and Chairman of EE Medical Intelligence & Language Engineering Lab, Department of Electrical Engineering IISc, Bangalore, delivered a lecture entitled "Brain and Health" on July 10, 2017. Dr. Prakriti Tyalia, Assistant Professor, Department of Biosciences & Bioengineering, IIT Bombay, Mumbai, delivered lecture entitled "3D hydrogel systems as platforms for manipulating cell behaviour" on July 24, 2017. Dr. Pitchaiah Mandava, Baylor College of Medicine Houston, Texas, USA and Director of the Stroke Unit at Micheal E DeBarkey VA Medical Center, Adjunct Professor, Dept. of Biomedical Engineering, MIT, Manipal delivered lecture entitled "Mathematical Modeling in Neurologic Diseases" on August 18, 2017. Dr. Santosh C, Professor & Head, DAMP, MIT, has delivered the lecture -9 of the Series and on the topic "Advances in Bio-photonics", on November 06, 2017.



The BME Department of Velalar College of Engineering and Technology, Erode conducted a BMESI sponsored national seminar on “Medical Image Processing and analysis” on 10th October.



Dr. S. Mangai, Professor and HoD, Department of Biomedical engineering, Velalar College of Engineering and Technology welcomed the gathering. The Principal Dr. M. Jayaraman, Prof. L. Peter Stanley Bebington, Dean (Academics) and Prof. P. Jayachandar, Dean (Student Affairs) felicitated the gathering. Dr. V. R. Vijayakumar, Associate Professor and HoD, Department of Electronics and Communication Engineering, Anna University Regional Campus, Coimbatore, delivered a lecture on “Fundamentals of medical image processing” and focused on the latest trends in Image enhancement and Image fusion with appropriate examples. Afternoon session on “Image segmentation approaches” was delivered by Dr. B. Padmapriya, Associate Professor, Department of Biomedical Engineering, PSG college of technology, Coimbatore.

Guest lecture and symposium: Department of Biomedical Engineering, Alpha College of Engineering, Thirumazhisai, Chennai

The Department of Biomedical Engineering, Alpha College of Engineering, arranged a Guest lecture “Biomaterials and artificial organs”, on 04.10.17. Dr. T. M. Sridhar, Associate Professor, Department of analytical chemistry, Madras University was the resource person.



The Department of Biomedical Engineering, Alpha College of Engineering conducted the technical symposium (ASKLEPIUS'17) on 20/09/2017. Dr. S. Krishna Kumar, Senior Technical Officer, Ministry of Defense, DRDO invited as a chief guest, facilitated and honoured by Principal Dr. B. Sowmya. Dr. S. Krishna Kumar talked on overview of research project, career opportunities in DRDO. He shared his practical experience with the students. He spoke about actual work of Arman anent wing of DRDO.



Department of Biomedical Engineering ,Vidyalankar Institute of Technology, Wadala , Mumbai

The workshop on Multisim was conducted by the department BMESI Chapter on August 19, 2017. The resource person Mr. Anand Panchal, an alumnus of our institute, is a biomedical engineer and an IoT developer. He demonstrated the working of multisim.



The seminar on “Ventilators” was conducted by BMESI-Vidyalankar Institute of Technology, Wadala, Mumbai on September 29, 2017. Mr. Nagesh Utekar, Director, Rescare Medisystems Ind Pvt Ltd, spoke about ventilators, their evolution and discussed practical case studies, where the ventilator is put in use.



AWARD/ACHIEVEMENT

Dr. Sampath Kumar

Associate Professor, Dept. of E&C, MIT, Manipal
And MD, Kumudha Health Tech Pvt Ltd, Manipal

He completed his PhD entitled with “Quantification of spinal deformities using 3D reconstruction from biplanar radiographs” under the guidance of Dr. K. Prabhakar Nayak, Professor, MIT and Dr. K. S. Hareesh, Professor, MIT. He worked on the 3D reconstruction of the spine using only frontal and lateral radiographs of a subject. From the 3D model, the spine deformations like axial vertebral rotation and spinal curvature are computed. This work is published in three Scopus/WOS indexed journals. He received grants from SERB – DST (“Fast track scheme for young scientists” of Rs. 10.26 Lakhs) and BIRAC-DBT (of Rs. 46.41 Lakhs). He ventured a Start-up “Kumudha Health Tech Pvt Ltd, Manipal” with Dr. K. S. Hareesh as a partner, incubated at MUTBI. The first product of the company is the development of 3D diagnostic and treatment planning tool for spinal disorders.



BOOK



Dr. Goutam Thakur

Associate Professor
Dept. of Biomedical Engineering
MIT, MAHE, Manipal

The book highlights the role of flaxgum as anti-diabetic agent. Initiation of diabetes from forerunner hyperglycemia and subsequent complications induce inflammatory responses. Hence, anti-inflammatory agents retard the changes of diabetes initiation.

Genipin-crosslinked gelatin-based carrier matrices were therapeutically evaluated with release kinetics of model drugs indomethacin and tolbutamide, revealing that optimization of the matrix requires further pharmacologic applications. Emulsion gels consists of finely dispersed indomethacin-loaded oil droplets were characterized for physical properties and drug release. Gelatin-based hydrogels cross linked with genipin were developed and the impact of cross linking temperature on gel strength, microstructure, swelling and drug release were investigated. Freeze dried gelatin matrices cross linked with genipin at 5°C, 15°C and 25°C, were developed and were characterized for cross linking density, compression strength, swelling behaviors and drug transport.



START-UP

Mr. Gajanan Satish Nagarsekar

B.E. (Electronics & Telecommunications Engg.),
M.Tech. (Biomedical Engg.), M.S. (EE)
Kallows Engineering India Pvt. Ltd



Kallows was founded as a software services company in Goa, India in 2007. In 2012 the company entered the medical device market launching ultra-portable and low-cost smart phone and tablet-based cardiac recorders. The founders of the company, Gajanan Nagarsekar (Alumnus of Manipal Institute of Technology, Manipal) and Kevin Kreger mentor students in Goa to establish local expertise in embedded programming and mobile applications development. Cardiology segment is the core of product development at Kallows. The company is in the process of developing an integrated approach to gather vital signs for health care assessment.

Website: <http://www.kallows.com/index.html>

NOTE:

Idea expressed here are of the individuals and not of BMESI. ENGMEDNEWS is published by Biomedical Engineering Society of India. Send your articles to the following email: bmesi.engmednews@gmail.com, and a copy to bmesi.india@gmail.com



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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:	
Mr. Muralidhar Bairy G, Joint Secretary, BMESI, Department of Biomedical Engineering, Manipal Institute of Technology, Manipal-576104	
FOR OFFICE USE	
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:	
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