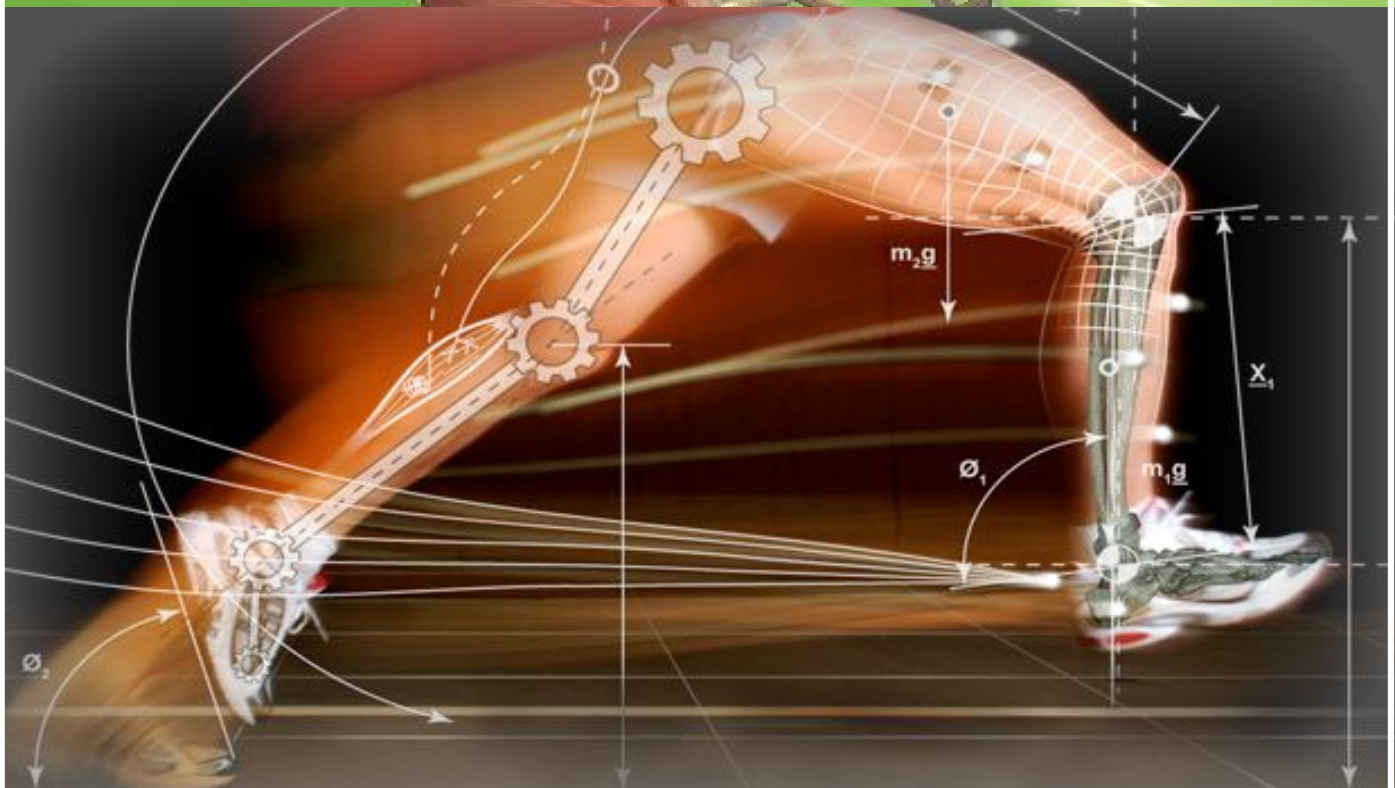


# SYNERGY

DEPARTMENT OF BIOMEDICAL  
ENGINEERING  
QUATERLY MAGAZINE

APR - JUN, 2014

VOLUME 3: ISSUE 2



# SYNERGY

JULY 2014

## MESSAGE FROM THE EDITORIAL DESK

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# Editorial



**We are elated to bring to you the quarterly journal of the DEPARTMENT OF BIOMEDICAL ENGINEERING for July 2014.**

**With the department working earnestly to achieve excellence in all aspects of education , the editorial team works to bring you with a comprehensive, up-to-date coverage of happenings aggregated from all around the department.**

**We will be back with the next issue summing up bigger achievements of the department on October 2014.**

**Best Wishes**

**-Editorial Team**

### WATCH OUT FOR

- Exciting articles
- Placement news
- High achievers

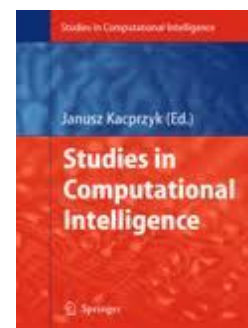
GET INSPIRED

## STAFF CORNER

## PUBLICATIONS:

- **Dr. S.Guruprakash** and **R. Sivaramakrishnan** published a paper on “Effect of Hen Egg White on Microbial Adhesion and Biofilm Growth of Biomaterial Associated Infection Causing Pathogens” International Journal of Bio-Science and Bio-Technology, Vol. 6, No. 2, April 2014.
- **Dr. Mallika Jainu**, Priya.E., published a paper on “Biochemical Study Of Cardiac Markers - Troponin Protein In Myocardial Infarction Patient” in the International Journal of Biotechnology. April 2014; 2(4): 15-19. (IF : 2.54).
- **Dr. Mallika Jainu**, Hemaprabha, S. Vinutha, Sarah rajitha, T.S.Ranjani, published a paper on **Alphalinolenic acid, a potent inhibitor of fatty acid synthase - antimycobacterial agent**. BMC infectious Disease Journal. Vol 14, S3; 2014; 1024-26. (IF:3.08).
- S.Usha Rani, M.Chitra and **Dr. Mallika Jainu**. published a paper on **Hepatoprotective Effect Of Wattkaka Volubilis Extract On Aluminium Sulphate Induced Liver Toxicity**. International Journal of Pharmaceutical Sciences and Drug Research. 2014: Volume 6; Issue 2 . (IF: 1.04).
- E. Priya, **Dr. Mallika Jainu** published a paper on **Study of Adverse Effects of Vildagliptin and Insulin Treatment in Diabetes Mellitus Patients**. Research journal of Recent Sciences Vol3; 2014:1-8.
- **Mr. Sivaramakrishnan Rajaraman**, Ganesh Vaidyanathan and Arun Chokkalingam published a paper on "**Performance Evaluation of Nature – Inspired Optimization Techniques in Disentangling Text Pattern Overlaps**" in the Journal of Multiple valued Logic and Soft Computing, vol. 23, no. 5-6, pp. 503-527. June 2014.
- Zhao B, Van der Mei HC, **S Guruprakash**, De Vries J, Rustema-Abbing M, Kuijter R, Busscher HJ, Ren Y. published a paper on **Soft tissue integration versus early biofilm formation on different dental implant materials**. Dental Materials 2014, 30(7): 716-727. (IF – 3.773)
- The following Book Chapter is published :

**Chapter Title** : Texture Analysis of Carotid Plaque Ultrasound Images  
**Authors** : K. Sumathi and **Mahesh Veezhinathan**, Asso.Prof/BME  
**Publisher** : Springer  
**Book Title** : Studies in Computational Intelligence  
**Editors** : Janusz Kacprzyk, Warsaw, Poland



## FACULTY ACTIVITIES:

- **Dr. Mallika Jainu (AP)** submitted the proposal for India-US grand challenge on project titled **“Affordable Blood Pressure Measurement Technologies for Low-Resource Settings”** in India for DST external funding.
- The following paper entitled **“Occlusion Resolving in Text Patterns”** authored by **R. Sivaramakrishnan**, AP was presented at the International Conference on Emerging Trends in Science Engineering and Technology (ICETSET 2014), held at Jerusalem College of Engineering, Chennai. .
- **Dr. Sachin Sarate**, full time doctor cum Asst. Prof. in BME presented prospective research projects at Kaivalyadham, Lonavala on the following topics:
  - **Effect of Kapalbhathi Pranayama on coronary filling and diastolic augmentation.**
  - **Effect of Yoga on oxidative stress reduction.**
- The following paper titled **“Analysis of Intima Media Thickness in Ultrasound Carotid Artery Images Using Level Set Segmentation Without Re-Initialization”** by K. Sumathi, **Mahesh Veezhinathan**, Asso.Prof/BME and S. Ramakrishnan is presented in 3rd International Conference on Informatics, Electronics and Vision at Dhaka, Bangladesh.
- **Dr. Guruprakash**, Asso Prof received the Certificate of Excellence in reviewing award for the year 2013 from Elsevier Journal Colloids and Surfaces B: Biointerfaces.
- **Dr. Mallika Jainu, (AP)** completed CD4 Enumeration Lab training course from HIV prevention networks, John Hopkins School of Medicine, Baltimore, USA.

“May today's success be the beginning of tomorrow's achievements.”



**Dr. Guruprakash**

EXTENDING A WARM WELCOME!

# Welcome!

We are glad to welcome **Ms D.Kanchana** and **Ms Delpha** on behalf of the entire department as Asst. professors.

**Ms. Delpha** completed her under graduation in Bio-Medical Engineering from Rajiv Gandhi college of Engineering, Sriperumbudur in 2010 and her Post-graduation also in BME from Karunya University in 2012. Prior to joining SSN, she had worked in Avinashilingam Institute of Home Science and Higher Education for women as Assistant Professor for a year. She stood first in her department in UG and also secured department first in PG with 3 gold medals. She has published about 6 papers in journals and conferences.

Her areas of interest includes:

- Diagnostic and therapeutic equipments
- Bio medical instrumentation, Radiological equipments
- Anatomy and Physiology
- Bio Materials, Hospital Management
- Medical Optics, Electronic Devices and Circuits etc.



MS. DELPHA

**Ms. D. Kanchana** has completed B.E in Biomedical Engineering and Masters Degree in Medical Electronics from Rajalakshmi Engineering College, Chennai. She was Gold medalist from Anna University in B.E. She has published research papers at graduate and post graduate level in the National and International conferences. She has done projects on powered lower limb exoskeleton design, palm print feature extraction and automated blood cell disease classification.

Her areas of interest include

- Rehabilitation engineering,
- Biomedical instrumentation and
- Digital image processing.



MS. KANCHANA. D

## MOURNING FOR A BELOVED PROFESSOR

**Mr. Manoj Niranjana** (AP/BME) has left us all with heavy hearts mourning his demise on 22nd of May, 2014. The faculty board, students and the non-teaching staffs still cannot digest over this cryptic fact.

He has contributed immensely to the Biomedical Department of SSN College of Engineering, Kalavakkam and the institute pays reverence to this young man. He graduated from Tagore Engineering College with 1st class distinction and later went on to do his Masters in Medical Electronics in Anna University, Guindy. He thrived to be outstanding in all aspects of being an academician. He entered SSN with high spirits on June 2008.

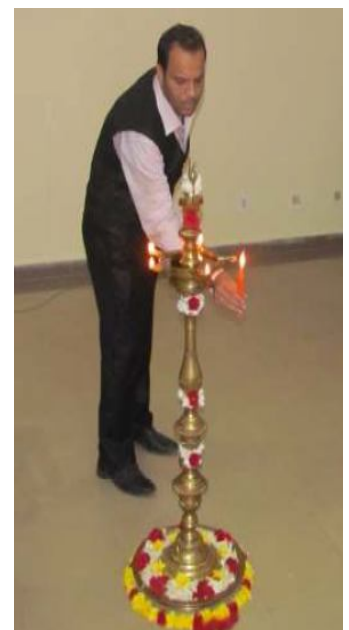
Whenever an event used to be conducted by the department, Mr. Manoj Niranjana's name would pop out first for being assigned responsibility. He took pride in being a sincere and dedicated human. He was skillful in handling a variety of subjects which are as follows:

- Electronic devices and circuits, Signals and systems,
- Digital signal processing,
- Bio control systems,
- Biomechanics,
- Bio MEMS,
- Biofluids and Dynamics,
- Biometrics,
- Digital Image Processing.

He was very keen in making sure that each and every student in his class learns for the love of the subject. He was tactful in impregnating each of his student's mind with the basic concepts that governed many of the complicated concepts and made sure that he created interest in students for the subjects that he had taught. This was the reason why he was awarded with "The Best Teacher Award".

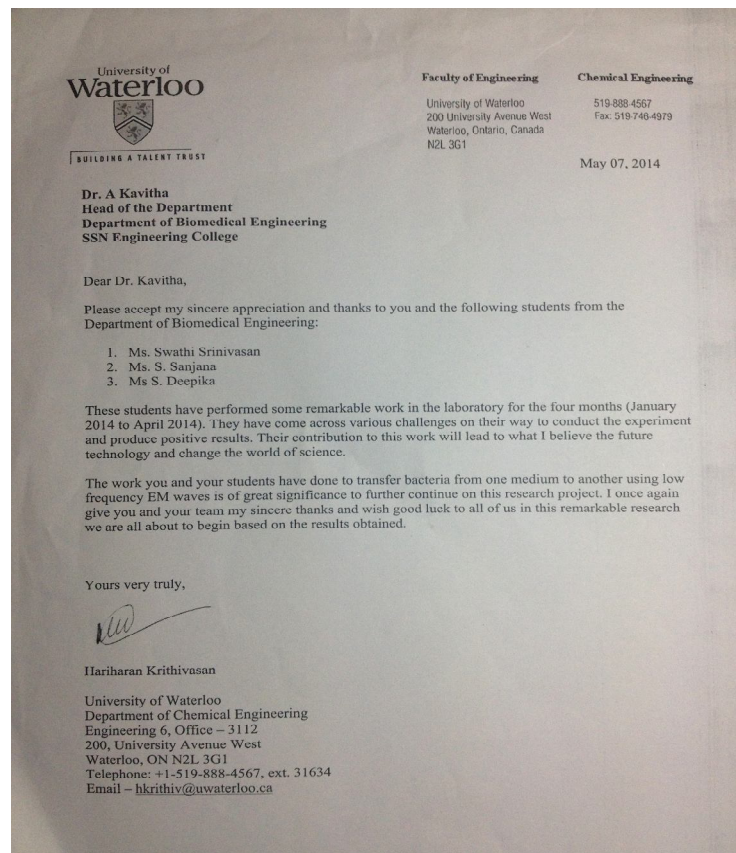


**We always  
were  
stunned by  
his witty  
speeches!**



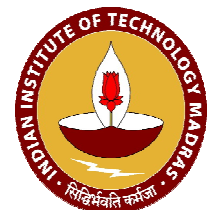
## STUDENTS ACHIEVEMENTS

- The paper titled **“Wearable Neuro rehabilitation aid for Physically Challenged”** was presented by **Vijaya Balaji S, Siva A, Nagasai V, Geethanjali B, Mahesh V** at TI India Educators Conference 2014, organized by Texas Instruments India Bangalore Campus.
- The project titled **“Silent Speech Recognition System using EMG”** by **Suriya Kumar, Rajesh R , Abigail Roseona Lutherine** was exhibited at TI India Educators Conference 2014, organized by Texas Instruments India Bangalore Campus and received the consolation prize of Rs. 12, 000. The project was guided by **Mrs.B.Geethanjali and Dr.S.Pravinkumar**.
- The project titled **"Design of a Switch Controller for Paralytic Patients Using EEG”** by **Srinivas, P.A., Deepak, N., Kumar, K.G., Navathej, G., Mrs. Geethanjali, B., Dr. Mahesh.V**, was included in the book " Innovative Electronic System design projects” under Assistive Technology.
- **Swathi.S, Sanjana.S** and **Deepika.S** of final year were associated with **Universty of Waterloo** in an experimental project for over a period of 7months.



## INTERNSHIPS AND IN-PLANT TRAININGS

- **T.Nandini** of III rd year attended an in-plant training program at **KHM Hospital** for a week from 16 June to 22 June.
- **Banu Saranya, Sushmitha** of III rd year attended an in-plant training program at **Meenakshi Mission Multi-Speciality Hospital**, Madurai from 16 June to 20 June.
- **P.J.Ragavi** of III rd year has done an internship at **Aishwarya Fertility center, K.V Heart Hospital**, Palani from 11 to 17 June.
- **S.Muthumeenakshi, C.Pooja, A.Subhashine**, of III rd year attended an in-plant training program at **Kauvery Hospital**, Alwarpet for 12 days from 9 June to 20 June.
- **B.AkshayaKirithy, R.Vijilakshmi** of III rd year attended an in-plant training program at **Dr.Kamakshi Memorial Hospital, Pallikaranai**, Chennai from 11 June to 22 June.
- **V.Bhavana** of III rd year attended an internship at **SankaraNetralaya, VidyaSagar Institute of Biomedical Sciences** for 15 days, from 5 June to 20 June.
- **S.GeethaPriya** of IIIrd year attended an in-plant training program for 15 days in **Care Stream Company**, Nungambakkam, Chennai.
- **Sanjana.S** of 1Vth year interned at **Apollo Cancer Speciality Hospitals** from 3rd June to 21st June in the Operations Department.
- **Vardhini. P, Poongavanam. P, and Harini.V** of IV th year underwent hospital training at **TTK HEALTHCARE PVT. LTD** during the days of 18th to 23rd of April.
- **Kuldeep Surana and Hemnath** of IV th year interned at **IIT Madras** during the period of June 6th to June 30th at the Applied Mechanics Department.
- **Sneha Bhattaram and Gayathri .S.** of IV th year got the opportunity to intern at **IIT Madras** in the Engineering Design Department.
- **Swathi.S** of final year has been interning at the Applied Mechanics Department of **IIT Madras** since June 16th.
- **C.R.Imaiyan**, III yr interned at **IIT Ropar**, for a month from 6 June to 7 July.





## PLACEMENT CORNER

The following students from the passed out BME batch, got placed in iGate solutions recently:

**Chennai Placement Drive:**

- **Divya**
- **Sreepriyadharshini**
- **Satish**
- **Guruprasanth**

**Bangalore Placement drive:**

- **Sona.G.**

Opportunities can knock our doors at any time. Be prepared to face the worst and at the end of the day hard work always pays .

## EXTRA-CURRICULAR ACCOLADES

- **Vishal S. B** of IInd year has participated in “CUBING” event in Saarang organized by **IIT Madras**.
- **Chandra Mouli .R** and **Atul Taneja** of IInd year participated in **BITSMUN** at GOA.
- **Visaltchi** of IV th year participated in **Interschool and college chess tournament , Salem** and secured first place in Chess.
- She has also participated in the **Women state chess championship** conducted at Thiruvarur during May 7th to May 12th and secured 12th place



## GOOGLE GAINS MEDICAL CREDIT IN DEAL WITH NOVARTIS FOR GLUCOSE-SENSING CONTACTS

ZURICH (Reuters) - Novartis has struck an agreement with Google to develop "smart" contact lenses that would help diabetics track their blood glucose levels or restore the eye's ability to focus.

The device for diabetics would measure glucose in tear fluid and send the data wirelessly to a mobile device, Novartis said. The technology is potentially life-changing for many diabetics, who prick their fingers as many as 10 times daily to check their body's production of the sugar.

Success would allow Novartis to compete in a global blood-sugar tracking market that is expected to be worth over \$12 billion by 2017, according to research firm GlobalData. Diabetes afflicts an estimated 382 million people worldwide.

The second approach is for presbyopia, in which aging eyes have trouble focusing on close objects. Novartis hopes the lens technology will help restore the eye's ability to focus, almost like the autofocus on a camera.

Non-invasive sensors, microchips and other miniaturized electronics would be embedded into the contact lenses.

Under the deal with Google, Novartis's Alcon eyecare unit will further develop and commercialize the lens technologies designed by Google[x], the American company's development team.

The alliance comes as drugmakers explore ways for technology to reshape health-care, helping patients monitor their own health and lowering the costs of managing chronic diseases.

In turn, technology firms such as Apple Inc, Samsung Electronics Co and Google are trying to find health-related applications for wearable devices.

This really brings high-technology and combines it with biology and that's a very exciting combination for us.

I think you're going to see more and more areas of unmet medical need where companies like Novartis are going to take a non-traditional approach to addressing those unmet needs.

Although the licensing deal is just for the eye, the drugmaker was also thinking about how technology could be applied in other areas, such as remote patient monitoring in heart failure.



**FDA clears  
Encision's burn  
protection  
system for  
minimally  
invasive  
surgeries**

## NEW TEAM WITH A SPIRITED VIBE!

We are proud to introduce you to the new team who will be forming the  
**“ASSOCIATION OF BIOMEDICAL ENGINEERS”**



The association is headed by the **PRESIDENT**  
**Mr. Nagasai Veluru V** who is enthusiastic and driven by courage and will to put in innovative ideas into the department's forthcoming technical symposium **“SRISHTI V7.0”**.

NAGASAI VELURU.V

**Ms. Sarah Rajitha Thilagam**

has been elected as the **VICE PRESIDENT**. She is a charismatic young woman who has been working hard to unite the students in working with unity for the department activities .



SARAH RAJITHA THILAGAM



**Mr. Siddharth A Swaminathan** will now take the post of the **SECRETARY** who has been an all rounder taking care of various activities to be held in the symposium.

SIDDHARTH.A. SWAMINATHAN

**Mr. Kuldeep Surana** has been elected as the **“TREASURER”** who is known for his reliability and accountability.



KULDEEP SURANA



HEMAVARDHINI.S.



SUDHIR BABU

The **event co ordinators** have always put in the best of their efforts to make SRISHTI the best of its kind . This time **Ms. HEMAVARDHINI .S and Mr. SUDHIR BABU** are working towards this such a goal.

**We wish this new team all success!**

## SRISHTI, BACK WITH A NEW AGENDA



Srishti, the much awaited national level tech symposium of the Biomedical Engg. Dept is back this year. The highpoints of version 7 right from the theme- Heart which has brilliant scope for research and development to the never ending list of quizzes , trivias and other tech stuff is guaranteed to dilate the pupils of the scientist in every student.

Each year, Srishti witnesses a flood of curious and enthusiastic participants . Hope this September we make it bigger and better than ever before.

-R.Prasanna Bharati, IV yr

## TIT BITS OF FUTURE EVENTS:

## PRATIYOG 2K14

This is a techno cultural and sports festival organized by **Jeppiaar Engineering College**, Chennai, Tamilnadu.

**PRATIYOG 2k14 EVENTS:**

- Mime
- Rangoli
- Ship wreck
- Adapt tune
- Corporate walk
- Debate
- Vj hunt
- Dance
- Short film
- Mehandhi
- Rj hunt
- Flashing scintillations(photography)
- Costume designing
- Minute to win
- Bandslam
- Gamezone
- Stunt show

**PRATIYOG 2k14 dates:**  
24th-26th July 2014



**CURRENT TRENDS IN ENGINEERING RESEARCH – ICCTER - 2014, IAETSD, CHENNAI, INTERNATIONAL CONFERENCE, TAMIL NADU, AUGUST 11-12 2014**

**Details:**

Call for Papers  
ICCTER-2014 explores the art of designing systems in arriving at a Smart, Sustainable and Secured Technology. The conference aims at bringing together experts, practitioners, academicians, researchers and students to meet the above objective. Papers and poster submis-

sions in the thrust areas mentioned, but not limited to the same are solicited. Selected papers after peer review process will be published in reputed international and national journals Efforts will be made towards indexing proceedings of the conference in IEEE Explore Digital Library.

**Organized By**

INTERNATIONAL ASSOCIATION OF ENGINEERING & TECHNOLOGY FOR SKILL DEVELOPMENT

**Events:** Paper presentation

**Website:** <http://www.iaetsd.in>

Opportunities are usually disguised as hard work, so most people don't recognize them.

## AARUUSH 14

**Details:**

SRM University's National Level Techno-Management Fest, AARUUSH quenches our thirst for innovative prerogatives. AARUUSH'14 comprises 60+ events, 10+workshops, guest lec-

tures, video conferencing, panel discussions, Unconference, several enthralling proshows, events such as Swastika, the Aaruush Sports week, Konvolve, International Conference and several Championships are held in association with AARUUSH.

**Organised by:** SRM University Kattankulathur Campus, Chennai, Tamil Nadu

**AARUUSH 14 dates:**  
10th-13th September 2014



## EDITORIAL TEAM

### *STAFF EDITORS:*

Dr.A.Kavitha

Dr.Mallika Jainu

### *STUDENT EDITORS:*

Sanjana.S

Poongavanam.P

R.Prasanna Bharati

Rajkumar.E

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