



# SYNERGY

Volume 11 Issue 1

# Contents

<b>Editor's Desk</b>	<b>1</b>
<b>HOD's Desk</b>	<b>2</b>
<b>Department Ventures</b>	<b>3</b>
<b>Faculty Ventures</b>	<b>22</b>
<b>Students Pursuits</b>	<b>54</b>
<b>Placement News</b>	<b>57</b>
<b>Alumni Corner</b>	<b>59</b>
<b>Editorial Board</b>	<b>63</b>

# Editor's Desk

## *Warm Greetings To Everyone!!!*

*Knowledge is power. Information is liberating.  
Education is the premise of progress, in every society,  
in every family. – Kofi Annan*

*In this edition of the department's newsletter, we share with you the great accomplishments of our students.*

*This edition covers the happenings in the department from the months of July to September 2022. We highlight the achievements and participation of the students and faculty.*

*Presenting to you the first issue of the  
eleventh volume of SYNERGY*

*If you go to work on your goals, your goals will go to work on you.*

*If you go to work on your plan, your plan will work on you.*

*Whatever good things we build end up building us.*

*- Jim Rohn*

*-The Editorial Board*

# HOD's Desk

I am happy to write the foreword for our department's quarterly newsletter - 'SYNERGY'.

Firstly, I would like to congratulate the editorial team on doing a wonderful job in compiling all the activities of the department. Each issue of SYNERGY brings light on our department activities, campus updates, faculty and student accomplishments.

This edition highlights a few interesting faculty ventures, achievements of our outgoing batch students and other interesting accomplishments.

I would like to convey my best wishes to our students who have been placed and those who are applying for Master's into various universities. In addition to that, my hearty congratulations to all the students and faculty mentors that have bagged prizes in the Smart India Hackathon.

Let us prosper with tranquility !!

Let Peace Prevail!!

Dr. A. Kavitha

Professor and Head,

Department of Biomedical Engineering



# Department Ventures

## Inaugural Function of Association of Biomedical Engineers & IEEE Photonics Society

On the 12th of September, the Inaugural function of Association of Biomedical Engineers (ABE) and IEEE Photonics Society was conducted by the Department of Biomedical Engineering. The chief guest was **Dr. N. Sujatha, Professor, Indian Institute of Technology, Madras**. She was accompanied by **Dr. A. Kavitha, Head of the Department, BME**, **Dr. M. Dhansalakshmi, Faculty Coordinator, BME**, **Dr. N. Venkateswaran, Student Branch Coordinator** and **Dr. Sree Sharmila, IEEE Student Branch Counsellor** on the dais.

The Chief Guest, Dr. N. Sujatha delivered an informative lecture on the topic, "Bringing light from bench to bedside: towards clinically viable photonic technologies". She began her presentation with the introduction of medical equipment. Following which, she briefed us about the procedure of clinical diagnosis. She then went on to give insights about the usage of light in various biomedical domains:

Dr. Sujatha introduced us to her latest research based on the treatment of scleroderma, in which she uses photons for the procedure. She not only educated the gathering on the given topic, but also educated the students about the various opportunities available for their future.

The Association of Biomedical Engineers was inaugurated by the traditional lighting of the lamp by the dignitaries present on the dais. **Dr. M. Dhansalakshmi, Faculty Coordinator, BME** addressed the gathering about the Association of ABE and the various committees working under the same.

# Department Ventures



Chief guest Dr. N. Sujatha lighting the ABE inaugural lamp



Dr. N. Sujatha presenting a talk on "Bringing light from bench to bedside: towards clinically viable photonic technologies".

The official inauguration of the IEEE Photonics Society was also facilitated by the lamp lighting ceremony. **Dr. N. Venkateswaran**, Student Branch Coordinator gave us insights about the IEEE Photonics Society. The Chief Guest, **Dr. N. Sujatha**, facilitated the office bearers of ABE, which includes the **President- Dhurdhan A H, Vice-President- Vahini M, Secretary- Sneha B S, Treasurer- Monica V, Event Coordinator- Rithika K, Joint Secretary- Shreya M and PG Joint Secretary- Chandana.**



Office bearers of the Association of Biomedical Engineers 2022-2023

# Department Ventures

The committee members of IEEE Photonics Society were also introduced in the function, which includes the **Chairperson - Keerthana Reddy B** 4th year ECE, **Secretary - Girish Babu B**, 4th year ECE, **Joint Secretary - Supriya Vaidhyananthan**, 3rd year BME, **Student Coordinators - Ishu Ambika G and Els Ezhilanisi**, 4th year ECE.



IEEE coordinator Dr. T. Sree Sharmila lighting the IEEE Photonics society inaugural lamp alongside chief guest Dr. N. Sujatha, HoD of BME Dr. A. Kavitha and IEEE student counsellor Dr. N. Venkateswaran.



Office bearers of the IEEE Photonics Society 2022-2023

The function was organized by **Dr. A. Kavitha, HoD, BME**, **Dr. M. Dhanalakshmi, Faculty Coordinator, BME** and **Dr. N. Venkateswaran, Student Branch Coordinator, IEEE**. The entire function proceeded very well and concluded with a formal vote of thanks and a high tea.

# Department Ventures

## SMART INDIA HACKATHON (SENIOR) 2022

The National Level Smart India Hackathon (SIH) was held during the month of August, 2022. There were a total of three teams (One for Software edition and Two for Hardware edition) from the Department of Biomedical Engineering who were shortlisted for the SIH grand finale 2022. Out of the three, two teams won prizes at the grand finale.



*Grand finale Teams*

### Team ZEOLITE:

**Problem Statement:** IoT based solution for recording and storing metrics of normal and orthotic leg for analysis by Orthotist

**Problem Statement given by:** Ministry of Social Justice and Empowerment

**PSID:** RK766

**Edition:** Hardware

**Team Name:** Zeolite

**Team Members:** Krishi Divya, Dharshini V, Vahini M, A V, Trisha, Dhanush Babu, R, Manjunathan R



# Department Ventures

**Team Mentor:** Dr. N. Venkateshwaran, Professor and Dr. V. Mahesh, Associate Professor, Department of Biomedical Engineering

**Team Leader:** Lokesh Kumar M

**Venue:** Forge accelerator, Colmbatore

**Dates:** 25-29 August 2022

**Won:** Grand finale Winner with cssh prize Rs. 100000/-



The team had developed an idea, "GaitScribe", a module with IMU and FSR sensors coupled with IoT, which records real time data and visualizes the data through interactive graphs using signal processing methods and displays the output through web based applications giving real time and suggestive measures. They were declared the winners of their problem statement and awarded with a cash prize of Rs. 100000.



# Department Ventures

**Team ALPHA BETA GAMMA:**

**Problem Statement:** Vital parameter measurement using smartphone

**Problem Statement given by:** Bajaj Finserv Health

**PSID:** SS1236

**Edition:** Software

**Team Name:** Alpha Beta Gamma

**Team Members:** Nisha, Dharshan, Nithyashree, Rakshitha, Chandramouli, Jaikishore (IT)

**Team Mentor:** Dr. Vijay J., Associate Professor, Department of Biomedical Engineering

**Team Leader:** Nisha

**Venue:** Welingkar Institute of Management Development and Research (WeSchool), Mumbai, Maharashtra

**Dates:** 25-26 August 2022

**Won:** Inspiration Award and Cash Prize Rs 25000/-

This team had been working on this problem statement for an entire semester, perfecting the algorithm to obtain results with very minimal error rate. The team received the Inspiration Award with a cash prize of ₹ 25,000 for their out of the box approach of measuring heart rate using facial videos.



# Department Ventures

## Team ENDROMIS:

**Problem Statement:** To design a knee brace for the elderly to transfer body weight to shoe

**Problem Statement given by:** DoST

**PSID:** DA1063

**Edition:** Hardware

**Team Name:** Endromis

**Team Members:** Supraja Vaidhyanathan, Srivibha Parthasarathy, Shri Thrisha Arunkumar, Devadharshini Sivadevan, Abhijeet Gopialakrishnan (Mechanical), Pranav Asuri (EEE)

**Team Mentor:** **Dr. M. Dhanalakshmi**, Associate Professor, Department of Biomedical Engineering

**Team Leader:** Supraja Vaidhyanathan

**Venue:** SEM Kattankalathur, Chennai

**Dates:** 25-29 August 2022

The objectives of this team's lightweight and ergonomic design were to minimize any pain related stress while providing maximum comfort to the user by designing a mechanical arrangement to support knee movement by providing torque during motion and hindrance free movement of knee and ankle joints.



# Department Ventures

## INDUSTRY COLLABORATION

**Dr. M. Dhanalakshmi and Dr. S. Saranya** visited Steradian Technologies Pvt Ltd on 20/7/2022 for possible collaborations and consultancy research.

A Memorandum of Understanding (MoU) was signed between Deepam Hospitals and Sri Sivasubramaniya Nadar College of Engineering on July 14, 2022 (Thursday). This MoU envisages student internship, placements, guest faculty, clinical research trials, and data sharing. **Dr. A. Kavitha, HOD, BME,** and **Dr. J. Vijay, ASP, BME,** coordinated the MoU process.



*Meeting with the experts from Deepam Hospitals*

# Department Ventures

**Prof. Manivannan, Principal Investigator, Touch Lab at IIT Madras**, visited SSN to discuss the objectives of IITM's new initiative on Virtual Reality and Haptics, also known as Experiential Technology Innovation Center (XTIC), IIT Madras.

**Dr. Kala Vijayakumar, President of SSN Institutions, Prof. V. E. Annamalai, Principal SSNCE, Mr. Chandran, CEO – SSN Incubation Center** met **Prof. Manivannan, IIT Madras** on 29th September, 2022 along with **Prof. A. Kavitha, HOD, BME, Dr. Pravin Kumar, ASP, BME** and **Ms. Divya, AP, BME**, of Department of Biomedical Engineering at SSN.

The possibilities of the involvement of SSNCE in the functioning of XTIC was discussed and **Prof. Kavitha** was asked to take it forward after further discussions.



*Meeting with Prof Manivannan at SSN for XTIC discussion*

# Department Ventures

The MoU between SSN and Sri Ramachandra Institute for Higher Education and Research, Porur has been renewed for the next five years, on August 04, 2022. The scope of this MoU is to include joint product development, sharing of clinical data, students and faculty exchange, joint publications and submission of project proposals. **Dr. V. E. Annamalini, Principal, Dr. A. Kavitha, HoD, BME, Dr. S. Pravinkumar, ASP and Dr. Vijay J, ASP, BME** were present during the MoU signing ceremony at SRIHER, Porur. This event was coordinated by **Dr. A. Kavitha and Dr. Vijay J.**



*MoU signed by the SRMC Vice Chancellor*

The MoU for the next five years was signed by the SRMC Vice Chancellor, who expressed his great appreciation for the department's collaborative research efforts. Furthermore, he has extended an invitation to the department to assist their engineering division.

# Department Ventures

**Dr. Pauline John, AP, BME**, organized an educational visit to HTIC, IIT Madras Research Park and Sudha Gopalakrishnan Brain Center, IITM, as part of the Professional Core Course on Medical Imaging and Radiotherapy PMD - 1202, for the PG II Sem students of EME, on 16.09.2022. **Dr. S. Pravin Kumar, ASP, BME** and **Ms. B. Divya, AP, BME**, were also present.



Educational Visit to HTIC, IIT Madras Research Park and Sudha Gopalakrishnan Brain Centre IIM

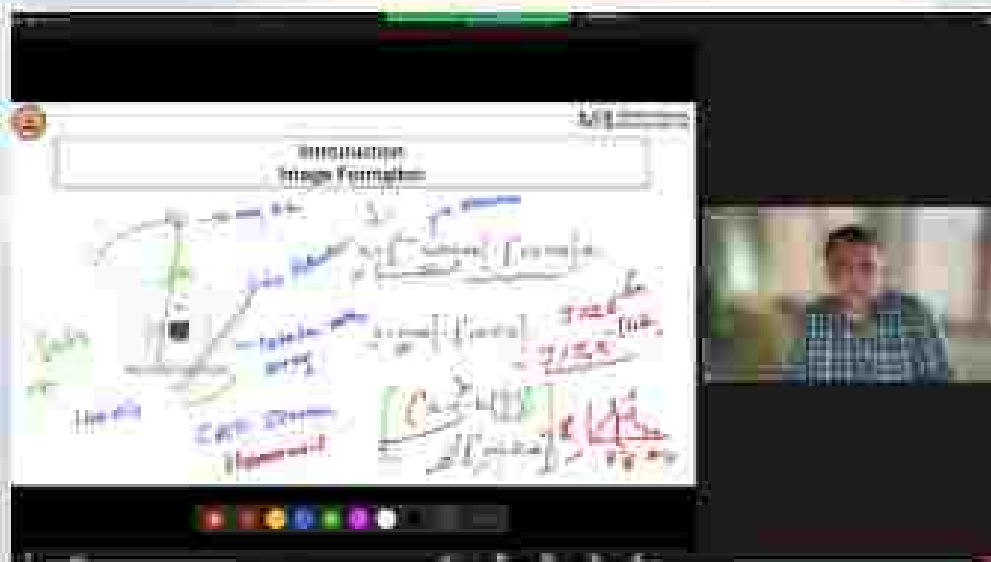
# Department Ventures

## EVENTS ORGANIZED

**Dr. L. Suganthi, ASP, BME**, organized a webinar by HTIC Medtech Incubator on the title: **"BIG Awareness Session"** on 22/07/22 in association with , Kongu Engineering College, SSN College of Engineering & Institute of Engineering and Management, Kolkata college via Google Meet.

**Dr. S. Pravin Kumar** organized a short-term training course on "Unity Game Development Hands-On Course". The sessions were handled by Anurag Gupta, Research Scholar, Applied Mechanics, IITM. The course was offered under the Prime Minister Research Fellow (PMRF) program (one session/week - online mode) during 21.03.2022 to 12.07.2022.

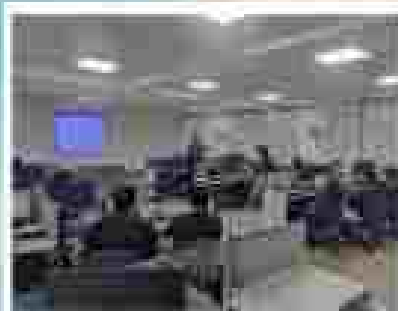
**Dr. Pauline John** organized a guest lecture titled "Computed Tomography Image Reconstruction" delivered by **Dr. Ganapathy Krishnamurthi, Associate Professor, Medical Imaging and Reconstruction Laboratory, Dept. of Engineering Design, IIT Madras** on "30.08.2022" as part of the PG Professional Core Course on "Medical Imaging and Radiotherapy - PMD 1202" held via online platform, for the final year PG Medical Electronics, UG 3rd and 4th year students, of the Dept. of BME.





# Department Ventures

The Department of Biomedical Engineering, SSNCE has organized a 5-day Faculty Development Programme on 'Medical Device Design, Modeling, and Simulation using Fusion 360' from August 01st - 05th, 2022 in physical mode. Totally 25 participants including Teaching faculty members, staff members, and Research scholars from Biomedical and Mechanical Engineering domains. The hands-on sessions were delivered by Dr. V Prasath, Autodesk Education Expert. The objective of this programme was to demonstrate knowledge and improve skills in computer-aided design using Fusion 360 software for innovative healthcare products and describe and apply design-based workflows for engineering, healthcare and manufacturing applications using Fusion 360 software.



# Department Ventures

After five days of various demonstrations and hands-on experiences, participants were divided into five groups for a competition to build a design using Fusion 360. Among these designs, the best one was selected and awarded. Every participant of the program benefited from the sessions as there were hands-on sessions, along with interactive learning materials.

The workshop was organized by **Dr. J. Vijay, Associate Professor, BME, SSNCE**. The software installation, stage arrangement and other activities were coordinated by **Mr. A. Udayachandran, Lab Assistant, BME**.

**Mr. Shakthiguru, Director, Skill-Lync** and **Mr. Amar, BioMed - Technical Specialist, AMTZ**, delivered a Seminar on "Industrial requirements of a Biomedical Engineer", for III & IV year students. The seminar was coordinated by **Dr. M. Dhanalakshmi AP, BME**.

**Dr. N. Venkateswaran, Professor, BME**, as coordinator of Internal Quality Assurance Cell (IQAC) – SSNCE, organized an expert talk on "Insights on Patents" by **Dr. G. Satharayanan, Technology Director, Engineering and R&D services, HCL Technologies**, Chennai, on 17/08/2022.

**Dr. N. Venkateswaran, Professor, BME, IEEE photonics SB coordinator**, inaugurated the IEEE SB of Photonics Society at Sri Sivasubramaniya Nadar College of Engineering on 12/09/2022. **Dr. N. Sujatha, Professor of Indian Institute of Technology, Madras** was the chief guest. The Association of Biomedical Engineers (ABE) was inaugurated on the same day. **Dr. M. Dhanalakshmi AP, BME** coordinated the event.

# Department Ventures

Dr. R. Nithya and Ms. B. Divya conducted a webinar on the title, "Innovation and Product Development", on 26-08-2022. Mr. Jibin Jose, Assistant Professor, Department of BME, Sahridaya College of Engineering and Technology, Kerala, was the resource person.



# Department Ventures

**Dr. Pauline John** organized, "In-person Hands-on Training Workshop" along with **Dr. K. Nirmala** and **Dr. R. Nithya**, on "Dialyzer and Heart Lung Machine", as part of the Professional Core Courses on "Surgical and Critical Care Equipment - UEM 1702" and "Diagnostic and Therapeutic Equipment Laboratory - UEM 1711", on 25.08.2022, at the DTE laboratory, BME. Resource person, **Dr. K. Sudhakar, Manager, THH Enterprises**, provided training for the PG and UG final year students of the Department of BME.



*Hands-on learning of students on varying the parameters of pumps used in a heart lung machine*



*Internal components of dialysis machine explained during the hands-on training*

# Department Ventures

Dr. K. Nirmala, Dr. Pauline John and Dr. R. Nithya organized an in-person Hands-on Training Workshop on "Defibrillator and Ventilator" as part of the Professional Core Courses on "Surgical and Critical Care Equipment - UEM 1702" and "Diagnostic and Therapeutic Equipment Laboratory - UEM 1711", on 07-09-2022, at the DTE laboratory, BME. Resource person, Mr. Jeevan, AMS solutions Inc. Chennai, provided training for the UG final year students of the Department of BME.



*Hands-on learning of students on the working of defibrillator and ventilator*

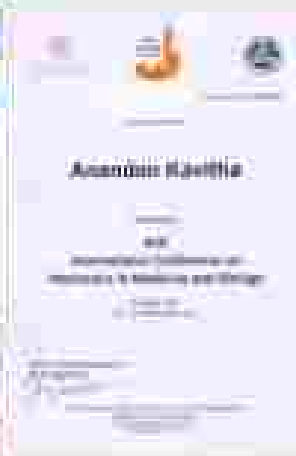
# Faculty Ventures



In a period of crisis and chaos, due to the COVID pandemic and the international situation, the XXII ICMMB, initially scheduled in Moscow, was held in Bologna from 19 to 21 September 2022.

The University of Bologna is the oldest in the world and the choice to meet in Bologna has a strong symbolic value, considering that here, in 1988, the Magna Charta Universitatum was signed which establishes the principles of academic freedom, institutional autonomy and hope for collaboration among researchers all over the world.

**Dr. A. Kavitha, HOD of the Biomedical Department,** attended the conference at Bologna, Italy.



Two of the teams' research works were presented in the conference:

**1 Title:** Optimization of preprocessing routines in Speech Imagery based EEG Signals

**Authors:** Divya B, Anandha Sree R, and **Kavitha A**

# Faculty Ventures



2. **Title:** Evaluation of fractality of brain cognition in young children using task-based EEG signals

**Authors:** Divya E, Anandha Sree R, and **Kavitha A**



*A team of research scholars from IIT Madras, India also presented their research works in the conference.*

Two other articles co-authored by **Dr. A. Kavitha** were also presented in the conference by Dr. Nithya and Ms. Sathya Barathy.

Presented by **Nithya Rajagopalan**

**Title:** Design of Biosignal Controlled Hand Exoskeleton for Assistive Purposes

**Authors:** **Kavitha Anandan**, Nithya Rajagopalan, Mohanavelu and Sindhuja Mary

# Faculty Ventures



During the Interactions, a few researchers of similar interests were identified. **Dr. A. Kavitha** visited the lab of **Prof. Laura Cercenelli**, Adjunct professor in the Department of Biomedical and Neuromotor Sciences of the University of Bologna, Italy. She is the director of the **Laboratory of Bioengineering**, S.Orsola-Malpighi Hospital, associated with University of Bologna, Italy.





# Faculty Ventures

**Dr. A. Kavitha** also had the opportunity to discuss the possibilities of SSNT's international relations with **University of Bologna with Prof. Ivan Corazza**.



On the whole, it was a wonderful experience, where Dr. A. Kavitha could emphasize the research excellence of SSN, the department of Biomedical Engineering and the Centre for Healthcare Technologies at SSN in the international forum. The research works were well received by the experts and other participants.

# Faculty Ventures

## Faculty Development Programs Attended

**Dr. R. Nithya, AP, BME**, participated in the workshop on "Protecting your IP- Case Studies on Litigation" organized by the Institution's Innovation Council of Sri Sivasubramaniya Nadar College of Engineering on 09th July 2022.

**Dr. B. Geethanjali, ASP, BME**, has participated in the workshop titled "Designing and Modelling of IoT, AI & ML Systems" organized by AICTE, ATAL Academy, Arm Education, and ST Microelectronics from August 1st to 5th 2022.

**Dr. K. Nirmala, ASP, BME**, attended an online five-day faculty development program on "Insight of Machine Learning and Artificial Intelligence in healthcare" organized by the department of Biomedical Engineering during 06.09.2022 to 10.09.2022.

**Dr. A. Kavitha, HOD, BME**, attended a Two Day Workshop on "Digital Wellness and Health: Development and Dissemination" held on 13th and 14th of September 2022 at IIT Madras.

**Dr. Vijay Jeyakumar, ASP, BME**, has attended an IP Awareness/Training program under National Intellectual Property Awareness Mission organized by Intellectual Property Office, India on August 17, 2022.

**Dr. Pauline John, AP, BME**, has attended a one-day Webinar on "Spectral Domain Optical Coherence Tomography Spectrometers for Today and Beyond" organized by Photonics Media on 21.09.2022.

# Faculty Ventures

**Dr. S. Pravin Kumar, Associate Professor BME** and **Dr. Sachin Gaurishankar Sarate, Assistant Professor BME**, had attended a Two Day Indo-US workshop on "Digital Wellness and Health: Development and Dissemination" held on 13th and 14th of September 2022, Organized by Touchlab, IIT Madras.



*Photo taken during the Indo-US Workshop held at IITM.*

*Dr. Pravin Kumar and Dr. Sachin Sarate, BME, SSNCE can be seen along with Dr. Manivanan, IITM.*

**Dr. Suganthi, Associate Professor BME** and **Dr. Pauline John, Assistant Professor BME**, had attended a Two Day Indo-US workshop online, on "Digital Wellness and Health: Development and Dissemination" held on 13th and 14th of September 2022, Organized by Touchlab, IIT Madras.

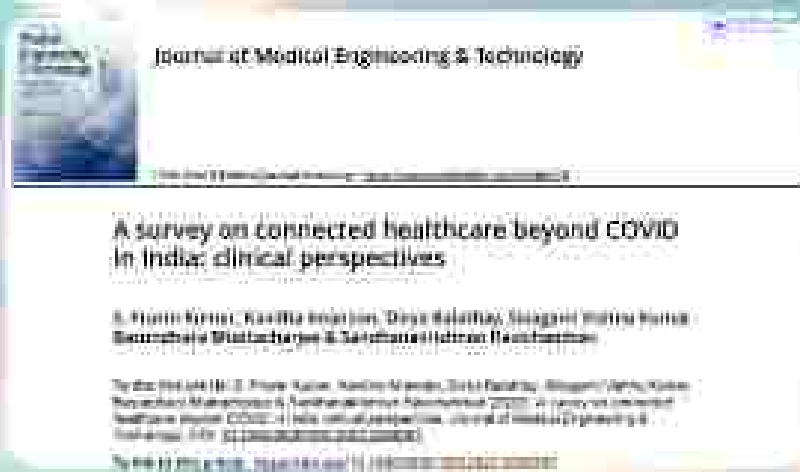


# Faculty Ventures

## Journal Publications

Sandhya Chengaiyan, **Kavitha Anandan**, "Effect of functional and effective brain connectivity in identifying vowels from articulation imagery procedures," *Cognitive Processing*, Online ahead of print, 2022, Scopus IF1.45, DOI: 10.1007/s10339-022-01103-3, 6/7/2022

**Kumar, S. P., Anandan, K.,** Balathay, D., Vishnu Kumar, S., Bhattacharjee, B., & Ravichandran, S. (2022). "A survey on connected healthcare beyond COVID in India: clinical perspective,". *Journal of Medical Engineering & Technology*, 1-9. Scopus indexed IF 0.87.



J. Shanmugasriya, C. A. Reshma, V. Srinidhi, K. Harithpriya, K. M. Ramkumar, Dhamodharsan Umpathy, Krishnamoorthy Gunasekaran, and **R. Subashini** "Green Synthesis of Copper Nanoparticles Using *Withania somnifera* and Its Antioxidant and Antibacterial Activity," *Journal of Nanomaterials*, Volume 2022, 1-9.

# Faculty Ventures

Check for updates  
https://doi.org/10.15272/synergy.11010001



## Research Article

### Green Synthesis of Copper Nanoparticles Using *Withania somnifera* and Its Antioxidant and Antibacterial Activity

J. Manjappriya<sup>1</sup>, C. A. Bishnu<sup>2</sup>, V. Sajidhi<sup>3</sup>, K. Harikrishna<sup>4</sup>,  
K. M. Kameswari<sup>5</sup>, Dharmadhari Ungathy<sup>6</sup>, Krishnamoorthy Ganesharan<sup>7</sup>

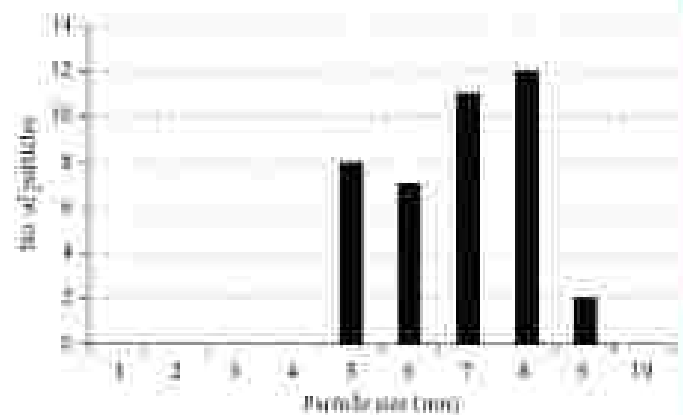
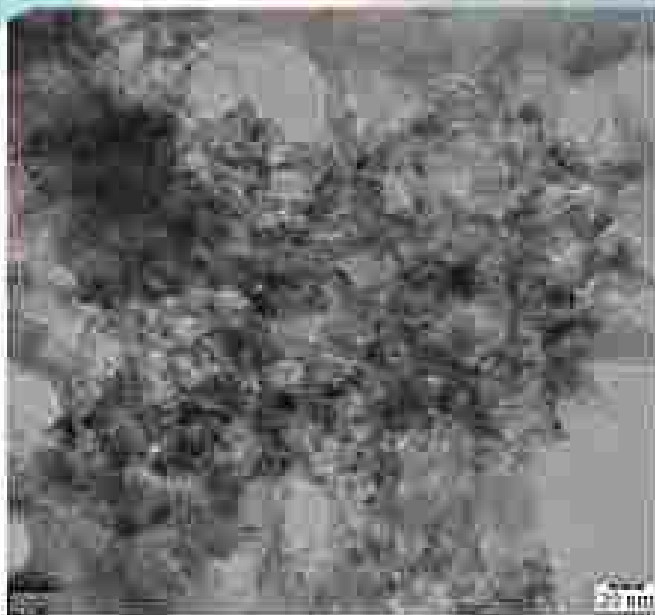


Figure 2: (a) TEM image of CuNPs. (b) Average particle size of CuNPs.

# Faculty Ventures

Philipp Aichinger, [S. Pravin Kumar](#), Hugo Lehoux, Jan G. Švec, "Simulated Laryngeal High-Speed Videos for the Study of Normal and Dysphonic Vocal Fold Vibration," *Journal of Speech Language and Hearing Research*, DOI:10.1044/2022\_jslhr-21-00673, 65(7), 2022, IF: 3.124 (Clarivate indexed)

R. Sundareswaran, [V. Mahesh](#), Said Broumi,\* , R. Dhanush Babu, M. Vahini, "Diabetic Neuropathy Severity Assessment: A Neurosophic approach," *International Journal of Neurosophic Science (IJNS)* - Vol. 18, No. 04, PP: 291-300, 2022, Scopus, doi.org/10.54216/IJNS180424, 08/07/2022

Palani Thanaraj; Krishnan, Parvathavarthini; Balasubramanian, [Vijay Jeyakumar](#), Shriram Mahadevan, Alex Noel Joseph Raj "Intensity matching through saliency maps for thermal and visible image registration for face detection applications," *The Visual Computer*, Vol.38, Issue 7, 2022, Scopus, SCIE, 2.835, <https://doi.org/10.1007/s00371-022-02606-z>, 12/07/2022

J. Arthika, [Vijay Jeyakumar](#), J. Ajitha, S. Jayasri, "Testing and analysis of nanoparticles-based textrodes for physiological signals," *Materials Today: Proceedings*, Volume 64, Part 5, Pages 1813-1821, 2022, Scopus 1.46,3/8/2022

Selva Priya, E.S., [Suganthi, L.](#), Anandha Praba, R., Jeyashree, R. (2022) "Assessment of Cardiovascular System Through Cardiovascular Autonomic Reflex Test. In " Sumia, V., Baig, Z., Kolandapalayam Shanmugam, S., Lorent, P. (eds) *Inventive Systems and Control. Lecture Notes in Networks and Systems*, vol. 436 pp. 569-584. Springer, Singapore [https://doi.org/10.1007/978-981-19-1012-8\\_38](https://doi.org/10.1007/978-981-19-1012-8_38)

# Faculty Ventures



JSLHR

Research Article

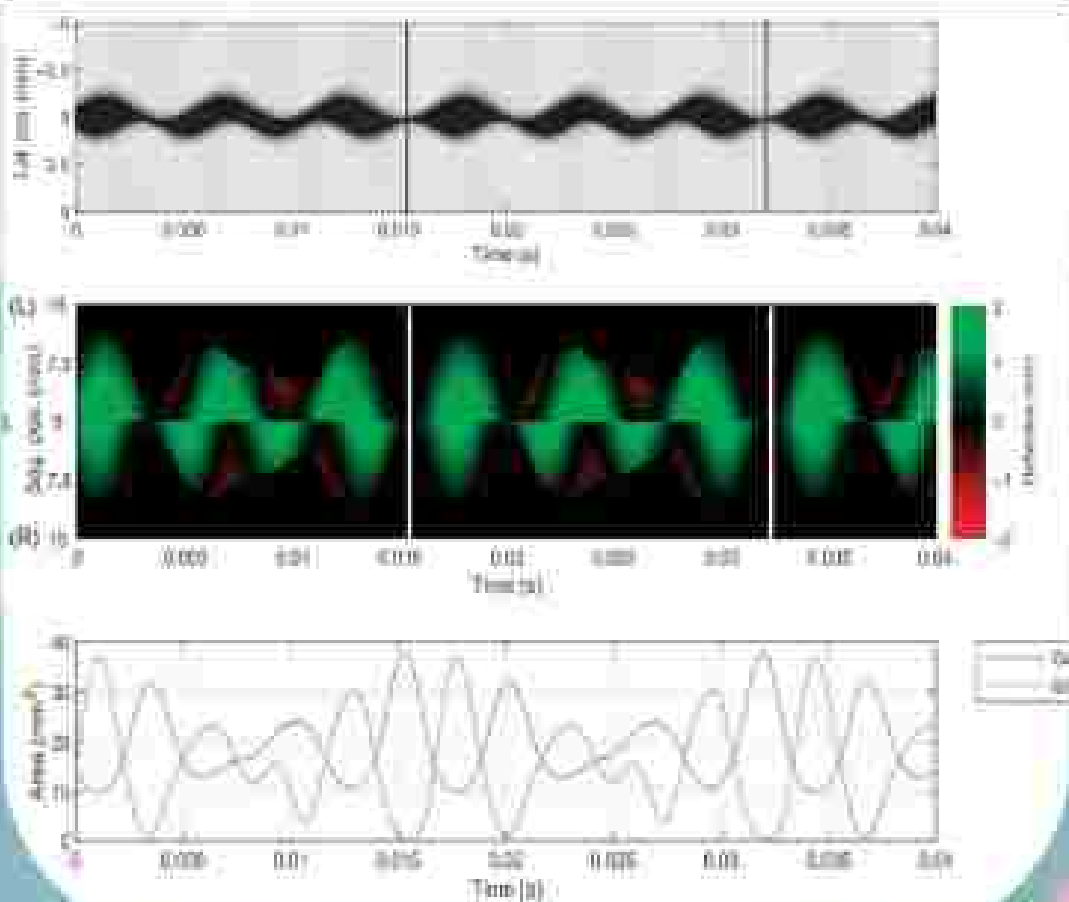
## Simulated Laryngeal High-Speed Videos for the Study of Normal and Dysphonic Vocal Fold Vibration

Philipp Klotzsch,<sup>1</sup> S. Prash Kumar,<sup>2</sup> Hugo Lohme,<sup>3</sup> and Jan G. Sieck<sup>1\*</sup>

<sup>1</sup>Medical and Technical University of Brandenburg, School of Music in Cottbus, Institute of Research and Experimentation in the Field of Speech, The Art, Music, and Sound Laboratory, University of Applied Sciences, Faculty of Arts, P.O. Box 101553, 15304 Cottbus, Germany; <sup>2</sup>Faculty of Arts, P.O. Box 101553, 15304 Cottbus, Germany; <sup>3</sup>Faculty of Arts, P.O. Box 101553, 15304 Cottbus, Germany



of left-right glottis, in which the color indicates vibration of different frequencies (Supplemental Video M, 1 of the left and the right vocal fold is 3D. Black vertical lines indicate cycle boundaries coinciding with the (black) white vertical lines indicate cycle boundaries. (ii) Contact area (shaded) reflecting the electrostatic (AW) Lat. = lateral; pos. = posterior; Ant. = anterior; Post. = posterior; Sag. = sagittal; L = left; R = right.



# Faculty Ventures

Journal of Neurological Science (JNS)

ISSN: 2656-0090



## Diabetic Neuropathy Severity Assessment: A Neurosophic approach

R. Sundareswaran<sup>1</sup>, V. Mahesh<sup>2</sup>, Said Braoui<sup>3\*</sup>, R. Dhannach Babu<sup>4</sup>, M. Yabini<sup>5</sup>

<sup>1</sup>Department of Mathematics, Sri Sivasubramanya Nadar College of Engineering, India

<sup>2,3</sup>Department of Biomedical Engineering, Sri Sivasubramanya Nadar College of Engineering, India

<sup>4</sup>Laboratory of Information Processing, Faculty of Science, Ben M'Sik, University Hassan II, BP 7955, Rabat Oujda, Casablanca, Morocco

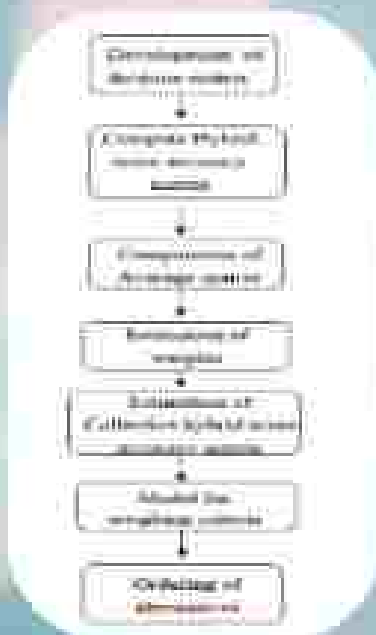


Figure 2: Foot diagram illustrating the placement of biometrics sensors. [10]



# Faculty Ventures

materialstoday:  
PROCEEDINGS

Volume 11, Part 1, 2022, Pages 1-101



## Testing and analysis of nanoparticles-based textrodes for physiological signals

J. KRISHNAN, P. S. SURESH, S. S. SURESH

Show more

Download history | 26 Views | 11 Citations



Full Visual Abstract

<https://doi.org/10.1007/s00711-022-02603-z>

### ORIGINAL ARTICLE

## Intensity matching through saliency maps for thermal and visible image registration for face detection applications

Palani Thanaraj Krishnan<sup>1</sup> · Parvathavarthini Balasubramanian<sup>2</sup> · Vijay Jayakumar<sup>3</sup> · Shrinivas Mahadevan<sup>4</sup> · Alex Noel Joseph Raj<sup>5</sup>

Accepted: 29 June 2022

© The Author(s), under exclusive licence to Springer Verlag GmbH Germany, part of Springer Nature 2022

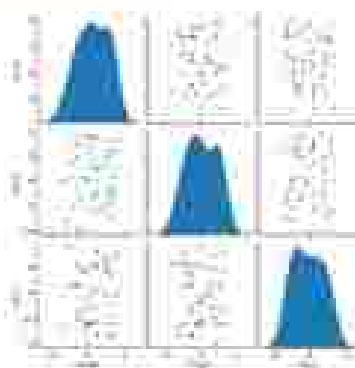


Fig. 10 Final position of the particles in the search space with and without the regression positioner, (row 1) without regression positioner parameters (Rho, X & Y), (row 2) with regression positioner parameters (Rho, X & Y)

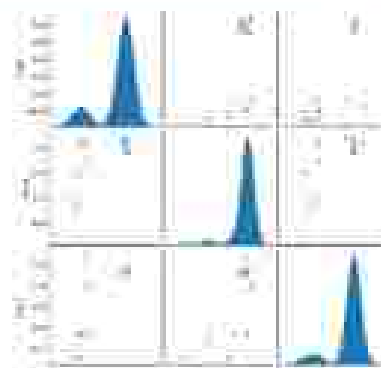


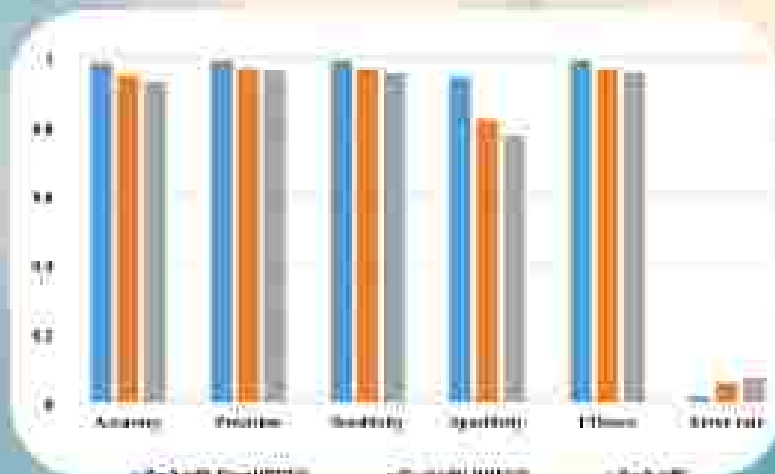
Fig. 11 Final position of the particles in the search space after using the PSO algorithm for Fig. 7. The most observed that it is an observed normal targeted hole

# Faculty Ventures

## scientific reports

**OPEN** Panoramic tongue imaging and deep convolutional machine learning model for diabetes diagnosis in humans

Santia Sankaranarayanan<sup>1</sup>, Vijayalakshmi S. Deepa<sup>2</sup>, S. Deepa<sup>3</sup>, Lakshminarayanan Hariharan<sup>4</sup>



# Faculty Ventures

Journal of Physics: Conference Series

PAPER - OPEN ACCESS

## Efficient Cardiac Arrhythmia Detection Using Machine Learning Algorithms

To cite this article: R. Anandha Praba et al 2022 J. Phys.: Conf. Ser. 2318 012013

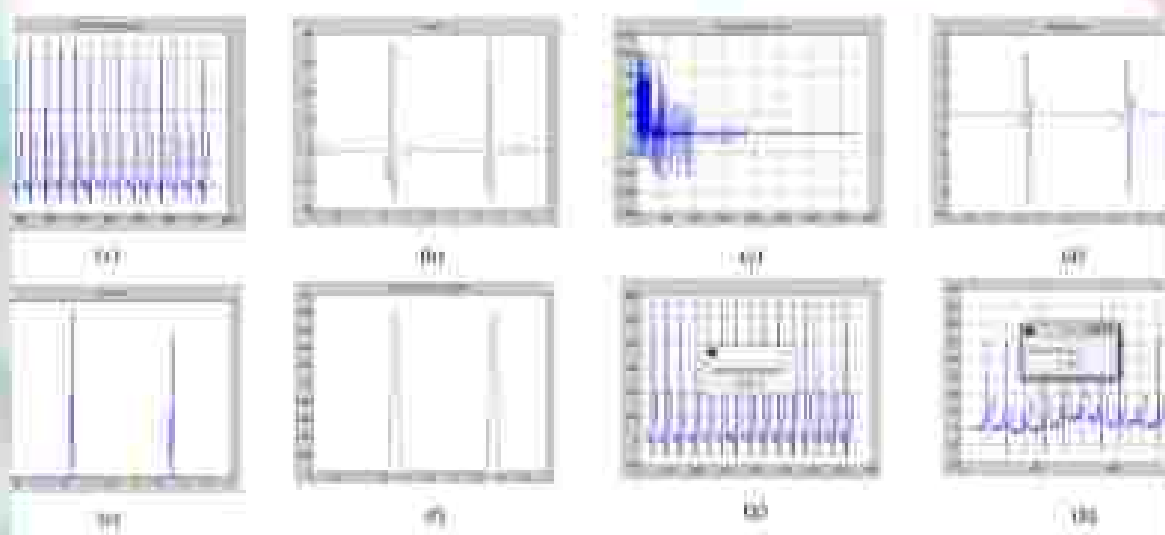
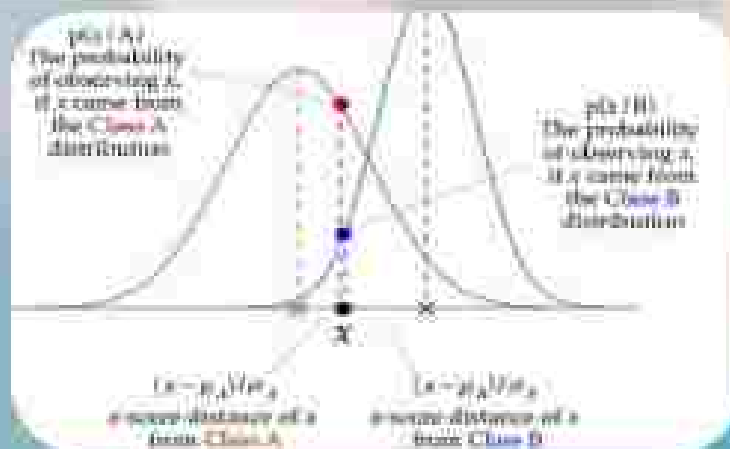


Figure 4. (a) Raw ECG input, (b) Filtered output, (c) PCA output, (d-f) Pan-Tompkins output, (g) R-Peak Detection for Abnormal patient, and (h) R-Peak Detection for Normal patient



# Faculty Ventures

**S. Pravin Kumar, Janaki Ramchandran, Nanthini Narayanan, and Bhavadharani Thangavel, M.Murugappan and R. Yuvaraj, "Biomedical Signals Based Computer-Aided Diagnosis for Neurological Disorders / Automatic Detection of Epilepsy Using CNN-GRU Hybrid Model," Springer, pp. 165-184, 10.1007/978-3-030-97845-7, 24/8/2022**

**Dr. R. Nithya and Dr. K. Nirmala, "Detection of Anaemia using Image Processing Techniques from microscopy blood smear images", Journal of Physics: Conference Series, 2318 012043 & 1-10, 2022 Scopus, IF 0.547, 10.1088/1742-6596/2318/1/012043, 9/15/2022**

**Abraham, Tuhina Sheryl, SP Sachin Raj, A. Yaamini, and B. Divya "Transfer learning approaches in deep learning for Indian sign language classification," Journal of Physics: Conference Series vol. 2318, no. 1, p. 012041, IOP Publishing, 2022, Scopus, IF 0.54710.1088/1742-6596/2318/1/012041, 9/19/2022**

**S. Saranya, S. Poonguzhalli, "A resistive force correlated electromyogram feature selection method for muscle strength prediction," Biomedical Signal Processing and Control 79(2):104174 2023 (Available Online September 2022), Clarivate, IF 5.076, 10.1016/j.bspc.2022.104174, 9/16/2022**

**Sreya Reddy and Dhanalakshmi M. "Design of Transfemoral prosthesis for above the knee amputees," Journal of Physics: Conference Series Volume: 2318, 012032, pp.1-13, 2022, Scopus, IF 0.547, doi:10.1088/1742-6596/2318/1/012032, 9/15/2022**

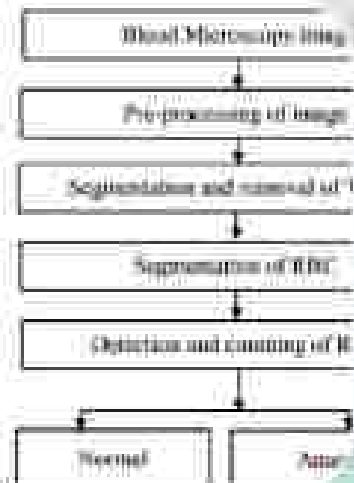
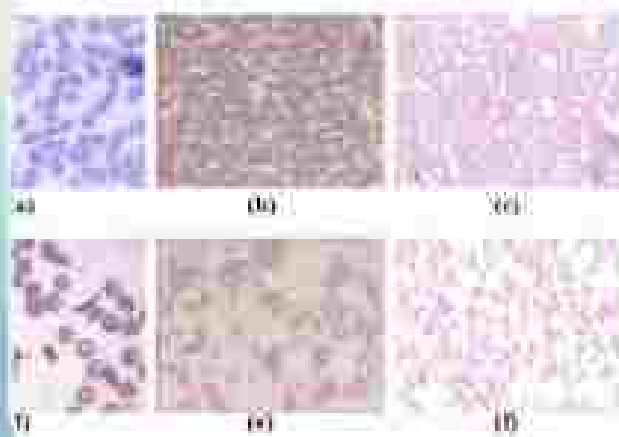
# Faculty Ventures



PAPEE • OPEN ACCESS

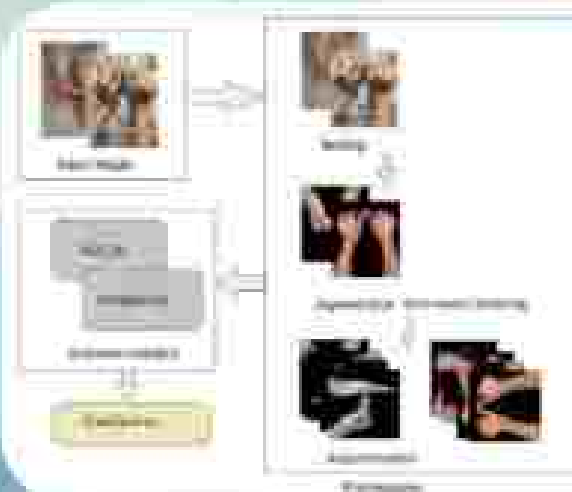
## Detection of Anaemia using Image Processing Techniques from microscopy blood smear images

To cite this article: Srujanika Mishra et al (2022) / Phys. Conf. Ser. 2218 (1)02202



## Transfer learning approaches in deep learning for Indian sign language classification

To cite this article: Srujanika Mishra et al (2022) / Phys. Conf. Ser. 2218 (1)02202



Alphabet	Original Image	High Color Segmented Image
A		
M		
G		
K		

# Faculty Ventures

Journal of Physics: Conference Series

PAPER • OPEN ACCESS

## Design of transfemoral prosthesis for above the knee amputees

To cite this article: Naya Rishi Kosmapuri and M Chirubakshi 2022 *J. Phys.: Conf. Ser.* **2219** 012037



Figure 14. This figure shows the level of stress in the shaft, it is seen that there is not much stress or deformation in this region.

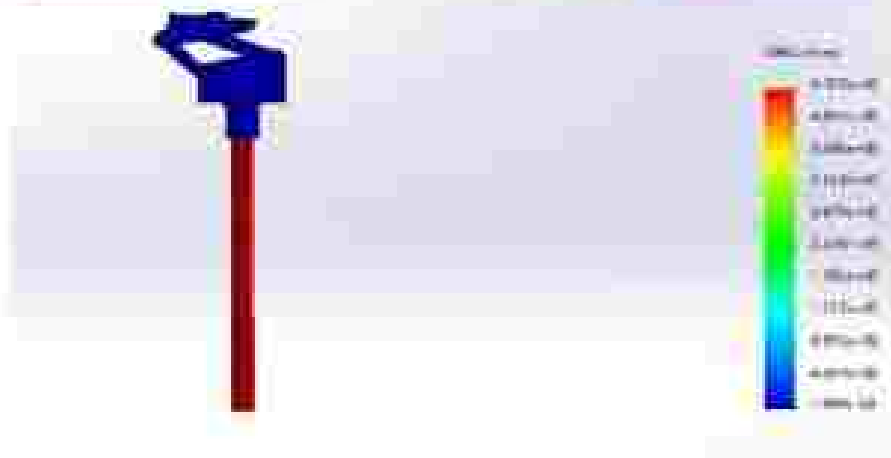


Figure 15. This figure shows high levels of stress in the shaft region leading to compressed deformation and indicates that the design is not fit for heavy load bearing.

# Faculty Ventures

R. Sundareswaran, **V. Mahesh**, Said Eroumi , R. Dhanush Babu, M. Vahini, "Diabetic Neuropathy Severity Assessment: A Neutrosophic approach," International Journal of Neutrosophic Science, Vol. 18, No. 04, PP. 291-300, 2022, Scopus, doi.org/10.54216/IJNS180424

**Pauline John**, Antony IR, Whenish R, Jinoop AN, "A Review on Fabrication of 3D Printed Biomaterials using Optical Methodologies for Tissue Engineering Applications," Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, Online, 2022, Scopus, 1763, doi:10.1177/09544119221122856

R. Anandha Praba, **Dr. L. Suganthi**, E. S. Seiva Priya , J. Jeslin Libisha, "Efficient Cardiac Arrhythmia Detection Using Machine Learning Algorithms," Journal of Physics: Conference Series vol. 2318, no. 1, p. 012011, IOP Publishing, 2022, Scopus, IF 0.547.

R. Dhanush Babu, M. Vahini, S. Shakti Varsha, Dr. R. Sundareswaran, Dr. M. Shanmugapriya and **Dr. Mahesh Veezhinathan**, "Hospital Selection Process based on Graph Theory," Indian Journal of Natural Sciences, 13, 73, 2022, Clarivate

# Faculty Ventures

Journal Pre-proof

Journal Pre-proof

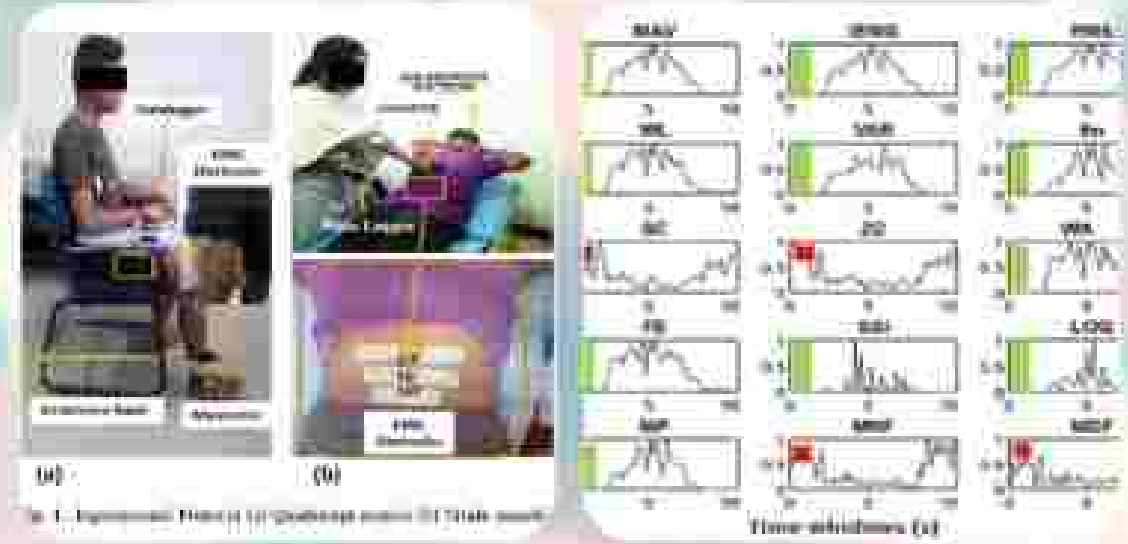
**Biomedical Signal Processing and Control**

Journal Pre-proof

**A transfer time correlated electromyogram feature selection method for muscle strength prediction**

A. Saranya<sup>1</sup>, S. Praveenbabu<sup>1</sup>

<sup>1</sup>Department of Computer Science and Engineering, Anna University, Chennai, India



IEEE JOURNAL OF BIOMEDICAL SIGNAL PROCESSING

Manuscript received 12/12/2020; revised 01/11/2021; accepted 02/11/2021.

This article has been accepted for publication in IEEE Journal of Biomedical Signal Processing. This version of the manuscript is preliminary and may be subject to changes before the final published version.

© 2021 IEEE. All rights reserved. For more information on this publication, please go to the journal web site.





# Faculty Ventures

## CONFERENCE PUBLICATIONS

**Dr. R. Subashini, Assistant Professor, BME**, and **Brenda Jennifer Baskar, M.E** II year, Medical Electronics, BME, presented a paper entitled " **DESIGN AND HAP COATING FROM SALMON**" in the 2nd International Conference on "Sustainable Materials and Technologies for Bio and Energy Applications (SMTBEA-2022)", 13 - 15 July, 2022 organized by Department of Electronics and Communication Engineering, Sri Sivasubramaniya Nadar College of Engineering,

**Dr. S. Saranya** and **B. Kowsalya** attended the 2nd International Conference on "Sustainable Materials and Technologies for Bio and Energy Applications SMTBEA-2022" during 13-15th, July 2022 Organized by SSN Institutions, Kalavakkam, Chennai and presented a paper titled "Maximum Voluntary Contraction (MVC) test device for static muscle contraction studies".

**Manjari K, Arun Karthick S, Gundhavi Devi M**, "Preparation of Sericin and Chitosan blended PVA Nanofibrous Matrix incorporated with Silver Nanoparticles as wound dressing" in the 2nd International Conference on Sustainable Materials and Technologies for Bio and Energy Applications SMTBEA-2022, Organized by SSN Institutions, Kalavakkam during 13-15, July 2022.

**R Dhanush Esbu, Mahesh Veezhinathan, Dhanalakshmi Munirathnam** and **V Aishwarya**, "Generation of Pulse Sequence Using EMG Signals for Application in Transfemoral Prosthesis." Second Global Conference on Recent Developments in Computer and Communication Technologies, Mangalore, 28 - 29, July 2022.

# Faculty Ventures

A. Yaamini, **A. Kavitha** and **B. Divya** presented a paper titled "Influence of VR as a rehabilitation tool for training people with Autism" at Global Conference in Recent Development in Computer Technologies (GCRDCT) during July 28-29 2022.

Thankam Regi and **Arun Karthick Selvam**, "Electrospinning of Recycled Plastics: A Review and its Application" In the 3rd International Virtual Conference on "Recent Trends in Clean Technologies for Sustainable Environment (CTSE-2022)" organized by Center of Excellence in Water Research (CEWAR) in Association with Department of Chemical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai, India during 15-16 September 2022.

**Arun Karthick Selvam** & Devi Easakar, "Preparation of Cerium Oxide Nanofibers and its Photocatalytic Activity under Visible Light Irradiation" In the 3rd International Virtual Conference on "Recent Trends in Clean Technologies for Sustainable Environment (CTSE-2022)" organized by Center of Excellence in Water Research (CEWAR) in Association with Department of Chemical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai, India during 15-16 September 2022.

N Vidhya and **Dr. S. Pravin Kumar** presented a paper titled "Emotion aware Tamil speech synthesizer for dysarthric speakers," 2022 Second Global Conference on Recent Developments in Computer and Communication Technologies (GC-EDCT 2022), 28 - 29, July 2022 at AJ Institute of Engineering and Technology, Mangalore, Karnataka, India.

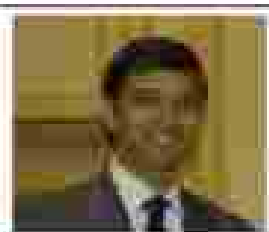
# Faculty Ventures

Subasri Sivabalan and **Dr. Vijay Jeyakumar** presented a paper titled "Mathematical modeling of a Diabetic patient using Intelligent Control Techniques" in 5th International Conference on Computational Intelligence and Data Engineering - 2022, organized by Vellore Institute of Technology, Andhrapradesh on August 12, 2022.

Sachin Raj S P, **K. Nirmala**, Sriraam Mahadevan presented a paper titled "Thermal Image Segmentation in Thyroid Eye Diseases using Image Processing" in the 2022 Third International Conference on Advances in Physical Sciences and Materials (ICAPSM 2022) organized by KPR Institute of Engineering Technology Coimbatore, Tamil Nādu, India during August 8 - 9, 2022.

**S. Pravin Kumar**, Ketaki Vasant Phadke, Jitka Vydrova, Adam Novozámský, Aleš Zita, Barbara Zitová, Jan G. Svec- "Visual and Automatic Evaluation of Vocal Fold Mucosal Waves Through Sharpness of Lateral Peaks in High-Speed Videokymographic Images"-50 Annual Symposium: Care of the Professional Voice

I am pleased to share with you the details of the Best Paper award received recently from the Voice Foundation, USA.



# Faculty Ventures

**Dr. R. Nithya** presented a paper entitled "Design of Biosignal Controlled Hand Exoskeleton for Assistive Purposes," in the XXII International Conference on Mechanics in Medicine and Biology organized by University of Bologna, Bologna, Italy during 19- 21 September 2022.



**R. Subshini**, "Genomic comparison of *Klebsiella pneumoniae* and *Streptococcus pneumoniae*". One day international conference "The Department of Microbial Technology, School of Biological Sciences, Madurai Kamaraj University is inviting you all to the India's first "International Microorganism Day" celebration through an International Conference in association with " (Federation of European Microbiological Societies) " held on 17/9/2022.

# Faculty Ventures

M. Vahini, S. Sowmya Rakesh, **R. Subashini**, "Green Synthesis of Iron Oxide Nanoparticles Using *Anastatica Hierochuntica* (Rose of Jericho) And Its In Vitro Biological Assessment" 3rd International Virtual Conference on "Recent Trends in Clean Technologies for Sustainable Environment (CTSE-2022)" organized by Center of Excellence in Water Research (CEWAR) in Association with Department of Chemical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai, India during 15-16 September 2022 and awarded the **"Best Paper Award"**.



**Dr. Vijay Jeyakumar, ASP, BME**, was appointed as a scrutiny member of the BME & ECE Board for the May-June 2022 examinations by the Controller of Examinations, Jerusalem College of Engineering, Chennai. The scrutiny was carried out on **July 01, 2022**.

# Faculty Ventures

**Dr. Vijay Jeyakumar, ASP, BME**, had been invited as **Comprehensive Viva Voce examiner** for the **Ph.D. Scholar Harikrishnan. S., SRMIST**, held on **07.07.2022** at 2 p.m. in virtual mode.

**Dr. S. Arun Karthick ASP, BME** attended the **BoS Meeting** of the Department of Biomedical Engineering, School of Electrical and Communication Engineering, Vel tech Rangarajan Dr. Sagunthala R&D Institute of science and technology as an **External Expert Member** on **21st July 2022**.

**Dr. A. Kavitha, HOD, BME**, attended the **Board of studies (BoS) meeting** of **Adhiyamaan college of Engineering** on **28.07.22**.

**Dr. Vijay Jeyakumar, ASP, BME**, has been appointed as **Smart India Hackathon (SIH) 2022 Grand finale jury** for the **junior Category** organized by the **Ministry of Education's Innovation Cell (MIC)** and the **All India Council for Technical Education (AICTE)**, held on **August 12, 2022**.

**Dr. S. Arun Karthick, ASP, BME**, was appointed as **Evaluator** by the **Ministry of Education, Government of India & The All India Council for Technical Education (AICTE), New Delhi** for the **Smart India Hackathon - Senior (SIH 2022) - Hardware Edition** for the **Nodal Center - SRM Institute of Science and Technology, Kattankulathur** during **25.8.2022 to 29.8.2022**.



# Faculty Ventures

## PROJECT NEWS

**Dr. S. Pravin Kumar, ASP, BME** and **Dr. A. Kavitha/Prof & Head/BME** applied for the Project Titled **3D U-Net: On-the-Fly 3D Rendering and Visualization of the nodules present in a lung CT scan**, Total Budget (INR): 50 Lakhs. Funding Agency: BIRAC-SEIRI

Project Title: **Design and Development of magnetic levitated Centrifugal pump used in the wearable artificial lungs-pump device**, PI: **Dr. Micha Premkumar, T, AP, Mech**, and **Co-PI: Dr. Vijay Jayakumar, ASP, BME**, Funding Agency: State University Research Excellence (SERB-SURE), DST

Project Title: **Skin Friendly Ultrathin Stretchable Sensor for Acquiring Human Physiological Signatures**, PI: **Dr. S. Arun Karthick, ASP, BME**, **Co-PI: Dr. L. Suganthi, ASP, BME**, Total Budget (INR): 26,97,924, Funding Agency: SERB-SURE

Project Title: **Immersive Virtual Reality-Based Dental Education Setup with Haptics Feedback**, PI: **Dr. L. Suganthi**, CO-PI: **Dr. Krithika Datte**, Head, Department of Cariology and Department of Conservative Dentistry & Endodontics, Saveetha Dental College, Total Budget (INR): 29,28,332, Funding Agency: SERB-POWER

**Investigation of Glaucoma comorbidity in Capillary Morphology using Optical images of Nail fold region**, PI: **Dr. K. Nirmaia, ASP, BME**, Co-PI: **Dr. C. Vinothkumar, ASP/ECE**, Total Budget (INR): 27.06, Funding Agency: SERB-POWER

# Faculty Ventures

**Dr. S. Arun Karthick, ASP, BME** was invited as a resource person for the AICTE - ATAL Sponsored Two Week (Hybrid) Faculty Development Programme on "IOT Driven Wearable Devices for Healthcare and Defense Applications" organized by SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY, Pattur - 517 583 on 09.8.2022.

**Dr. S. Arun Karthick, ASP, BME** was assigned as Doctoral Committee Member for the Scholar Ms. Sobana Shri S of the Department of Biomedical Engineering, SRM Institute of Science and Technology, Kattankulathur during 16.08.2022.

**Prof. N. Vekateshwaran** and **Dr. Mahesh Veezhinathan, ASP, BME** Mentored a student team named Zeolite for Smart India Hackathon (Hardware Edition) 2022, held at Forge accelerator, Coimbatore from 25.8.2022 to 29.8.2022. The team won the first prize with the cash award of Rs. 1,00,000. Problem statement: Solution for recording and storing metrics of normal and orthotic leg for analysis by Orthotist to provide corrective measures.

**Dr. M. Dhanalakshmi AP, BME** contributed as mentor in Smart India Hackathon 2022, for the team "Edromis\_SIH2022" during 25 - 29 August 2022. The team worked on the problem statement - Knee support for elderly for transferring body weight to shoes.

A team "Alpha Beta Gamma" mentored by **Dr. Vijay Jeyakumar, ASP, BME** received Inspiration award with the cash prize of Rs 25000/- in SIH grand finale (Software edition) held at Prin. LN Welingkar Institute of Management Development and Research (PGDM), Mumbai for the problem statement SS1236.

**Dr. Vijay Jeyakumar, ASP, BME** had given a presentation on "Course file Preparation System" during SSN IQAC meeting held on 25.07.2022.



# Faculty Ventures

**Dr. Vijay Jeyakumar, ASP, BME** had reviewed the papers for the International Conference on Intelligent Innovations in Engineering and Technology – ICIET 2022, organized by PSG College of Technology, Coimbatore, Tamilnadu, India

**Dr. Vijay Jeyakumar, ASP, BME** reviewed papers for 6th International Conf on Computer Science and Application Engineering which will be held at Nanjing, China:

**Dr. Vijay Jeyakumar, ASP, BME** attended the first DC meeting for the Anna University research scholar Jason Jebasingh G V (Reg. No: 22144997152) on 25.07.2022 through Virtual Platform.

**Dr. Vijay Jeyakumar, ASP, BME** attended the first DC meeting for the SRMIST full-time research scholar Ms. W. Anto Win Shalini (Reg. No. RC2213004011002) on 26.07.2022 through Virtual Platform.

**Dr. Vijay Jeyakumar, ASP, BME** attended Comprehensive viva voce meeting for the SRMIST full-time research scholar Ms. R. K. Ahalya on 25.07.2022 through Virtual Platform.

**Dr. L. Suganthi and Dr. R. Subashini**, accomplished stock verification in the Laboratories of Electronics and Communication Department on 09/07/2022.

**Dr. L. Suganthi** coordinated the IQAC (Academic) and ISO (Process and Systems) audit of the Biomedical Engineering department on 27/07/2022.

**Ms. Divya B, AP, BME** along with Dr. K. SampathKumar (Professor/MBA) completed the ISO audit of the ECE department on 27/07/2022.

# Faculty Ventures

**Ms. B. Divya** was selected as Question Paper setter for the course of EET306 Artificial Neural Networks and Applications of Sixth Semester B. Tech Degree Examinations, June 2022 of APJ Abdul Kalam Technological University, Kerala.

**Dr. Vijay Jeyakumar ASP, BME**, has given a presentation of the IFFP progress ("Design and development of wearable textronic system for monitoring physiological parameters") to the review committee at SSN Research Centre on August 03rd, 2022.

**Dr. Vijay Jeyakumar, ASP, BME**, acted as a chairman in central valuation for Biomedical Board at Zone - II, Anna University, Chennai during August 08-13, 2022.

**Dr. Vijay Jeyakumar, ASP, BME**, has attended online Comprehensive viva voce examination for Ms.Devaki, Ph.D scholar of SRM Institute of Science and Technology, Chennai on August 27, 2022.

The students Aashanthini J from RVS Educational Trust's Group of Institutions and Yuvaraj B from Agni College of Technology have successfully completed their Summer Internship under the guidance of **Dr. Vijay Jeyakumar, ASP, BME**, during July 25 - August 31, 2022.

**Dr. S. Arun Karthick, ASP, BME**, attended the First DC meeting for scholar Ms. Sobana Shiri of Department of Biomedical Engineering, SRMIST, Kattankulathur on 24 August 2022.

# Faculty Ventures

**Dr. S. Arun Karthick, ASP, BME**, attended the Synopsis DC Meeting for the scholar Mr. Krishna Kumar in the department of Biomedical Engineering, Rajalakshmi Engineering College, Chennai during 6-8.2022. He was appointed as the Examiner for Central Valuation at Anna University, ZONE II during 8 August 2022 to 13 August 2022.

**Dr. M. Dhanalakshmi, AP, BME**, was appointed as the Examiner for Central Valuation at Anna University, ZONE II during 11 August 2022 to 12 August 2022.

**Dr. R. Subashini, AP, BME**, was appointed as the Examiner for Central Valuation at Anna University, ZONE-II during 11 August 2022 to 13 August 2022.

**Dr. A. Kavitha HOD, BME**, attended LSPB project closure meeting with Dr. Mohanavelu, Shri K Mohanavelu, Scientist 'C', DEBEL & Technical Co-ordinator, DRDO on 12th August 2022.

**Dr. Vijay Jeyakumar**, has completed ISO and IQAC audit in the department of Civil Engineering and Student Counseling on August 01st and 04th, 2022 respectively.

**Ms. Divya B, AP, BME**, completed the ISO audit of the girls hostel on 01/08/2022.

The students Madhav Aaditya and Abhishek from Alagappa College of technology, Anna University, Guindy have successfully completed their Summer Internship under the guidance of **Ms. B. Divya AP, BME**.

# Faculty Ventures

**Dr. Vijay Jeyakumar, ASP, BME** delivered a talk on "Image Retrieval Systems in PACS Environment" in the 5-day Faculty Development program in the title "Insights of Machine Learning and Artificial Intelligence in Healthcare", organized by the Department of Biomedical Engineering, Jerusalem College of Engineering, Chennai on September 08, 2022.

**Dr. L. Suganthi, ASP, BME** attended the synopsis meeting for Ms. C. N. Savithri on 19/09/2022, in the Department of ECE, Sri Sairam Engineering College, West Tambaram, Chennai.

**Dr. L. Suganthi, ASP, BME** attended the third RAC meeting for T.R.Thamizhvani on 19/09/2022, Department of Biomedical Engineering, School of Engineering, VISTAS, Pallavaram, Chennai.

**Dr. N. Venkateswaran, Professor, BME** gave a talk on "Introduction to Array Signal Processing" in the IEEE Signal Processing Society Organized, One-Day Online FDP On, "Array Signal Processing for RADAR Applications" on 18th August 2022.

**Dr. A. Kavitha, HOD, BME** chaired two sessions on Biosignal processing in the XXII International Conference on Mechanics in Medicine and Biology held at Bologna, Italy during 19-21, 2022.

**Dr. N. Venkateswaran, Professor, BME** gave a talk on the title "Challenges in Wireless Millimeter Wave Communication & Sensing" in the Two-day Workshop on Photonic and Photovoltaic Devices organized by the Department of Electronics and Communication Engineering SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu, India on Sep 30, 2022.

# Faculty Ventures

On September 23, 2022, the Department of Biomedical Engineering had an external audit, which was presided over by **Dr. M. Sasikala** of Anna University, Chennai.



On September 30th, **Dr. V.E. Annamalai**, Principal/SSN College of Engineering, addressed the BME faculty concerning "Opportunities and Challenges for 2022-2023."



# Faculty Ventures

On September 5th, 2022, **Dr. S. Arun Karthick** and **Dr. Vijay Jeyakumar** were awarded the **"Best Faculty Award"** on the Teacher's Day Celebrations held at the Justice Prathap Singh Auditorium for the current academic year.



# Faculty Ventures

**Dr. S. Arun Karthick** submitted an internal funding project entitled "Electrospun Chitosan/Sericin/Ag Nanoparticles Incorporated Biohybrid Nanofibrous Matrix for Wound Healing Application" for a duration of 36 months and with a budget of 5.45 Lakhs, SSN Trust.

**Dr. S. Pravin Kumar, Pt. Dr. A. Kavitha** and Dr. Prakash Boominathan (Sri Ramachandra Medical University), Co-PIs, "Deep Learning-Based Voice Disorder Diagnosis Using Strobokymograms" Total Budget: Rs. 26.0 Lakhs, Funding Agency: SERB-SURE.

## SCHOLAR NEWS

**Ms. Niveethitha, Ph.D scholar** of **Dr. Vijay Iyakumar** gave a research seminar presentation titled "Study of correlation between brain and muscle signal" on 27.08.2022 between 11:00 am - 12:00 noon through Google Meet.

**Ganadhavi Doval M** presented her project titled "Fabrication of Chitosan/Sericin/Ag NP/PVA based wound dressing" in the SSN Doctorate Scholar Day and was awarded the "Best Paper" in Oral Category during 7-9 September 2022. She was guided by **Dr. S. Arun Karthick ASP, BME**.



# Faculty Ventures

**Thamizh Regi, Research Scholar/BME** showcased her work titled "Recycled Polystyrene/MWCNT nanocomposite membrane for the efficient removal of crystal violet dye" by poster presentation in the SSN Doctorate Scholars Day - 2022 during 7-9 September 2022. She was guided by **Dr. S. Arun Karthick, ASP, BME**.



## PATENT INFORMATION

**Dr. Vijay Jeyakumar, ASP, BME** and **Chetana Krishnan (Batch 2018-2022)** have filed an Invention titled "Baseline Static Veloprene Foot Pressure Mapping System" through **C-Intelligence Services Pvt Ltd** on **31.08.2022**. The application Number is **202241049663**.



# Student Pursuits

## Co-curricular Activities

The following PG students have attended a virtual workshop "UpSkill Enmed" conducted by IIT Kharagpur on the 22nd and 23rd July 2022.

- **Akhya M**
- **Arulselvi**
- **Chandana H**
- **Dharshini Venkatesan**
- **Jeevitha R**
- **Jefri jacob**

**Chandramouli K**, IV th Year BME, completed a course on "Capstone: Applying Project Management in the Real World" in Coursera ( Course Completion ) on 16 /08 /2022.

**Chandramouli K**, IV th Year BME, completed a course on "Agile Project Management" in Coursera on 02 /07 /22.

**Chandramouli K**, IV th Year BME, completed a course on "Google Project Management" in Coursera ( Course completion ) on 16 /08 /22.

The following PG first year students attended a five-days faculty development program on "Medical System Design, Modeling, and Simulation using Fusion 360" held at SSNCE by the Department of Biomedical Engineering from 04 /08 /2022 to 08 /08 /2022.

- **Akhya M**
- **Arulselvi**
- **Chandana H**
- **Dharshini Venkatesan**
- **Jefri jacob**

# Student Pursuits

**Chandramouli K**, IV th Year BME, won in Smart India Hackathon conducted by Ministry of Education, AICTE - winning inspirational award (cash prize of ₹ 25000) on 15/08/22 and 26/08/22 - in Welingkar Institute of Management, Mumbai.

**Rakshit S**, IV th Year BME, won in Smart India Hackathon conducted by Ministry of Education, AICTE - winning inspirational award (cash prize of ₹ 25000) on 15/08/22 and 26/08/22 - in Welingkar Institute of Management, Mumbai.

**Nikhil S**, IV th Year BME, won in Smart India Hackathon conducted by Ministry of Education, AICTE - winning inspirational award (cash prize of ₹ 25000) on 15/08/22 and 26/08/22 - in Welingkar Institute of Management, Mumbai.

**B Dhruv Babu**, IV th Year BME, published an abstract in proceedings of International Conference on Advanced Research Trends in Material Science and Nanomaterials.

**Nithyanand B**, IV th Year BME, won in Smart India Hackathon conducted by Ministry of Education, AICTE - winning inspirational award (cash prize of ₹ 25000) on 15/08/22 and 26/08/22 - in Welingkar Institute of Management, Mumbai.

**Shreshth A H**, IV th Year BME, won in Smart India Hackathon conducted by Ministry of Education, AICTE - winning inspirational award (cash prize of ₹ 25000) on 15/08/22 and 26/08/22 - in Welingkar Institute of Management, Mumbai.

# Student Pursuits

**R Dhanush Babu**, IV th Year BME, won in Smart India Hackathon conducted by Ministry of Social Justice and Empowerment from 24/08/2022 - 30/08/2022 in Coimbatore.

**Jefri Jacob J**, attended a five-days faculty development program on "Medical System Design, Modeling, and Simulation using Fusion 360" held at SSNCE by department of Biomedical Engineering from 1st to 5th August 2022.

**Vahini M**, IV th Year BME, won in Smart India Hackathon conducted by Ministry of Social Justice and Empowerment from 24/08/2022 - 30/08/2022 in Coimbatore.

**Nandhini J**, IV th Year BME, participated in Smart India Hackathon conducted by Ministry of Education, AICTE from 25/08/2022 - 26/08/2022 in Mangalore.

**Devadharshini S**, III year - Completion of Hospital Internship with Biomedical Engineering Department at GEM Hospital & Research Centre, Chennai - 27/07/2022 to 12/08/2022.

**Devulhasrihini S**, III year participated in the Smart India Hackathon Hardware Edition - as a finalist held at SRM Institute of Science and Technology, Kattankulathur from 25/08/2022 to 29/08/2022.

**Saraju Vaidyanathan**, III Year participated in the Smart India Hackathon Hardware Edition - as a finalist held at SRM Institute of Science and Technology, Kattankulathur from 25/08/2022 to 29/08/2022.

**Prasanna Vaidyanathan**, has completed her Hospital Internship at CURJ, Chennai - from 27/07/2022 to 16/08/2022.

# Placement News

The students and the placement cell were very enthusiastic as the recruitment season for the academic year 2022-2023 got underway. The core and regular categories had the most firms at the start of the placement season, followed by Super dream companies.

The first company where our department students got placed was ZIFO RnD, a pharmaceutical research-oriented company that took students for the role of Associate Analyst. A total of 10 students - Arushi Sahu, Janani T, Dhanya Ravi, Archana S, Harish M, Raghupathy J, Nisha S, Shakti Varsha, Rakshitha S, Thejaswini H got selected for an annual pay of 4.75 lakhs.



Following this, HCL Technologies recruited students for core roles as a part of their intern cum placement program initiated by the Head of Department. A total of 10 students got placed with a salary package of 4.25 LPA. The selected students are - Indhumathi R, Rithika K, Rithick Kumar G, Roshan M, Shivangi Pandey, Sana Mariya, Sowmya Rakesh S, Tharunika TM, V Aishwarya, Valini M.

# Placement News



Amazon, which is an American Multinational technology company which focuses on E-Commerce for 3 different positions, Program manager, Accounts Manager and Operations Manager. A total of 4 students - **Hevanthika M. Aishwarya V. Tharunika TM. Rakshitha S** from our department got placed in Amazon. The students were offered a 6-month Internship program and on successful conversion will be offered a FTE of 14 LPA. Some of the regular offers included recruitment of 6 students for Cognizant and 2 for Tata Consultancy Services.



As a result, our students and teachers began to approach placements with increased vigor and passion. We anticipate a lot more exciting placement chances as long as the placement season lasts. Additionally, many students are seeking higher education and many have their own pathways to success in a wide range of industries.

# Alumni Corner

**Pranav Krishna R (Batch-2021)** secured Rank 1 among all the Biomedical Engineering Students, affiliated to Anna university colleges and received Gold medal from the Prime minister and the Chief minister of Tamilnadu in the 42th convocation held on 29.07.22 at Anna university, Chennai.



**Ms. Anusha Mohan, Postdoctoral Researcher, Trinity College Dublin, Ireland, BME Alumni 2012 Batch,** gave a talk to final year and third year students on 19 August 2022 via online.

Anusha is a perceptual neuroscientist who is fascinated with how the brain perceives the world. She holds a bachelor's and masters' degree in Biomedical Engineering from SSN College of Engineering, India and University of South Florida, USA respectively and a PhD in Communication Sciences and Disorders from the University of Texas at Dallas, USA.

# Alumni Corner



**FATH FINDER**  
Alumni Talk Series

**SSN College of Engineering**  
Department of Biomedical Engineering

**Speaker**

**Dr. Anusha Mohan**  
Postdoctoral Researcher  
Trinity College Dublin  
1998-2000

PhD in Biomedical Engineering  
Trinity College Dublin  
2000-2003

PhD in Biomedical Engineering  
Trinity College Dublin  
2003-2006

Anusha specializes in understanding phantom auditory percepts such as tinnitus and their neural correlates using neuroimaging techniques specifically, EEG.

During her time as an Irish Research Council Postdoctoral Fellow at Trinity College Dublin, Ireland, Anusha was able to further develop her academic career towards the empirical evaluation of the brain as a predictive system through which she was able to demonstrate the neural correlates of phantom percepts.

An Alumni Interaction with 2021 Batch Alumni doing their higher studies abroad, scheduled on 10/09/22 from 9:00 am to 10:00 am at EME Seminar Hall organized by **Dr. J. Vijay**. Students interacted with them and clarified their queries about the opportunities and fellowships for higher studies abroad.

# Alumni Corner



The poster for the SS7 Alumni Interaction Event features the SS7 logo at the top left. It lists several speakers with their names and titles: Anandha Lakshmi (SS7 Alumna), Anandha Lakshmi (SS7 Alumna), Anandha Lakshmi (SS7 Alumna), Anandha Lakshmi (SS7 Alumna), Anandha Lakshmi (SS7 Alumna), Anandha Lakshmi (SS7 Alumna), Anandha Lakshmi (SS7 Alumna), and Anandha Lakshmi (SS7 Alumna). The central text reads "ASK US ANYTHING" and "WHY SHOULD I?". At the bottom, it provides the meeting link: [Meeting Link: https://ss7.zoom.us/j/98521785217](https://ss7.zoom.us/j/98521785217).

An Alumni Interaction with Lokesh Kumar M. Harsha B and Rajkumar (2018 and 2017 batch) was held during the visit to Sudha Gopalakrishnan Brain Centre, IIT Madras, on 16/09/2022.





# Alumni Corner

**Aswin Raghav (Deloitte, New York), 2015** passed out Alumnus had visited the Biomedical Department and had a lively discussion with all the professors reminiscing the old days in college.



**Mr. Pragadeesh Chidambaram (2018 Batch, Department of Bio-Medical Engineering)** works in **Medtronic, Medical Equipment Manufacturing company** as **Territory Manager**. His role is to work with surgeons and doctors and coordinate during the surgery for implanting life saving devices like pacemakers. He also supports doctors in fixing ventilators in critical care units. He received awards within the organization. He visited the department on 5th July 2022 and had discussion with the faculty members regarding possibilities of recruiting students as interns and employees.



# Editorial Board

## CHIEF EDITOR

*Dr. A. Kavitha*

*Professor and HOD of BME*

## FACULTY EDITORS

*Dr. M. Dhanalakshmi*

*Assistant Professor of BME*

*Dr. R. Nithya*

*Assistant Professor of BME*

*Dr. S. Arun Karthick*

*Associate Professor of BME*

*Dr. Pauline John*

*Assistant Professor of BME*

## STUDENT EDITORS

*Aarya Raghavan*

*RaamaNarayanan A*

*Chandana H*

*Pradiep Kumar G D*

*Devadharshini*

*Aswin Jeyaraman*

*Srivibha Parthasarathy*

*Shreya M*



