SYNERGY

Contents

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 October to December 2022. We highlight the achievements and participation of the students and faculty.

Presenting to you the second 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

Every year appears to fly past, but this one seems to have done so more quickly than most. I consider it a great responsibility and honour to write the prologue for the quarterly Synergy newsletter published by our department.

Synergy is derived from the Greek word synergia, which implies cooperation. "The whole is larger than the sum of its parts," as Aristotle famously said, is something I believe in.

Each issue of SYNERGY highlights the accomplishments of the faculty, staff, and students as well as departmental events and campus news. This issue includes some fascinating faculty projects, the academic successes of our students, and other significant achievements.

We have faith that our students will live up to our ideals and excel in their future ventures as accomplished engineers whether through placements or through higher studies. Finally, I want to express my gratitude to everyone who has been a part of Synergy and acknowledge their support and endearing love.

Dr. A. Kavitha
Professor and Head,
Department of Biomedical Engineering

Department Ventures

Bootcamp on Fusion 360 Design Challenges

The department of Biomedical engineering, on behalf of SSN College of Engineering, conducted a Bootcamp on Fusion 360 in association with Autodesk Corporation on the 7th and 8th of October, 2022. The camp functioned as a precursor to the mega event to be organized at Anna University, In January, in association with the Government of Tamil Nādu and the Chief Minister's Naan Mudhalvan scheme.

The principal, Dr Ve. Annamalai, the head of the department of Biomedical engineering, Dr A Kavitha, and The Autodesk representatives, Dr Prasath V, and Mr. Rohit Chandran, Education Engagement Specialists, Mr Amey Jadhav and Mr. Abinesh, Fusion Catalysts presided over the inaugural ceremony. Mr. Thiruvengadam, the technical director of STAM digital tooling India was the chief guest for the inauguration ceremony. Dr Ramesh Pudale, Account Manager - MFG Autodesk Education Experiences addressed the gathering through online meeting platform and explained the role of design challenge boot camp in design thinking.

This time around, the Fusion 360 boot camp saw the registration of over 195 teams from all over Tamilnadu, out of which we have among which 149 teams comprising 079 students were shortlisted. On-the-spot registration was also open on the day of the event.

Day 1 began with the registration process, outside the main auditorium. This was followed by the inaugural session in which we were addressed by the principal of SSNCE, HoD of the BME Dept, our chief guest, and Autodesk professionals. The addresses enlightened us about the importance of learning a new skill like designing and modelling, and the usage of software like Autodesk F360 in the industry. We were also briefed about the Naan Mudhalvan scheme.

Department Ventures

Participants and Signatories of the Bootcamp

All the student participants were then escorted to the venue, i.e., the Biomedical Engineering Department. We had 3 sessions on Day 1. The first session mainly focused on activating the F360 license and setting up the software and problem-solving if any issues arose. Student mentors taught how to use the software followed by mentoring sessions by Autodesk professionals who helped the student participants explore various features of the F360 software. Day 1 mainly focused on teaching and mentoring the participants, getting them familiar with the software and its interface.

On Day 2, students were encouraged to brainstorm ideas and design their own models pertaining to the three themes provided on the naan mudhalvan website. The mentoring sessions of Day 1 were fruitful and helped the participants design their own models, through the core skills learnt. Their doubts were adeptly cleared by the student mentors and Autodesk professionals. The participants were then asked to submit their models by 2 pm, which were evaluated by Autodesk professionals, to determine the calibre of designs and innovation. A photo session was finally held at the clock tower for the organisers and participants to take away as a memory. Goodies such as a trackpad were also distributed to the participants as a memento. The two days spent were surely memorable for both the student volunteers, and the participants as well.

Department Ventures

Dr J Vijay, Associate Professor, BME was the Co-ordinator, the overall organiser and the mentor. Dr. A Kavitha, HOD, BME, encouraged our department to take the design challenge under its wing and helped us conduct the event smoothly. 16 student mentors handled the event throughout, aided by other volunteers from the 3rd year students. All their combined efforts made the event a huge success. 4 Runner ups and 1 Overall winner was declared post evaluation, and the winners were given Autodesk T shirts and SSN trophy (Icon of SSN – clocktower Memento). The Runner ups were provided with Autodesk shirts.

Participants working for the Design Challenge Theme

Valedictory on 9th October

Department Ventures

Meeting regarding NBA Accreditation

On November 18th, Dr. V Mahesh, Dr. Sachin, and Dr. Subashini presented their respective course structure and curriculum to Prof. Samudra. Types of assessments with a sample, higher level of learning, and a sample of student's work were few points that were discussed in this meeting.

NBA Accreditation Meeting with Professor Samudra

Department Ventures

Virtual Talk on "Introduction to Neuromorphic Circuits"

The department of Biomedical Engineering organised the virtual talk titled "Introduction to Neuromorphic Circuits" on **24.11.2022**. The Talk was delivered by Dr. Binsu J Kailath, Professor Department of Electronics and Communication Engineering IIITDM Kanchepuram. The specialisation and research interest of the speaker includes Neuromorphic circuits, Mixed signal IC design, Micro Electronics and VLSI circuit design. The talk was given for the second year Biomedical engineering students to provide an insight to the applications of their currently pursuing core course Analog and Digital Integrated circuits.

Virtual Talk by Dr. Binsu J Kailath via Gmeet

The talk included the Digital Implementation of STP, Analog Neuron implementation, neuron as a Biphasic encoder, Analog Implementation of PSTDP and TSTDP learning rules, Heart rate classification using TSTDP with BCM characteristics. The talk was an eye opener for the second year student in the healthcare applications of the Integrated circuits. The event was organised by Dr. K Nirmala, ASP/BME.

Department Ventures

IEEE EMBS Student Chapter Inauguration

On 30th November, the Department of Biomedical Engineering inaugurated the Student Chapter of IEEE EMBS. The Vice Principal of SSNCE, HoD/BME, the Chief Guest, Dr. Nirav Patel and Dr. Pravin Kumar S. along with other faculty members of BME graced the event. Following the Inauguration and Introduction of the Office Bearers for the academic year 2022-23, Dr. Nirav Patel gave an interactive talk on 'Image Guided Surgery and Surgical Robots'.

Dr. Nirav Patel explained his research and findings. He also went into the specifications of the challenges he faced through his research and also the future advancements and developments. The informative session with Dr. Nirav Patel piqued many questions among the students and the faculty members.

HOD/BME briefing about the department

Dr. Nirav Patel presenting a talk to the students of the BME Department

Department Ventures

INVENTE 2022

The Department of Biomedical Engineering had the privilege to host Invente 2022 on the 1st and 2nd of December. This year marked a special year for Invente, as for the very first time, SSN Institutions and Shiv Nadar University Chennai jointly organized this student driven national technical fest. The inaugural ceremony was conducted in the presence of the honourable chief guest, Mr. Nandakumar Subburaman, Dr. Kala Vijayakumar, Dr. V.E. Annamalai and Dr. A. Kavitha. Mr. Nandakumar Subburaman, the CEO and Co-founder of Perfint Healthcare gave an intriguing talk that students gained valuable knowledge from.

Invente 2022 Inauguration

The department of biomedical engineering had put together an exciting handful of technical and non-technical events, incorporating biomedical applications, designing, imaging and many more concepts for you to explore. One event that proved to be a grand success was The Project Expo event. Though it was the first time the department initiated this event, the expo lured a good number of participants. There was an overwhelming amount of registrations from various colleges like SRM Chennai, Veltech Multi-Tech, Bannari Amman Institute of Technology, Saranathan College of engineering etc.

Department Ventures

Participants of Project Expo

A whole of two successful days were witnessed by many and appreciations for the events and organisation of events were commended. The nation wide symposium came to an end on 2nd December with the Valedictory ceremony

Department Ventures

MoU with Perfint Healthcare

A Memorandum of Understanding (MoU) was signed between Perfint Healthcare and Sri Sivasubramaniya Nadar College of Engineering on December 1, 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.

MoU signed between Perfint Healthcare and SSN College of Engineering

Faculty Ventures

Dr Vijay Jeyakumar, ASP, BME has been appreciated by IEEE MP Section and ABV-IIITM Gwalior for his contribution as a TPC member for IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI-2022), scheduled on December 21-23, 2022

Dr. Vijay Jeyakumar, ASP, BME delivered a guest lecture (offline) on "Medical Image Retrieval for the Maintenance of HIS" at the Department of Biomedical Engineering, SRM Institute of Science and Technology, Ramapuram Campus, Chennai on 18.10.2022

Dr. Vijay Jeyakumar, ASP, BME audited the NBA SAR document (U.G.) of the Department of Biomedical Engineering, KPR Institute of Engineering and Technology, Coimbatore on 26.09.2022

Dr Vijay Jeyakumar, ASP, BME reviewed the strategic plans (AY 2022-2023) of the Department of Biomedical Engineering, KPR Institute of Engineering and Technology, Coimbatore on 29.10.2022

Dr. S. Pravinkumar, ASP, BME audited the NBA SAR document (U.G.) of the Department of Biomedical Engineering, KPR Institute of Engineering and Technology, Coimbatore on 26.09.2022

On November 27th 2022, Dr.A.Kavitha organised a meeting with Dr Laura Cercenelli, Adjunct professor, Department of Biomedical and Neuromotor Sciences, University of Bologna, and her team members to discuss the possibility of collaborations in Augmented reality research. Dr.A.Kavitha gave a brief presentation about the college, the department, and the SERB-funded Augmented reality for medical applications research that is currently going on in the department. Dr. Pravin Kumar, Dr. Sudhir of SRMC and Ms. Divya attended the meeting along with others.

Faculty Ventures

Dr. K.Nirmala,Associate Professor/BME acted as reviewer for the 4th International Conference on Communication and Intelligent Systems (ICCIS 2022) to be held during December 19-20, 2022

Dr. N. Venkateswaran, Prof/BME, evaluated and submitted the report on 30.11.2022 for a PhD thesis submitted at Visvesvaraya Technological University Belagavi

Dr. N. Venkateswaran, Prof/BME, conducted the Ph.D Synopsis meeting of Hariprasad.S, Department of ECE, SRM university on 28.11.2022 (Monday) at 2.00 PM.

Dr. S. Pravin Kumar, AsP/BME, has been nominated as Board of Studies Member for the Department of ECE, Sri Shanmugha College of Engineering and Technology, Salem.

Dr. R. Nithya AP/BME delivered a talk on Recent Development in Medical Imaging during IEEE day organized by IEEE photonic society in the college on 28.10.22

Dr. A. Kavitha along with **Dr. R. Nithya** presented the working Exoskeleton model to DRDO - DEBEL Scientist Dr. Mohanavelu, and his team members on 28.10.22 and discussed on possible extension of the work.

Dr Vijay Jeyakumar, ASP/BME attended first year DST project review meeting along with the other PI's of the project titled "Development of Multi-spectral (Thermal/Visible) Imaging system for Fever screening in crowded places for detection of infectious diseases" on November 25th, 2022 through online video conferencing

Faculty Ventures

Dr Vijay Jeyakumar, ASP/BME and his team (Spring) members Dr Shriram Mahadevan, Prof. & Head, (SRIHER), Ms. Chetana Krishnan (SSN-EME Alumni), Mr. Ravichandar R (Research Scholar) interacted with IIT-GDC panelists Mr. Ragu, Mr. Rajiv Jain, and Mr. Subbu for GDC I-NCUBATE program on 18th November 2022 (Friday) through online meeting platform.

Dr Vijay Jeyakumar, ASP, BME accompanied with final year BME students for the visit to an industry M/s. Sree Aditya Biotech, Bangalore during November 19 - 23, 2022.

Dr. Mahesh Veezhinathan delivered the talk on Neural Network Approaches for Engineering Solutions, at FDP on "Signal Processing, Artificial Intelligence & Machine Learning in Biomedical Engineering", November 16-18 2022 organized by BME, SSN CE

Dr. N. Venkateswaran, Prof/BME conducted the third IQAC meeting for the year 2021-22 on 31.10.2022 through online mode.

Ms.B.Divya appointed as a question paper setter for the End Semester Theory Examinations to be held in Nov./Dec. 2022 under the autonomous scheme of Paavai Engineering College

Dr. S. Arun Karthick, ASP/BME and his team (GREEN3D) members Mrs. Thankam Regi (Research Scholar) interacted with IIT-GDC panelists Mr. Ragu, Mr. Rajiv Jain, and Mr. Subbu for GDC I-NCUBATE program on 19th November 2022 (Friday) through online meeting platform.

Faculty Ventures

Dr. A. Kavitha, HoD and her team members Dr. S. Pravin kumar, Dr. R. Nithya and Ms. B. Divya interacted with IIT-GDC panelists Mr. Ragu, Mr. Rajiv Jain, and Mr. Subbu for GDC I-NCUBATE program on 22nd November 2022 (Friday) through online meeting platform.

Dr. S. Pravin Kumar delivered a talk on Deep Learning for Computer Vision, at FDP on "Signal Processing, Artificial Intelligence & Machine Learning in Biomedical Engineering", November 16-18,2022 organized by BME, SSN CE.

Dr. R. Nithya delivered a talk on Detection of retinal disorders using CNN models on "Signal Processing, Artificial Intelligence & Machine Learning in Biomedical Engineering", November 16-18,2022 organized by BME, SSN CE

Dr. N. Venkateswaran delivered a talk on Feature extraction for machine learning on "Signal Processing, Artificial Intelligence & Machine Learning in Biomedical Engineering", November 16-18,2022 organized by BME, SSN CE.

Dr. M. Dhanalakshmi AP/BME and her team members interacted with IIT-GDC panelists Mr. Rajiv Jain, Mr. Subbu and Ms. Surya kumari K for GDC INCUBATE program on 19th November 2022 through online meeting platform.

Faculty Ventures

As Member Secretary of IBSC, **Dr. R. Subashini, AP, BME**, coordinated the Institute Biosafety Committee meeting on 7th Dec 2022, with DBT Nominee Dr A Gopalakrishna, Professor, Dept of Biotechnology, IITM, Chairperson Dr Tanusree Sengupta, SSN, Biosafety Officer **Dr Sachin G Sarate, SSN**, Dr S Sahabudeen, ASP Department of Biotehnology, SRM Institute of Sc & Tech, Dr. Shoba Narayan, ASP, Chettinad Hospital & Research Institute, Dr N Radhakrishnan, AP, Center for advanced studies In Botany, Madras University as External experts attended the meeting and evaluated the projects.

Dr L. Suganthi ASP/BME has attended 8th meeting for BOS – Bio-Medical Engineering Sona College of Technology (Autonomous), Salem on 30-12-2022

Dr.N.Venkateswaran, Professor/BME presented a talk in the FDP on Recent Trends in 5G Communication Networks conducted by Sri Sairam Engineering College on 30th Dec, 2022 on the title, " Wireless Millimeter Wave Communication & Sensing"

Dr. Sachin Gaurishankar Sarate, Assistant Professor BME, completed an online certificate course in "Healthcare Management" from Indian School of Business from August to November 2022 with a score of 99.17%

Dr. S. Arun Karthick attended the Comprehensive viva meeting for the Research scholar Mr Hariraj K, Department of Biomedical Engineering, SRM Institute of Science & Technology, Kattankulathur on 26.12.2022
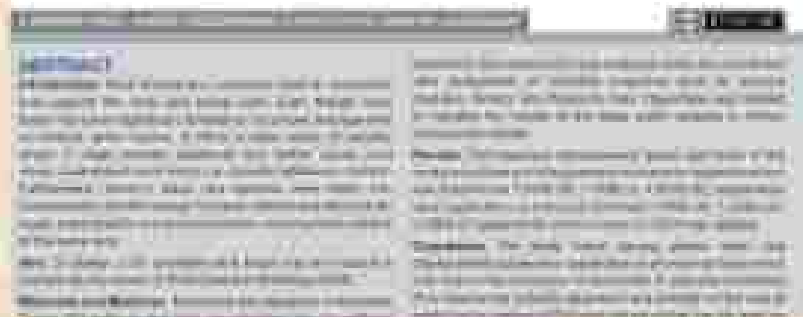
Faculty Ventures

Journal Publications

K Pradeep, S Sriram, **Vijay Jeyakumar** and S A Priyanka "Certain investigations on prediction of dissected aorta using computational fluid dynamic analysis" AIP Conference Proceedings, 2519, 030100-1, 2022, Scopus, 0.402, 10-08-2022.

R Dhanush Babu, **Mahesh Veezhinathan***, S Siva Adithya, Nandhini Jagadeesan, Design and Development of a 3D Printable Neck Brace - A Finite Element Approach, Journal of Clinical and Diagnostic Research, 16(9), PC10-PC15, 2022, Clarivate, 10.7860/JCDR/2022/57066.16975, 09-01-2022.

Chetana Krishnan, **Vijay Jeyakumar**, Alex Noel Joseph Raj Real-Time Eye Tracking Using Heat Maps Malaysian Journal of Computer Science Vol. 35 (4), pp 339-358 2022 Scopus 0.622 https://doi.org/10.22452/mjcs.vol35no4.3 01-11-2022

Faculty Ventures

Nirmala Krishnamoorthi, Sowmiya E C and Vinothkumar C CNN based Detection and Segmentation of Lung Tumor from 3D CT Image, Neuroquantology 20 (7),3984-3998 2022 Scopus, 0.29, 10.14704/NQ.2022.20.7.NQ33490

Sri Ram Murthy Paladugu, P. S. Rama Sreekanth, Santosh Kumar Sahu, K. Naresh, **S. Arun Karthick**, N. Venkateshwaran, Monsuru Ramoni, Rhoda Afriyie Mensah, Oisik Das Ragavanantham Shanmugam, A Comprehensive Review of Self-Healing Polymer, Metal and Ceramic Matrix Composites and Their Modeling Aspects for Aerospace Applications Materials 15, 8521 2022 Clarivate 3.748 https://doi.org/10.3390/ma15238521 29.11.2022

Faculty Ventures

Journal Publications

R Sundareswaran, Mahesh Veezhinathan, M Shanmugapriya, R Dhanish Babu, Assessment and Evaluation of Diabetic Foot using Biothesiometry and Artificial Neural Networks, Journal of Clinical and Diagnostic Research, Vol-16(11): YC05-YC10, 2022, Clarivate, 10.7860/JCDR/2022/56348.17168, 1.11.2022

Srinivasan, Viswanath, Praveen Kumar Govarthan, S. Om Prakash, and Dhanalakshmi Munirathinam, Composite blades for lower extremity amputees, IOP Conference Series: Materials Science and Engineering, vol. 1258, no. 1, p. 012044, 2022, Scopus, 0.48, 10.1088/1757-899X/1258/1/012044, 1.11.2022

Faculty Ventures

Vijay Jeyakumar, Prema Sundaram, Nithya Ramapathiran, Pradeep, Kannan, Virtual Reality-Based Rehabilitation Gaming System, Editors: Lim, C.P., Vaidya, A., Chen, Y.W., Jain, V., Jain, L.C., Springer 229, 135-180, https://doi.org/10.1007/978-3-031-11170-9_6, 9/30/2022

Generation of Pulse Sequence Using EMG Signals for Application in Transfemoral Prosthesis, R Dhanush Babu, Mahesh Veezhinathan, Dhanalakshmi Munirathnam and V Aishwarya IOP Conf Series: Materials Science and Engineering, 1272 (2022) 012013 2022, Scopus 0.48, doi:10.1088/1757-899X/1272/1/012013, 12/30/2022

Faculty Ventures

Veezhinathan, Mahesh, Sundareswaran Raman, Nikileswari Lakshminarayanan, Varsha Seshadri, and Harsha Balakrishnan. "Comparative study of dental implant materials using digraph techniques." In AIP Conference Proceedings, vol. 2516, no. 1, p. 210033. AIP Publishing LLC, 2022

Comparative study of dental implant materials using d techniques

CONFERENCE PUBLICATIONS

Dr Vijay Jeyakumar presented a paper titled "Ultrasonic Sterilisation" in IEEE 19th India Council International Conference (INDICON 2022) on November 26, 2022 hosted by IEEE Kerala section.

Faculty Ventures

S. Manivannan and N. Venkateswaran Professor/BME presented a paper titled, "Brain Tumor Segmentation Using 3D ResUNET34" in the 2022 International Conference on Futuristic Technologies (INCOFT) during 25th & 27th November 2022.

Nirmala.K, Naveen P, Kiran Raj A, Mohammed Faraz presented a paper titled "Study of Microvascular Morphology from Optical Image of Nailfold Capillary using Image Processing Techniques" in the IEEE International Conference on Futuristic Technologies, organised by S.G.Balekundri Institute of Technology, Shivabasava Nagar, Nehru Nagar, Belagavi, during 25-26, November 2022.

Arun Karthick Selvam, Nirmala K, Jayashree P, Shanmathi R, Varsha RG presented a paper entitled "ACQUISITION AND ANALYSIS OF ERG SIGNAL FOR RETINAL DISORDERS" in the 2022 International Conference on Futuristic Technologies (INCOFT) organized by S. G Balekundri Institute of Technology (SGBIT), Belagavi during 25-27, Nov 2022.

Rebecca Maria G, Anjana, Arthi V, Dhanalakshmi M, Dhanush Babu, Machine Learning based vowel analysis in severity level detection of Voice Pathology, IEEE 6th International Conference on Electronics, Communication and Aerospace Technology ICECA 2022, 1-3 Dec 2022, pp. 973-976, Coimbatore, India.

Faculty Ventures

PROJECT NEWS

Project Title: Wearable robot based Ambient Assisted Living (AAL) for visually impaired P I: Dr. M. Dhanalakshmi, AP/BME, Co-PI: Dr. G.Satheeshkumar, Associate Professor, Department of Mechanical Engineering, Dr SV Jansi Rani, Associate Professor in the Department of Computer Science, Total Budget (INR): 27,66,764, Funding Agency: SERB POWER.

Dr. M. Dhanalakshmi submitted an internal faculty funding project entitled "Design and implementation of a novel prototype of a Knee Brace to reduce pain due to Osteo-degenerative Diseases"" for a duration of 12 months and with a budget of 4 Lakhs."

Ms. Divya B (AP/BME) submitted a proposal titled "VR for NDD", Under DAAD RISE SCHEME. The proposal was accepted, and will be published in offer database for potential applicants to consider

Dr.A.Kavitha submitted a proposal titled "Silent speech recognition using facial electromyography", Under DAAD RISE SCHEME. The proposal was accepted and will be published in the offer database for potential applicants to consider.

Dr. A. Kavitha HOD/BME attended an externally funded project Proposal meeting with the Empowered Committee of NASFon 18th Nov 2022.

Faculty Ventures

The following project was sanctioned by ICAR NASF.

Title of the project proposal "Artificial Intelligence &IoT based Smart Vet Ecosystem for Animal Health, Patient Care & Precision Livestock Farming"

PI : Dr. Selvaraj Palanisamy, TNVASU, Chennai
CCPI 1 Prof. Sanjay Kumar Singh, IIT, BHU, Varanasi
CCPI 2 Dr. Sameer Shrivastava, ICAR-IVRI, Izatnagar
CCPI 3 Dr. Pandiyarasan Veluswamy, IIIT, Design & Manufacturing, Chennai
CCPI 4: Dr. A. Kavitha, SSN College of Engineering, Chennai

Funding Agency: ICAR NASF
Total budget : ₹ 215.39632 lakhs
Period: Three years

Dr. S. Arun Karthick, ASP/BME along with Dr. S. Pravin Kumar, Dr. Sachin Sarate and Ms. Sindhuja marry attended the project review meeting for our sanctioned DST-BDTD project and presented the progress of the work to the Expert Advisory Group on 16.12.2022.

Faculty Ventures

PATENT INFORMATION

Chetana Krishnan, Vijay Jeyakumar, Baseline Static Veloprine Foot Pressure Mapping System, Patent Application No 202241049663 filed on 30.08.2022, Published in on The Patent Office Journal No. 36/2022 Dated 09/09/2022, Page 56635.

RESEARCH SCHOLAR ACTIVITY

Dr. S. Arun Karthick, ASP/BME conducted the confirmation DC Meeting for his full-time research scholar, Mrs. Thankam Regi on 25.11.2022

Mrs. Thankam Regi (Reg No. 20297991115) working under the guidance of Dr. S. Arun Karthick ASP/BME gave her second research seminar prior to the PhD confirmation meeting on 25.11.2022

Mrs. Thankam Regi (Reg No. 20297991115) working under the guidance of Dr. S. Arun Karthick attended the "UNLEASH-Shiv Nadar Institution of Eminence, Noida - Hackathon" focusing on SDG 15 on 4-5 Nov 2022

Ms. R. Nithiya (Reg No. 23254991341 has got PhD admission in Anna University for January 2023 session under the supervision of Dr Vijay Jeyakumar, ASP, BME.

Ms. Saritha B (Reg No. 17244697637) scholar of Dr. Vijay Jeyakumar has submitted the thesis of her research work to Anna University on December 27, 2022

Faculty Ventures

FACULTY DEVELOPMENT PROGRAMMES ATTENDED

Dr. S. Arun Karthick, ASP/BME has attended one day International Online Webinar on "Upcoming Trends in Wearable Electronics and Internet of Things (IoT)" organized by National Institute of Technical Teachers Training and Research, Chennai on 15.10.2022.

Dr. N. Venkateswaran, Professor, attended 2-day National level workshop on," Revised NAAC accreditation process - Acing quantitative and Qualitative metrics "Organized by IQAC, Kumara guru College of Technology, Coimbatore on 12th and 13th of October 2022.

Dr. S.Saranya, Assistant Professor, attended 3-day FDP Programme on Signal Processing, Artificial Intelligence & Machine Learning in Biomedical Engineering" Conducted by Department of BME, SSNCE from 16.11.2022-18.11.2022

Ms.B.Divya, Assistant Professor, participated in the faculty development Programme on Signal Processing, Artificial Intelligence, and Machine Learning in Biomedical Engineering organized by the department of biomedical engineering held on November 16-18, 2022.

Dr. S. Saranya, Assistant Professor has attended "LSRB-LSED Webinar with academia to evolve LSED roadmap" organized by DEBEL, DRDO on 29.11.2022.

Dr. N. Venkateswaran attended the one-day National Workshop- online on "National Institutional Ranking Framework: A Way to Proceed and Self-Evaluation of the Institution" on the eve of World Quality Day 2022, Nov 12, 2022, at VIGNAN's Foundation for Science, Technology and Research (VFSTR), Andhra Pradesh

Faculty Ventures

Dr. R. Nithya, Assistant Professor has attended "LSRB-LSBD WEBINAR WITH ACADEMIA TO EVOLVE LSBD ROADMAP" organized by DEBEL, DRDO on 29.11.2022

Dr. A. Kavitha HoD/BME attended per incubation workshop conducted by Mr Chandran, Incubation centre, SSNCE, on 18th Nov 2022

Dr.S.Saranya attended a one day webinar on Research Verticals of FAB LSRB DRDO Panel on 22.12.2022 organised by Life sciences research board, Bangalore

Dr.K.Nirmala attended a webinar on "Converting research into patents" organised by Turnip Innovations on 03.12.2022

Dr. Sachin Gaurishankar Sarate attended a one week online faculty development program on "Emerging Technologies on Biomedical Applications" organised by the Department of Biomedical Engineering, School of Bio and Chemical Engineering, Sathyabama Institute of Science and Technology from 12/12/2022 to 17/12/2022

Dr. S. Arun Karthick ASP/BME attended the session on "ISO 14971 and IEC 62366 Risk Management and Usability Engineering for Medical Devices", organized by Society for Innovation and Entrepreneurship (SINE), IIT-Bombay during 9.12.2022

Dr. S. Pravin Kumar, Associate Professor, completed the NPTEL 8-weeks Foundation Course on "Virtual Reality and Augmented Reality" Conducted by Prof. Manivannan, IITM from 17th October 2022 to 3rd December 2022 (online) and 19th - 24th December 2022 in-campus.

Faculty Ventures

EVENTS ORGANIZED

Dr Vijay Jeyakumar, ASP, BME organized a Two-day Boot camp on Fusion 360 in association with Autodesk Corporation during October 7 - 8, 2022. The camp functioned as a precursor to the mega event to be organized at Anna University, in January, in association with the Government of Tamil Nādu and the Chief Minister's Naan Mudhalvan scheme. This time around, the Fusion 360 boot camp saw the registration of over 195 teams from all over Tamil Nadu, out of which we have among which 149 teams comprising 379 students were shortlisted.

Dr. K. Nirmala, AsP/BME organised a virtual Guest talk titled "Introduction to Neuromorphic Circuits" delivered by Dr. Binsu J. Kailath, Professor, Department of Electronics and Communication Engineering, IIITDM Kanchipuram on 24.11.2022 for Second Year Biomedical Engineering students.

Dr. S. Arun Karthick organized a guest lecture titled "Collagen Based Materials for Tissue Engineering Application" delivered by "Dr. S. Agnes Mary, Young Scientist Fellow, ICMR DHR, CSIR-Central Leather Research Institute (CSIR CLRI), Chennai for the III Year BME students on 24.11.2022.

Dr. L. Suganthi, **Dr. K. Nirmala** & **Dr. S. Arun Karthick** Organized a guest lecture titled "Indian Standards for Medical Devices and In-Vitro Diagnostics" delivered by "Nagavarshini M, Scientist B, Medical Equipment and Hospital Planning (MHD), Bureau of Indian Standards (BIS) Headquarters, New Delhi - 110002" for the II, III, IV Year BME students on 26.11.2022.

Dr. S. Saranya and **Ms. B. Divya** organized a guest lecture titled "Biosensors and its clinical applications" delivered by "Dr D Kalyani, Center for Medical Electronics, Anna University, Chennai, for III-year UG and I-year PG students on 09.11.2022.

Faculty Ventures

Dr. S.Saranya and Ms.B.Divya organized a one-day hands on training on "PCB Designing using Easy-EDA Software", conducted by " Dr R.Parameshwari, Medical System Design Lab, Department of EEE, Anna University, Chennai, for III year UG students on 11/11/2022.

Ms.Divya.B and Dr. S. Saranya organized a guest lecture titled "Brain-Computer Interface- Trends and Challenges" delivered by Mr Karthik R, Co-founder, and CEO, Neurostellar, IITM Research Park on "25.11.2022" for III, IV Year UG and II Year PG students.

Dr. N. Venkateswaran Prof/BME, Dr. M. Dhanalakshmi, AP/BME and Dr. R. Nithya AP/BME organized a 3-day FDP Programme on Signal Processing, Artificial Intelligence & Machine Learning in Biomedical Engineering" in the Department of BME, SSNCE from 16.11.2022-18.11.2022

Dr. S. Pravin Kumar, AsP/BME, organized an Invited Talk on "IMAGE-GUIDED SURGERY AND SURGICAL ROBOTICS," delivered by Dr. Nirav Patel, Department of Engineering Design, IIT Madras, as part of IEEE- EMBS inauguration on 30.11.22

SSN College of Engineering and Shiv Nadar University organized "Invente'22, a National level Technical Symposium" during 1 & 2 Dec 2022. The department of Biomedical Engineering co-ordinated the programme with the central team Mr Nandakumar Subburaman, CEO & President at Perfint Healthcare Ltd., was invited as the Chief Guest. The department organized a workshop on "Optics in Biomedical Engineering" Dr Srijith, Dept of ECE, IIITDM, Kancheepuram delivered the expert talk. Around 300 students from various colleges participated in technical and non-technical events organized in the department by our students. Dr. M. Dhanalakshmi AP/BME co-ordinated the Invente programme

Student Pursuits

Co-curricular Activities

Devadharshini S from III yr BME completed a NPTEL course on Electrocardiogram from 25/07/2022 to 19/08/2022 and the examination was held on 25/09/2022.

Giridharani R from III yr BME completed a Medical Robotics Industrial Internship from 08/08/2022 to 09/09/2022 via online mode. She also participated in a Cloud Computing Healthcare Workshop conducted by SRMIST on 22/09/2022 and 23/09/2022

Supriya RS from III yr BME finished a Hospital Internship at Apollo Hospitals from 10/08/2022 to 16/08/2022

S.Devadharshini of III year BME volunteered as Student Mentor at Autodesk Fusion 360 Bootcamp conducted by Department of Biomedical Engineering, SSNCE on Oct 7-8, 2022

S.Devadharshini of III year BME completed an online course on Supervised Machine Learning in Coursera from 16/09/2022 to 10/10/2022.She has also completed a NPTEL course on Design Technology and Innovation with a final score of 85% from 25/08/22 to 16/09/22

Abishek P.S of III year BME participated in the Autodesk Fusion 360 Bootcamp conducted by Department of Biomedical Engineering, SSNCE on Oct 7-8, 2022

Student Pursuits

Shri Thrisha of III year BME volunteered as Student Mentor at Autodesk Fusion 360 Bootcamp conducted by Department of Biomedical Engineering, SSNCE on Oct 7-8, 2022. She has also completed a NPTEL course on Organ Printing with a final score of 75% from 25/07/22 to 16/09/22

The following students have volunteered for the Autodesk Fusion 360 Bootcamp conducted by SSN College of Engineering in association with Naan Mudhalvan Scheme from 27.09.2022 to 08.10.2022 at the Department of Biomedical engineering, SSNCE:

1) A Anusha III year BME
2) Giridharani R III Year BME
3) S Shivapriya III Year BME
4) R S Supriya III Year BME

Harish Narayanan from III year BME completed a NPTEL course on Introduction to Machine Learning with a final score of 70% from 25/08/22 to 16/09/22 He has also participated in the Autodesk Fusion 360 Bootcamp conducted by Department of Biomedical Engineering, SSNCE on Oct 7-8, 2022

I & II year M.E students attended an internship program at HTIC. It is a curious program conducted by IITM HTIC Med Tech incubator during 12 -14 December 2022 at IITM Research park, Chennai

Student Pursuits

Extra-curricular Activities

N.Srinidhi from Final Year BME won first place in the State Level Inter Engineering Table Tennis Tournament- Seetharaman & Lakshmi Ammal Memorial Trophy conducted on 29.09.2022 & 30.09.2022 at Sri Sairam Engineering College

The following students have volunteered for the IEEE Day celebrations conducted by SSNCE IEEE Student Branch from 20.10.2022 to 28.10.2022

      1) Shri Thrisha Arunkumar III Year BME
      2) Abirami Natarajan III Year BME
      3) Abishek P.S. III Year BME

Illakiyabharathi, Kalpanadevi from II year BME have volunteered for the NSS Orientation Event on 27/10/2022

Induja MC from II year BME participated in the FUSION 360 DESIGN CHALLENGE under NAAN MUDHALVAN Programme on October 7-8, 2022

The following students from the II Year BME participated in ROLE OF YOUTH IN NATION BUILDING-DEBATE SESSION on 27/10/2022

      1. Karishma Sathish Kumar
      2. Sarvajith P
      3. Renukka M
      4. Shivani K

Jeni Christina.G from III Year BME participated in Tesla events conducted by the IEEE SB of SSN on 29.09.2022

Student Pursuits

The following students from the II Year BME participated in Word Audiologist DAY celebration on 12/10/2022.

1. Aishwarya
2. Geetika H P
3. Hari Harasudhan M
4. Ilakiya Bharathi
5. Kapana Devi
6. Karishma Sathish Kumar
7. Karthick Siva
8. Krithuika B
9. KrupaSagar M
10. Renukka Shanmugam
11. Sarvajith
12. Shivani K
13. Sibi Chakkaravarthy
14. Vayishnavee

Sharmila G from III Year BME had participated in the Tesla Events conducted by the IEEE SB on 29.09.2022

Deepika K and Varsha V II year BME were selected to participate in Zonal Competition taking place at Sairam College of Engineering ON 6th December 2022

Pramod Rajan S from III Year BMF had participated in Tesla Events conducted by IEEE SB of SSN on 29.09.2022

Student Pursuits

Unleash Experience

-Poorvica Ramanand, III Year BME

After months of waiting, UNLEASH Global Innovation Lab 2022 became a reality and I'm so grateful to have been one among the 1000 participants from all over the world to be a part of this prestigious cohort. The 10-day event was held at the sprawling Infosys Campus In Mysore and was an effort to gather young adults between the ages of 18-35 to come up with solutions for the Sustainable Development Goals(SDG) In teams.

The beauty of Unleash was the diversity of people- from different countries, cultures, backgrounds and from all walks of life. The SDG that I worked on was Non-Communicable Diseases (SDG 3) and we as a team came up with a solution to enhance dietary patterns for women who are pregnant/planning to get pregnant so as to combat the problem of Gestational Diabetes. We came up with a solution that was passed through several gate checks and reviews. I gave a 3-minute presentation on behalf of my team at the end of the 6th day in front of the Chair of the World Diabetes Foundation and a Senior from Novo Nordisk.

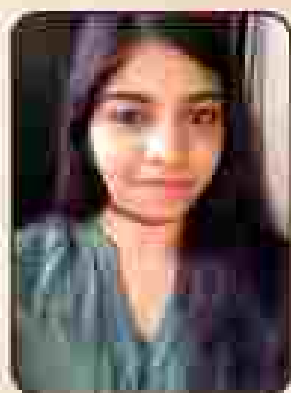UNLEASH Global Innovation Lab 2022

Student Pursuits

A visit to Mysore Palace was a beautiful cultural experience that took me back in time. To also be able to listen to the wise words of Nobel Laureate, Kailash Satyarthi in person was yet another cherry on top of this enriching experience. Being one of the youngest participants in the group of 1000, that was narrowed down from an original number of 19,000 applicants, I am grateful to have gotten this prestigious and one of a kind opportunity to enhance my knowledge specifically in the field of healthcare. I thank the Biomedical Department of SSN College of Engineering, my teachers from BME Department and peers for having supported me and made this experience come to life.

Poorvisz Ramanbid participating at the UNLEASH event

Placement News

In addition to more than half of the students of the Biomedical Department being placed, 3 more students have obtained their offers from Comcast. Nithyasree, Bhavithra and Shruthi have successfully been placed in this Dream company as a Development Engineer.

Alumni Corner

Ashok Kumar S K - Founder & CEO – Vaashvi Foundation, an NGO (BME - 2018 Batch) visited the department and interacted with the faculty regarding his organisation

Department Visit by Alumni Ashok Kumar S K

Viswanath Srinivasan, QMS Consultant, Biocompatibility/Toxicology Specialist, Internal QMS auditor, and Sangeetha, pursuing MS research IITM (Batch of 2019), visited the department on 2.12.22 and acted as jury for Designing competition (Department event) as a part of Invente and had a discussion with Dr. A. Kavitha and Dr. M Dhanalakshmi.

Alumni Corner

Preeti Pratap (Batch of 2011_BME) is an accomplished product development specialist with a background in healthcare and bioengineering. She is a proud alumnus of SSN College of Engineering, where she completed her Bachelor of Engineering in Biomedical Engineering. After graduating from SSN, Preeti continued her education at the University of Illinois, where she completed her master's degree in Bioengineering with top honors and assistantships under domain-leading research professors, including a research scholarship and travel grant from the German government. Since graduating from the University of Illinois, Preeti has gained 8 years of professional experience in healthcare R&D where she led the successful launch of several healthcare products, including the commercialization of a novel cryoablation technology as an alternative to hysterectomy for women suffering from excessive uterine bleeding. Preeti has founded her own company, Lotus Laboratories Inc., where she is currently building technology optimized for disability but usable by all.

She delivered a talk about challenges faced in the Biomedical Industry on 2.12.22 through online mode to second and third year Biomedical students.

Preeti Pratap giving a talk on the challenges faced in the Biomedical Industry

Editorial Board