



# Vel Tech

Rangarajan Dr. Sagunthala  
R&D Institute of Science and Technology  
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

School of  
Electrical &  
Communication

Department of  
Biomedical  
Engineering

# SYMBIOSIS

**A BIOMED COLLAB NEWSLETTER**

*AY: 2023-2024*

*5<sup>th</sup> Edition*

## **Department of Biomedical Engineering**

Vel Tech is one of the few Institutes offering Biomedical Engineering in Tamil Nadu, with an immense aim of providing a different learning environment to inculcate out-of-box thinking. The department of Biomedical Engineering was established in 2017 under the school of Electrical and Communication with an aim to connect engineering and biology. True to its mission, the department is propelling itself to become a major educator in biomedical engineering by employing diverse workforce. The department has risen to the standards by setting up world class laboratories including Brain Computer Interface (BCI), Biomechanics, Biomedical Instrumentation, and Diagnostic and Therapeutic Equipment.

**Vision** - To be recognized as an excellent centre in Biomedical Engineering for imparting quality technical education that leads to transformative advancements in healthcare industries

### **Mission**

- M1: To infuse critical thinking skills by providing a strong foundation that enables the students for continuing education
- M2: To create an ambience of academic excellence with state-of-the-art laboratories to compete globally
- M3: To establish a dynamic research environment that integrates advanced healthcare technologies for innovation and progress

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## ***Editor's Desk***

The Editors take a great pleasure in presenting the annual newsletter (for AY: 2023-2024) of the Department of Biomedical Engineering, SYMBIOSIS, 5<sup>th</sup> Edition.

Once again, we would like to start this newsletter with a famous quote from a Nobel laureate, Carl Wieman: “Education is about learning to make better decisions”. In the academic year of 2023-2024, both faculties and students have given their best.

So, we take pride in applauding their efforts and successes/achievements. Besides, this newsletter has a slightly new look to make the readers to understand information in crisp manner.

We hope the readers enjoy and also we will be back in next year with another vibrant issue of SYMBIOSIS with all the information from our department that never fails to stir the enthusiasm.

*Faculty Editor - Dr. K. Ganeshlenin, PhD*

*Associate Professor (TTS2843)*

*Student Editors – Nikita (vtu22402) &*

*Yash Sharma (vtu23335)*

## ***HoD's Desk:***



I am very happy to present our department's academic progression, specially students and faculty members achievements and accomplishments through this *News Bulletin*.

**Dr. D. Balasubramaniam**  
*Head of the Department,  
Biomedical Engineering.*

## **FACULTY RESEARCH ACCOMPLISHMENTS**

### **Publications - 2023**

**12** Faculty Members have published **32** articles/book chapters/book in the peer-reviewed journals and conferences indexed in Scopus and Web of Science (WoS)

### **Publications - 2024**

**12** Faculty Members have published **9** articles/book chapters/book in the peer-reviewed journals and conferences indexed in Scopus and Web of Science (WoS)

**Full Time PhD Scholars – 5**



## Publications 2023



**Total - 32**

**Scopus  
Articles  
10**

**WoS  
Articles  
7**

**Conferences  
Articles  
8**

**Book / Book  
Chapters  
7**

## Publications As on May 2024

**Total - 9**

**Scopus  
Articles  
3**

**WoS  
Articles  
6**

# Patents

**Published - 3**

**Granted - 2**

## Granted Patent Details



**Dr. Masoodhu Banu,  
TTS2309 / Professor,  
Biomedical Engineering  
No. of Granted Patents - 2**





क्रम सं/SL No :044183900



पेटेंट कार्यालय, भारत सरकार

The Patent Office, Government Of India

पेटेंट प्रमाण पत्र

Patent Certificate

(पेटेंट नियमवली का नियम 74)

(Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No.

526643

आवेदन सं. / Application No.

202141044586

फाइल करने की तारीख / Date of Filing

01/10/2021

पेटेंटी / Patentee

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology

आविष्कारकों का नाम / Name of Inventor(s)

1.R.Prasanna 2.Dr.N.Masoodhu Banu 3.Dr.S.Sivaperumal  
4.R.Rachel Jeeva Light

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित *Graphene Based Screen Printed Antenna on Flexible Substrates for Wireless Energy Harvesting Applications* नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख अक्टूबर 2021 के पहले दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled *Graphene Based Screen Printed Antenna on Flexible Substrates for Wireless Energy Harvesting Applications* as disclosed in the above mentioned application for the term of 20 years from the 1<sup>st</sup> day of October 2021 in accordance with the provisions of the Patents Act, 1970.



अनुदान की तारीख  
Date of Grant : 14/03/2024

उत्तरी नं. 01/10/2021  
पेटेंट नियंत्रक  
Controller of Patents

**नोट** - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, अक्टूबर 2023 के पहले दिन को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

**Note** - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 1<sup>st</sup> day of October 2023 and on the same day in every year thereafter.





पेटेंट संख्या No 516697



पेटेंट कार्यालय, भारत सरकार The Patent Office, Government Of India

पेटेंट प्रमाण पत्र | Patent Certificate

(पेटेंट नियमों का नियम 74) | (Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No. : 516697  
आवेदन सं. / Application No. : 202141052733  
प्रदान करने की तारीख / Date of Filing : 17/11/2021  
पेटेंटी / Patentee : Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology  
अविष्कारकों का नाम / Name of Inventor(s) : 1.R.Prasanna 2.Dr.N.Masoodhu Banu 3.Dr.S.Sivaperumal  
4.R.Rachel Jeeva Light

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथावर्णित *A Compact Unidirectional Graphene based Array antenna with Efficient Phase Optimized feeding structure* नामक अविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख नवम्बर 2021 के सप्तहर्षे दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदान किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled *A Compact Unidirectional Graphene based Array antenna with Efficient Phase Optimized feeding structure* as disclosed in the above mentioned application for the term of 20 years from the 17<sup>th</sup> day of November 2021 in accordance with the provisions of the Patents Act, 1970.



अनुदान की तारीख : 28/02/2024  
Date of Grant :

डायरेक्टर पेटेंट्स  
Controller of Patents

नोट - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, सन् 2023 के सत्रहवें दिन को और उसके पचास वर्षों तक से उसी दिन पैदा होगी।

Note - The fee for renewal of this patent, if it is to be maintained, will fall / has fallen due on 17<sup>th</sup> day of November 2023 and on the same day in every year thereafter.

# Research Proposals Submitted

**Total Amount – Rs. 2,50,08,141 /-**

S. No	Name of the Investigator	Funding Agency	Funding Scheme & Year of Submission	Amount (Rs.)
1	PI: Dr.N.M.Masoodhu Banu & Co-PI: Dr.Thiyam Deepa Beeta	SERB	POWER & 2024	Rs. 29,98,640
2	PI: Dr. Thiyam Deepa Beeta Co-PI: Dr. N. M. Masoodhu Banu	SERB	SURE & 2023	Rs. 28,90,707
3	PI: Dr. Saranya G Co-PI: Dr. Thiyam Deepa Beeta & Ms. R. Shelishiyah	SERB	POWER & 2024	Rs. 18,66,305
4	PI: Dr.E.Madeshwari Co-PI: Dr. Monisha Sampath	SERB	POWER & 2024	Rs. 28,86,840
5	PI: Dr. A. Paramasivam, Co-PIs: Dr. R. Dhanaraj, Dr. C. Emmanuel & Dr. S. Srinivas	DST	TIDE & 2023	Rs. 94,81,920
6	PI: Dr. A. Paramasivam, Co-PIs: Dr. R. Dhanaraj & Dr. S. Prashanth	ICSSR	MAJOR & 2023	Rs. 24,28,000
7	PI: Dr. Priya R A Co-PI: Dr. S.Hema	TNSCST	SCIENCE AND TECHNOLOGY PROJECT SCHEME & 2023	Rs. 3,32,000
8	PI: Dr. Chinnathambi Co-PI: Dr.M.Muthalakshmi	SERB	SURE & 2023	Rs. 17,00,000
9	PI: Dr.J S S Allwin Ebinesar Co-PI: Dr.M.Muthalakshmi	TNSCST	SCIENCE AND TECHNOLOGY PROJECT SCHEME & 2023	Rs. 4,23,729

# Research Fund/Grant



**3 Faculty Members** have received  
**SEED Grant** worth of **Rs. 5,48,000/-**



- Dr. M. Muthalakshmi (TTS3373)
- Assistant Professor
- Amount Sanctioned - Rs. 1,98,000



- Dr. A. Paramasivam (TTS3273)
- Assistant Professor
- Amount Sanctioned - Rs. 2.00,000



- Dr. E. Madeshwari (TTS3681)
- Assistant Professor
- Amount Sanctioned - Rs. 1,50,000

# Research Development Fund



**2 Faculty Members** have received **Research Development Fund** worth of **Rs. 1,00,000/-** for having good IF, Q1 and/or high number of Indexed Journal Publications



**Dr. A. Paramasivam**  
(TTS3273)  
Assistant Professor  
Biomedical Engineering  
Amount Sanctioned –  
Rs. 50,000 /-  
Total Publications – 9  
IF (CY: 2023) – 5

**Dr. K. Ganesh**  
(TTS284)  
Assistant Professor  
Biomedical Engineering  
Amount Sanctioned –  
Rs. 50,000 /-  
Q1 Publications – 1  
IF (CY: 2023) – 5



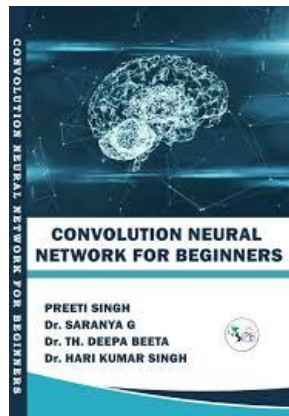
# Book Publications

**Dr. G. Saranya**

**TTS2721 /**

**Assoc. Professor**

**Biomedical Engineering**

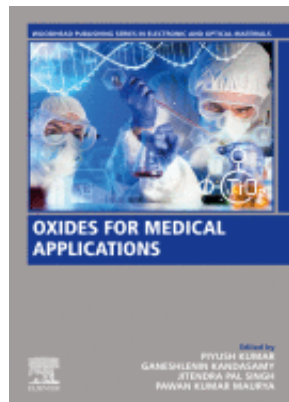


**Dr. Thiyaam Deepa Beta**

**TTS2872 /**

**Assoc. Professor**

**Biomedical Engineering**



**Dr. K. Ganeshlenin**

**TTS2843 /**

**Assoc. Professor**

**Biomedical Engineering**

**3 Faculty Members** have published 2 Books with National & International Publishers

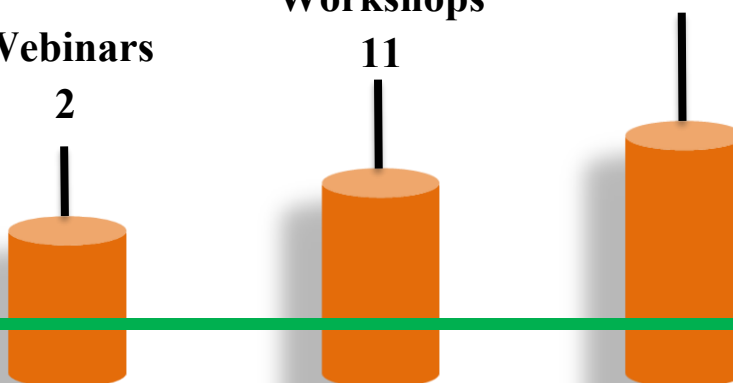
## Courses/Webinars/Workshops/FDPs participated by Faculties

**Short-Term Course**  
**1**

**Webinars**  
**2**

**Workshops**  
**11**

**Faculty Development Programs**  
**28**



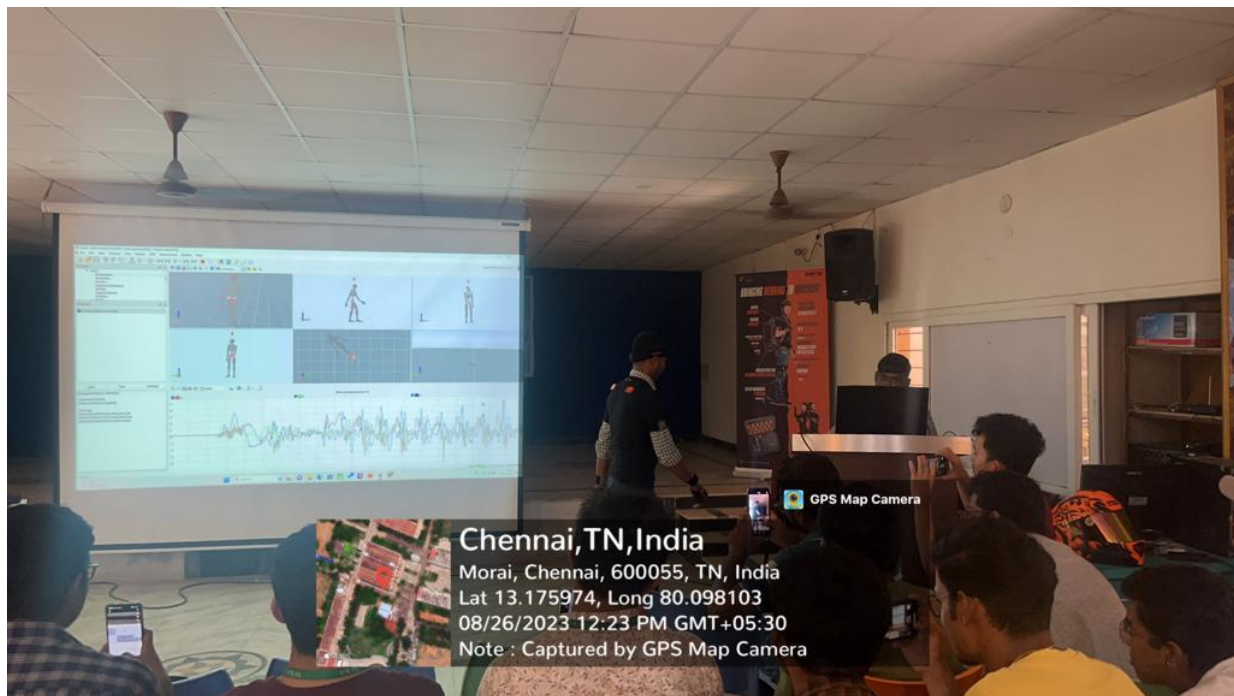
# Programs/Events Organized by the Department of Biomedical

S. No.	Name of the Event	Workshops/Courses/ Technical Events/ Hospital Visits/ FDPs	Event Dates
1	Application of Biomechanics in Ergonomics	Faculty & Students Workshop	24th - 25th August, 2023
2	Biomedical Engineers Career in Advanced World	Guest Lecture	22nd January, 2024
3	Hands-on Training on Respiratory Care Biomedical Devices	Students Workshop	8th - 9th February, 2024
4	Geospatial Modeling in Precision Agriculture and plant Science	Industry Higher Learning Course	9th - 11th March, 2024
6	Rado lab visit	Hospital Lab visit	19th March, 2024
7	RoomScape	Technical Event for Lavaza	21st March, 2024
8	Recent Research Trends in Biomedical Engineering	Faculty Development Program (FDP)	11th - 15th March, 2024



# Workshop on Application of Biomechanics in Ergonomics

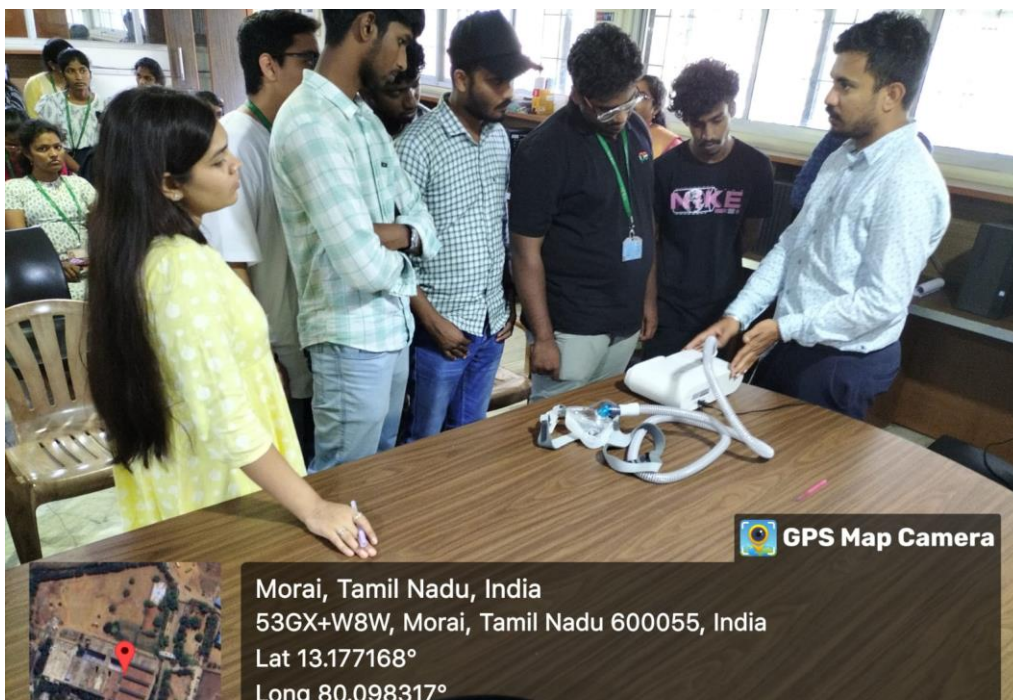
(24th - 25th August, 2023)



# Hands-on Training on Respiratory Care Biomedical Devices

(8th - 9th February, 2024)





## STUDENT ACCOMPLISHMENTS

S. No	VTU NO	Name of the Student	Some Notable Achievements Details
1	VTU12076	Kaushal Mayur M	2 <sup>nd</sup> prize in paper presentation (QUINTESSENCE 2024) at SRM Easwari Engineering College
2	VTU16957	Aman Mohammed Basheer	
3	VTU21477	Smriti Ghimire	<b>1<sup>st</sup> prize in BIOCONNECTION (ASKLEPIUS'23)</b> at Velammal Institute of Technology
4	VTU23890	Naveena M	2 <sup>nd</sup> prize in paper presentation (TRIDENT'24) at Velammal Institute of Technology,
5	VTU21502	J. S. Misbaah Malik	

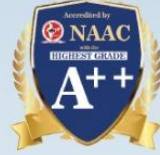
6	VTU21985	Keerthi Varshini S	Thiruvallur
7	VTU21373	Sameera Farhat A	3 <sup>rd</sup> prize in a public speaking contest (VelTech Xtreme) at Veltech university
8	VTU23548	Ashwin Manoj	Published paper in Engineering Proceeding Journal, 2023, 58, 33.10.3390/ecsa-10-16253
9	VTU18106	Pittu Pavan Sai Kiran Reddy	Published paper in Engineering Proceeding Journal, 2023, 58(1), 50.10.3390/ecsa-10-16002

**Students Published – 13 (Scopus Articles)  
& 13 (Conferences Papers)**





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## Xtreme | March - 2024

A public speaking contest

**OFFICE OF  
CAMPUS TO CORPORATE**

**Congratulations!**  
WINNERS



**1<sup>st</sup> PRIZE**  
**Rs. 5000 /-**

**ROSHEEGA. P. K**  
VTU21433  
2<sup>nd</sup> yr - IT



**2<sup>nd</sup> PRIZE**  
**Rs. 3000 /-**

**B. BHUVANESH**  
VTU25718  
1<sup>st</sup> yr - CSE



**3<sup>rd</sup> PRIZE**  
**Rs. 2000 /-**

**SAMEERA FARHAT. A**  
VTU21373  
2<sup>nd</sup> yr - BME



# Abroad Internships



10 Students

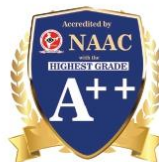


S. NO.	VTU NO.	STUDENT NAME	INTERNATIONAL INSTITUTES	INTERNSHIP DURATION
1	12076	Kaushal Mayur M	Ming Chi University of Technology, Taiwan	September 2023 To January 2024
2	15973	Shanmathi	National Chung Cheng University, Taiwan	September 2023 To February 2024
3	18106	Pittu Pavan Sai Kiran Reddy	National Chung Hsing University, Taiwan	February 2024 To June 2024
4	18728	Devanand kumar sah	National Innovation Center, Taiwan	September 2023 To May 2024
5	16805	Dhiya Sabu	Ming Chi University of Technology, Taiwan	September 2023 To January 2024
6	12390	Abimanyu	National Chung Cheng University, Taiwan	September 2023 to February 2024
7	18108	Bidheyak Pokharel	National Innovation Center, Taiwan	September 2023 To May 2024
8	18655	Sachin Devkota	Riga Technical University, Latvia	January 2024 To June 2024
9	18647	Dikendra Baduwal	Bioinformatics institute, A*STAR, Singapore	July 2023 To January 2024
10	16957	Aman Mohammed Basheer	Ming Chi University of Science & Technology, Taiwan	September 2023 To January 2024





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*Office of International Relations...!!!*

*Congratulates...*

**Batch:**  
**2020-2024**



**Semester Abroad  
Program**

**Mr. Sachin Devkota**  
**VTU 18655 / Biomed**

**Research Work as  
Final Year Project Work**

Period of Internship  
Jan 2024 - June 2024



**Latvia**



**Tollfree**  
**1800 212 7669**



**Website**  
**[www.veltech.edu.in](http://www.veltech.edu.in)**



**No.42, Avadi - Vel Tech**  
**Road, Vel Nagar, Avadi,**  
**Chennai - 600 062**

# Placements



**Four students** who have opted for placements are placed in **Core & Other Companies**



episource



**Mu Sigma**  
DO THE MATH



HEALTHCARE SOLUTIONS P. LTD



# Vel Tech

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R&D Institute of Science and Technology  
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## **CONTACT US:**

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Vel Nagar, Avadi, Chennai – 600062.  
Tamil Nadu, India

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