MedBEAT

Dr. N.G.P INSTITUTE OF TECHNOLOGY

(Affiliated to Anna University, Chennai, Approved by AICTE, New Delhi, Accredited by NBA, NAAC& Recognized by UGC) Dr N G P Nagar, Kalapatti Road, Coimbatore 641 048.
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Website: www.drngpit.ac.in

DEPARTMENT OF BIOMEDICAL ENGINEERING

Email: biomedicaloffice@drngpit.ac.in

VISION

To produce quality biomedical engineers with strong **technical knowledge** and excellence in **engineering design** for providing solutions to **healthcare problems**.

MISSION

MD 1 : Integrating engineering and life sciences for the development of **innovative biomedical products**.

MD 2 : Imparting **quality education** through innovative Teaching - Learning methodologies.

MD 3 : Collaborating with **healthcare industries** for education, training, research and development.

MD 4 : Establishing **state-of-the-art facilities** to enhance the technical skills.

MD 5 : Providing sustainable solutions for challenges in **global healthcare** with ethical, social and moral values.

PEO

PEO 1 : Have **successful career** in Biomedical Engineering and other relevant disciplines.

PEO 2 : Design **devices, systems and processes** for improving healthcare industries.

PEO 3 : Engage in **lifelong learning activities** to become a member of globalized engineering teams with ethical values and standards.

Dr. Nalla G Palaniswami
Chairman

Dr. Thavamani D Palaniswami
Secretary

Dr. O.T. Buvaneswaran
CEO

Dr. S.U. Prabha
Principal

Dr. M. G. Sumithra
HOD & Chief Editor

Ms. J. Jeslin Libisha
Editoral Board Member

Mr. P.N. Sukumar
IV Year

Ms. V. Janani
III Year

Mr. R. Arul Arasu
II Year

FACULTY STRENGTH

Description	Strength
Professor	1
Associate Professor	4
Assistant Professor	15
Ph.D. Scholars	5

STUDENTS STRENGTH

Description	Boys	Girls	Total
IV Year	23	33	56
III Year(A)	31	28	59
III Year(B)	28	29	57
II Year(A)	18	33	51
II Year(B)	25	26	51
I Year(A)	21	34	55
I Year(B)	22	31	53
Total	168	214	382

STUDENTS PARTICIPATION

Description	II Year	III Year	IV Year	Total
Paper Presentation	**4**	**2**	**-**	**6**
Project Design	**-**	**-**	**56**	**56**
Workshop		**14**	**1**	**15**
Conference	**2**	**2**	**-**	**4**
IPT	**36**	**07**	**06**	**49**
Internship	**1**	**1**	**-**	**2**

DEPARTMENT ACHIEVEMENTS

- 7 University rank in 2017-2021 batch
- Dr. M.G. Sumithra received a patent in "Oral Squamous Cell Carcinoma Detection from Histopathological Images using Deep Learning", 202141035243
- Dr. G. Dhivyasri received a patent in "Exam Duty Monitoring Through Line Follower Robot", 202141055160
- Final year Students- Vihaasini S and Vignehswar R got selected as a finalist in Techgium, guided by Ms. R. Saranya.
- MoU was signed with Waxwing Technologies, ABE Semiconductors, TenxHealth Technologies Pvt Ltd.
- Funding received to organise events from – BMESI- Rs. 5000, CSIR- Rs. 20,000 and IE- Rs. 2500.
- CSIR Sponsored Two Days Workshop on "Application of Laser Flow Cytometry Using Optimized Photosimulation of Bio-Active Neurons for Enhancement of Personalized Neuroprosthetics", organised by Mr. R. Sundar and Mr. S. Vigneshwaran.
- CSIR Sponsored One Day Seminar on "Recent Advancement in Computational Biomechanical Modeling of Medical Prosthetic Implants and Early Therapeutic Methods for Osteopetrosis and Osteomyelitis", organised by Mr. S. Vigneshwaran.

INPLANT TRAINING DETAILS

- 36 students had completed inplant training at MEDSBY Healthcare Engineering Solutions, Coimbatore from 18/08/2021 to 05/09/2021.
- Third year students had completed inplant training at Prashan Medical Technologies in Coimbatore from 23/08/2021 to 28/08/2021.
- Final year students had completed inplant training at Helix Private Limited, Bangalore from 22/09/2021 to 19/11/2021.

ACADEMIC ACHIEVEMENTS

MARCH/APRIL 2021 RESULT – TOPPERS

IV YEAR

Mr. C. S. Manoj
GPA: 10

Ms. V. Johne Shalini
GPA: 10

Ms K.Dhivya
GPA: 10

III YEAR

Ms. R. Roshitha
GPA: 9.63

Mr. P. N. Sukumar
GPA: 9.63

Ms. Jhone Nishika
GPA: 9.519

II YEAR - A

Ms. I. Kaaviya
GPA: 9.73

Mr. P. Aathi Kesava Moorthi
GPA: 9.609

Ms. B. Abinayakamatchi
GPA:9.609

II YEAR - B

Ms. P. Sreeniveatha
GPA: 9.75

Ms. K. Nandhini
GPA: 9.56

Mr. Sathishwaran
GPA: 9.3

INDUSTRIAL COLLABORATION

MoU signed with ABE Semiconductors, Coimbatore
29/11/2021

MoU signed with TenxHealth Technologies Pvt Ltd,
Coimbatore – 06/10/2021

MoU signed with Waxwing Technologies Pvt Ltd,
Bangalore – 01/10/2021

STUDENTS ACHIEVEMENT

- 52 Students cleared NPTEL Exams
  - 15 students had received ELITE and 7 had received ELITE+SILVER in "Biomedical Nanotechnology".
  - 3 students had received ELITE and ELITE+SILVER in "Biomechanics of Joints and Orthopaedic Implants".
- **Lakshmitha R**, II Year won second prize in GENX CONFERENCE 2.0 under the title "Carbon Quantum Dots for Detection of Cancer Biomarkers".
- **Krishna Kumar M**, IV Year won Gold Medal (National Championship) in School Games & Activity Development foundation in 2021.
- **Krishna Kumar M**, IV year Won Gold medal in Indo-Nepal Invitational International Championship under Youth and Sports Development Association in 2021.
- **Krishna Kumar M**, IV year selected as Winner of T10 Cricket District Tournament above 19 & participated in State Level Cricket Championship.
- **Harinee P** and **Sapna S Gangolli** published a paper entitled "A review on Medical Devices and Imaging" in IARJSET, Vol.8. Issue Number 8 and ISSN No.2393-8021.
- **Jai Surya D** won 1st prize in Photography contest held at Dr. N.G.P Institute of Technology.
- **Monisha Sellamuthu** won 3rd prize in Photography contest held at Dr. N.G.P Institute of Technology.
- **Rashmi Selvaraj** won a 1st prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Sathyaprakash** won a 1st prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Sree Nivetha** won a 1st prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Logarasu** won a 1st prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Abinaya Kamatchi** won a 1st prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Rakshana** won a 1st prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Swetha J** won a 3rd prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Anjelin Jael** won a 3rd prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Bharani** won a 3rd prize in Pencil Sketching held at Dr. N.G.P Institute of Technology.
- **Harinee P** won a 1st prize and received Rs.1000 as prize money in Photography contest held at Sairam Institute of Technology.
- **Pooja R** received 1st prize in FIT India Challenge in Dr. N.G.P Institute of Technology.
- **Lalithambiga R, Manju Basine M. S, Angelin Jael . E , Kayalvili D and Lalith.V.S** third year students successfully completed a Coursera course on "Introduction to Biomedical Engineering", offered by St. Peter's berg polytechnic University.
- **Madhan Prasath R** third year student successfully completed a course on "Lung ventilation natural and mechanical", offered by Hamilton medical e-learning.

ACTIVITIES ORGANIZED

Value Additional Training
Resource Person: Ms. U. Shruthimole, Regulatory Affairs Analyst, HCL Technologies
Date: 31/07/2021

Value Additional Training
Resource Person: Mr. B. Govardhan Engineer-life science division, Tata Consultancy Services, Chennai
Date: 01/08/2021

Value Additional Training
Resource Person: Ms. Marwana Sayed, Amirtha Vishwa Vidyapeedam, Coimbatore
Date: 02/08/2021

Value Additional Training
Resource Person: Mr. P. Poornesh, Validation Analyst, Zifo RnD Solutions, Chennai
Date: 03/08/2021

Value Additional Training
Resource Person: Ms. S. Durga Nandhini, Service Executive, Getinge Medical India Pvt. Ltd., Mumbai
Date: 04/08/2021

Roles and Challenges of Biomedical Engineers in Post COVID -19 Era
Resource Person: Ms. D. Madhuseguntha, Service Executive, Getinge Medical India Pvt. Ltd., HO Mumbai.
Date: 12/08/2021

Importance of clinical engineers in medical device industry
Resource Person: Mr.Atheena Milagi Pandian, Atheenapandian Pvt. Ltd, Chennai
Date: 25/08/2021

Student Development Programme
Resource Person: Ms. Swetha Puneet, Professor, IBS (ICFAI Business School), Bangalore.
Date: 31/08/2021

Future Career Scope After Biomedical Engineering
Resource Person: Mr. Abdul Sathar, Service Engineer, Beckman Coulter, Founder Biomedical Job Portal, Calicut.
Date: 04/09/2021

Healthcare devices
Resource Person: Dr. Ajithkumar G. Patil & Mr. Paresh Modh,
Shri Bhagubhai Mafatal polytechnic, Mumbai
Date: 09/09/2021

UPSC Exam Preparation
Resource Person: Mr. A Reyaz,
KPR IAS Academy, Coimbatore.
Date: 16/09/2021

Medical device design
Resource Person: Mr. C. V. Renjith
Electrical Architect/ Product Designer, Philips India LTD, Pune.
Date: 17/09/2021

Identifying Individual Talent
Resource Person: Ms. T. Hemapreetha
Founder, Arboreal Organics
Date: 25/09/2021

Overseas Education & Biomedical Opportunities in Abroad
Resource person: Mr. Sayed Osama,
Staar United Inc, Mumbai.
Date: 30/09/2021

Time- Frequency Analysis of Pathological Neural Oscillations Using Hilbert-Huang Transform
Resource Person: Dr. Ramesh Perumal, Computer Vision Solution Engineer, Intel Corporation, Taipei, Taiwan.
Date: 01/10/2021

Enriching the knowledge on BMESI
Resource Person: Dr. Shruthi Jain,
Jaypee University of Information and Technology, HP
Date: 30/10/2021

Hyper Automation in Hospitals
Resource Person: Mr. U. K. Ananthapadmanabhan
Director, Tenxhealth Technologies (P) Ltd.
Date: 02/11/2021

CSIR Sponsored One Day Seminar
Resource Person: 1. Mr. Syed Samiullah, Head Operations Professional Info Tech Coimbatore
2. Dr. Rajesh Ranganathan, Professor Department of Mechanical Engineering Coimbatore Institute of Technology Coimbatore
3. Dr. S. Poornachandra, Director Academics Sri Shakthi Institute of Engineering and Technology Coimbatore
4. Dr. S. Saranya, Assistant Professor Department of Biomedical Engineering SSN College of Engineering Chennai
5. Mr. T. U. Vishnu, CEO& Founder Machenn Innovations Coimbatore
Date: 12.11.2021

Webinar on Higher Education
Resource person: Mr. Riaz & Ms. Athea Taylor, Fly n Study Overseas, Chennai.
Date: 19/11/2021

HEALTHCARE & ITS OPPORTUNITIES
Resource person: Mr. Sayed Samilluah, Professional Infotech, Coimbatore.
Date: 23/11/2021

CSIR Sponsored Two Days Workshop

Day 1:
Resource person
1: Dr.D.Padmapriya,
Associate Professor, Department of Biomedical Engineering, PSG College of Technology, Coimbatore
2: Dr.N.Sharmila,
Associate Professor, Department of Sensor and Biomedical Technology, Vellore Institute of Technology, Vellore
Date: 25/11/2021

Day 2:
Resource person
1: Dr. Smita Kumari,
Scientist - D, CSIR - Indian Institute of Toxicology, Research (IITR), Lucknow, Uttar Pradesh
2: Dr. U. Srinivasulu Reddy,
Assistant Professor, Department of Computer Applications, National Institute of Technology, Tiruchirappalli
Date: 26/11/2021

PARTICIPATION IN VARIOUS EVENTS BY FACULTY

- **Ms. V. Vivekitha** presented a paper on "An Investigation and Reduction of Sound Level in ICU" in Seventh International e-Conference on Green Technologies for Power Generation, Communication and Health Care on 06/06/2021.
- **Dr. N. Rajasingam** have taken part in ATAL Faculty Development Program on "Artificial Intelligence and its Applications" organized by Government College of Engineering, Nagpur on 07/06/2021 – 11/06/2021.
- **Dr. C. Ram Kumar** have participated in the orientation program, "FDP on online Orientation Programme for Mentors - NITTT" on 14/06/2021 to 18/06/2021.
- **Dr. N. Rajasingam** have participated in ATAL Faculty Development Program on "Principles of Artificial Intelligence, Machine Learning, and Deep Learning" organized by Department of Studies in Computer Science, University of Mysore on 21/06/2021 – 25/06/2021.
- **Dr. C. Ram Kumar** was invited to deliver a lecture on "Importance of Innovation" at Yuva Incubated on 05/07/2021.
- **Dr. N. Rajasingam** have participated in ATAL Faculty Development Program on "AI Solution for Optimum Utilization of Power and Energy" organized by NIT Srinagar on 05/07/2021 – 09/07/2021.
- **Dr. B. Vidhya** was invited to deliver a lecture on "Importance of Documentation" at Dr. N.G.P. Institute of Technology on 10/07/2021.
- **Dr. M. G. Sumithra** was invited to deliver a lecture on "Deep Learning, Big Data Applications" in 6th International Conference on Internet of Things and Connected Technologies (ICIoTCT) 2021 at Indian Institute of Technology, Patna on 29/07/2021.
- **Dr. N. Rajasingam** have participated in ATAL Faculty Development Program on "Intelligent Interactive Medical Services" organized by CHRIST(Deemed to be University) on 02/08/2021 – 06/08/2021.
- **Mr. S. Logesh Kumar** have participated in ATAL Faculty Development Program on "Polymer Matrix based Nanostructures for Targeted Drug Delivery Application" organized by Central Institute of Petrochemicals engineering and Technology on 02/08/2021 to 06/08/2021.
- **Ms. R. Sri Roshini** have participated in ATAL Faculty Development Program on "Artificial Intelligence Impacts on Telemedicine" on 02/08/2021to 06/08/2021.
- **Ms. V. Vivekitha** have participated on 2 Week online Faculty Development Program on "Digital Transformation in Healthcare" organized by Eswari Engineering college on 02/08/2021-16/08/2021.
- **Ms. R. Manju** and **Ms. M. Menagadevi** have participated in ATAL Faculty Development Program on "Precision Health Technology (FDPPHT-2021) "organized by NIT, Jamshedpur on 04/08/2021 to 08/08/2021.
- **Dr. C. Ram Kumar** was invited to deliver a lecture on "Scope of Bio-Fabrication systems towards research" at Eswari Engineering College on 06/08/2021.
- **Ms. R. Sri Roshini** and **Ms. V. Vivekitha** have participated in Faculty Development Program on "Innovations in Techno-Management and Strategic Case based Teaching Learning" organized by Sinhgad Institute of Management and Computer Application on 06/08/2021-08/08/2021.

- **Ms. N. Abimathi** have participated in ATAL FDP on “Sustainable Green Composites: Design, Manufacturing & Characterization” on 09/08/2021 – 13/08/2021.
- **Dr. M. G. Sumithra** was invited to deliver a lecture on “Latest Trends in 5G Applications” at HKBK College of Engineering, from 12/08/2021 to 17/08/2021.
- **Mr. S. Vigneshwaran** have participated in International workshop on "Matlab Applications in Industry 4.0” on 12/08/2021 & 13/08/2021.
- **Dr. C. Ram Kumar** and **Ms. Sukanya Sudarsanan** have participated in International Faculty Development Program on” Psychology: The Path Ahead for the Teaching Fraternity” organized by Dr. N.G.P Institute of Technology on 16/08/2021 – 20/08/2021.
- **Mr. S. Logesh Kumar** have participated on five days Workshop on “Advances in Medical Informatics” organized by Manipal Institute of technology on 16/08/2021 to 20/08/2021.
- **Ms. Sri Roshini** and **Ms. V. Vivekitha** have participated on 7 days National level Short Term Training Program on “Google Apps from Scratch” organized by Christopher Arts and Science College on 16/08/2021-22/08/2021.
- **Dr. B. Vidhya** have participated in ATAL Faculty Development Program on “ Advances of Artificial Intelligence and Machine Learning in Societal Development” organized by Uttarkhand Open University on 16/08/2021 to 20/08/2021.
- **Ms. S. Anu Roopa Devi, Ms. J. Jeslin Libisha, Ms. M. Menagadevi, Ms. N. Abimathi** and **Ms. H. Harshene** have participated in the ATAL Faculty Development Program on “Instrumentation, Signals and Images for the Evaluation of Physiological Systems” organized by National Institute of Technology, Tiruchirappalli on 16/08/2021- 20/08/2021.
- **Dr. C. Ram Kumar** received a “Yuva Mentor as a Change Maker Award”.
- **Ms. R. Manju** won Fit India Skipping Challenge.
- **Ms. R. Manju** secured 5th place in Bailwan’s Marathon.
- **Dr. M.G. Sumithra** has been a session chair of technical session 1 in two-day International Conference ICEMBI 2021.
- **Dr. M. G. Sumithra** for chairing the session “Deep Learning, Big Data Applications” at ICIoTCT 2021 – IIT Patna.
- **Ms. R. Sundar** scored Elite in NPTEL course.
- **Ms. R. Saranya** scored Elite in NPTEL course.
- **Dr. M. G. Sumithra** has been a primary evaluator in Toycathon.
- **Dr. M.G. Sumithra** acted as a Resource person in online value-added course “Latest Trends in 5G and Applications”, at HKBK College of Engineering.
- **Ms. N. Abimathi** have participated in “STTP on Professional Practices for Teachers” organized by Dr. N.G.P Institute of Technology23/08/2021 – 27/08/2021.
- **Ms. R. Sri Roshini** and **Ms. R. Saranya** have participated in ATAL Faculty Development Program on “Novel Nanostructured Mg based Alloy for Industrial and Biomedical Applications” organized by Jawaharlal Nehru New College of Engineering on 30/08/2021-03/09/2021.
- **Dr. B. Vidhya** have participated in ATAL Faculty Development Program on “Internet of Things and Human-Computer Interaction” from 25/10/2021 to 29/10/2021.
- **Ms. Sukanya Sudarsanan** and **Ms. V. Vivekitha** participated in Toycathon in 2021.

- **Ms. J. Jeslin Libisha** and **Ms. S. Anu Roopa Devi** have participated in ATAL Faculty Development Program on "Signal Processing Cognitive Neuroscience Applications" organized by National Institute of Technology, Meghalaya on 02/11/2021-06/11/2021.
- **Ms. J. Jeslin Libisha** participated on 5 days National Workshop on "Recent Advancements in Engineering and Technology" organized by Regional College for Education Research and Technology on 15/11/2021 - 19/11/2021.
- **Ms. J. Jeslin Libisha, Ms. S. Anu Roopa Devi, Ms. R. Manju** have participated in Faculty Development Program on "Exercising Deep Learning Approaches in Various Research" organized by VIT, Chennai on 16/11/2021-20/11/2021.
- **Ms. N. Abimathi** have participated in Faculty Development Program on "Applications of Artificial Intelligence in Research and Development" at CSIR –Advanced Materials and Processes Research Institute, Bhopal on 22/11/2021 -26/11/2021.
- **Ms. H. Harshene** and **Dr. B. Vidhya** have participated in "Artificial Intelligence on Teaching and Learning", Faculty Development Program organized by Central University of Tamil Nadu on 22/11/2021-26/11/2021.
- **Ms. M. Menagadevi** have participated in Faculty Development Program on "Natural Language Processing and its Application" organized by SRM Institute of Science and Technology 22/11/2021-24/11/2021.
- **Mr. S. Vigneshwaran** have participated in Faculty Development Program on "Telemedicine- the Future Health Care Facility" organized by Sri Siddhartha Institute of Technology on 23/11/2021-27/11/2021.
- **Dr. G. Dhivyasri** have participated in International Conference on Biotechnology for Environment Health (ICBEH) on 25/11/2021- 27/11/2021.
- **Ms. V. Vivekitha** have taken part in AICTE sponsored short term training program on "Big Data Analytics using Soft Computing Tools(with AL&ML)" on 29/11/2021-04/12/2021.
- **Mr. S. Vigneshwaran** have participated in "Inculcating Universal Human Values in Technical Education" on 06/12/2021-10/12/2021.
- **Ms. J. Jeslin Libisha** and **Ms. S. Anu Roopa Devi** have participated in "International Conference on Machine Intelligence and Green Computing 21" organized by Kalaingarkarunanidhi Institute of Technology on 10/12/2021 - 11/12/2021
- **Ms. M. Menagadevi** have participated in "IEEE International E-conferences on Emerging Technologies and Application for Smart and Sustainable World" on 16/12/2021-18/12/2021.

PUBLICATIONS BY FACULTY

- **Dr. N. Rajasingam** (2021) published a paper on "Neck Pain Aid using NI-LabVIEW", International Journal of Advance Research and Innovative Ideas in Education, ISSN: 2395-4396, Volume 7, Issue 3, pp. 1459 – 1464.
- **Dr. M. G. Sumithra** (2021) published a paper on "Pattern Descriptors Orientation and MAP Firefly Algorithm based Brain Pathology Classification using Hybridized Machine Learning Algorithm", IEEE Access, ISSN: 2169-3536, Volume 9, pp. 1-16.
- **Dr. B. Vidhya** (2021) published a paper on "Hybrid Structural and Textural Analysis for Efficient Image Compression" Wireless Personal Communications ISSN: 1572-834X, pp1-15.
- **Mr. S. Logesh Kumar** in 2021,published a paper on "Fabrication of Dual layered Biocompatible Herbal Bio-patch from Biological Waste for Skin- Tissue Regenerative Applications", International Journal of Biological Macromolecules, ISSN: 0141-8130,Volume 183, pp.1106-1118.