Dr. Sudip Paul

Associate Professor, Department of Biomedical Engineering
National Institute of Technology, Raipur-492010, Chhattisgarh, India

T: +91-9485026088 (M)
E Mail: spaul.bme@nitrr.ac.in

❖ **Key Highlights:**

- ***ISO 13485:2016 Internal Auditor*** for Medical Devices
- Successful ***Department Team member for M. Tech in Medical Devices (Approx. Rs. 13 Cr.)*** funded by the Ministry of Chemicals and Fertilizers, Government of India
- Successful ***Co-PI for DST-FIST (Approx. Rs. 2.55 Cr) for Department of Biomedical Engineering***, NEHU
- IEEE Senior Member since 2021
- ***Head of the Department*** from April 3, 2020, to September 25, 2023 (3 yrs. 5 months)
- **Govt. Funded Project Completion (as Principal Investigator): 02 (Total Rs. 1 Cr 32 Lakhs approx.)**
- **Total Publications: 63**
  - **Total Impact Factor: 123.207, Citation: 1800; h-index: 20; i10-index: 39**
- **SCI/Scopus Indexed Journal: 33 (As First/Corresponding Authors: 18)**
- **Patent Granted: 07, Copyright Granted: 06, Book Published (as Authors): 4, Book Chapter: 17, Conference Publication: 35; Conference/Workshop Organized: 10 (as Coordinator)**

❖ **Specializations:** Biomedical Instrumentation, Medical Devices, Rehabilitation Systems, Artificial Intelligence in Healthcare, Electrophysiology

A. Educational Qualifications:

Post Doc Fellow, Computer Science and Software Engineering, 2018-2019
The University of Western Australia, Perth
Title of Work: "Machine Learning techniques for brain signal analysis in various neuronal disorders"

Ph.D., Biomedical Engineering, 2015
IIT (BHU), Varanasi
Thesis Title: "Electrophysiological Signal Analysis during Stroke in animal model"

M.Tech, Biomedical Engineering. 2009
Institute of Technology, Banaras Hindu University, Varanasi

B. Tech, Biomedical Engineering, 2007
West Bengal University of Technology, Kolkata

B. Work Experiences

National Institute of Technology, Raipur, India

- **Associate Professor, Department of Biomedical Engineering –** since 08.07.2025 (FN)

North-Eastern Hill University, Shillong, India

- **Associate Professor, Department of Biomedical Engineering –** 25.08.2025 (AN) to 07.07.2025 (AN)
- **Assistant Professor, Department of Biomedical Engineering** – 29.06.2012 (FN) to 25.08.2025 (FN)
- **Head, Department of Biomedical Engineering –** 03.04.2020 (AN) to 25.09.2023 (AN)
- **Assistant Registrar (I/c) Estt-II, and Central Public Information Officer –** 01.12.2023 to 30.06.2025

C. Career Highlights:

i. PATENTS and COPYRIGHTS

i. "Interactive gaming device for cerebral palsy intervention, treatment and management and its method thereof" (**Patent No: 2020102546**, Australia Innovation Patent)
ii. "A method and an automatic device for disinfecting books using heat and ultraviolet rays" (**Patent No: 2020103336**, Australia Innovation Patent)
iii. "Hearing aid along with Wireless doorbell vibrator system and Electronic Torch light facility" (**Patent No: 356318**, Indian Patent)
iv. "Tremor Identification Device for Parkinson's Disease" (**Patent No: 364299**, Indian Patent**)**
v. "Automated Vehicle Accident and Theft Prevention Device" (**Patent No: 516854**, Indian Patent)
vi. "Non-contact Digital Thermometer" (**Patent No: 555220**, Indian Patent)
vii. Autonomous Navigation Module for Powered Wheelchair" (**Patent No: 532193**, Indian Patent)
viii. "Prakriti determination web application color model representation of Tridosha" **(No: SW-17384/2023, 04.10.2023)**
ix. "Online system for predicting Parkinson's disease" **(No: SW-17390/2023, 05.10.2023)**
x. "Ayurvedic health history diagnosis web application Vikriti color model integration" **(No: SW-17285/2023, 21.09.2023)**
xi. "Web application for Color model representation of Tridosha for the determination of Prakriti" **(No.: 25755/2022-CO/SW,11/12/2022)**
xii. "Algorithm for Early Detection of Parkinson's Disease" **(No.: 20740/2020-CO/L,16/12/2020)**

ii. PROJECTS

1) Project title: ***Development of gait training tools and mobility aids for Parkinson's Patients.*** Ongoing (2021-2024); Funding Agency: DBT's Twinning Programme for NER, Department of Biotechnology (DBT), Govt. of India; Amount: Rs. 71, 12,960/- INR.
2) Project title: ***Development of cost-effective web and mobile application for detection of Parkinson's disease.*** *Completed (2019-2022).* Funding Agency: IMPRINT-2, Science and Engineering Research Board, Govt. of India. Amount: Rs. 61, 42,298/- INR.
3) Project title: ***Design of Artificial hand with artificial fingers.*** Completed (2014-17). Designation: CO-PRINCIPAL INVESTIGATOR. Funding Agency: Twinning Programme, Department of Biotechnology, Govt. of India. Amount: Rs. 32, 78,000.00 /- INR.

iii. PH. D GUIDANCE

S. No	*Name*	*Thesis title*	*Current Status*

01	**Dr. Angana Saikia**	***Study of functional and neuronal changes in early stages of Parkinson`s disease using EEG in correlation with EMG***	**Awarded**
02	**Dr. Vinay Kumar**	***Design of interactive game for cranial nerve stimulation exercises in cerebral palsy children***	**Awarded**
03	**Dr. Sateesh A. Reddy**	***Development of touch screen based indigenous powered wheelchair with navigation system***	**Awarded**
04	**Dr. Vinayak Majhi**	***Automated Detection of Parkinson's Disease Based on Ayurvedic Principle***	**Awarded**
05	**Ms. Mrinalini Bhagawati**	***Non-invasive cardiovascular/stroke Risk stratification***	**Submitted**
06	Mrs. Anjuman Nahar	*Development of mechanisms to predict individualized rehabilitation for pediatrics hemiplegic Cerebral Palsy*	Ongoing

- **B. Tech and M. Tech project guidance: 15**

iv. AWARDS / ACHIEVEMENTS / APPRECIATIONS:

1) Japan Neuroscience Society Travel AWARD, 2025.
2) IBRO Sponsorship: IBRO / UNESCO Advanced School, Cape Town, South Africa, 2011.
3) Best Poster Award: IBRO / UNESCO School 2011, Cape Town, South Africa, 2011.
4) Sushruta Innovation Award 2011: 1st Prize Winner.
5) Department of Science and Technology (DST) travel grant award 2011.
6) ISN Travel Award: ISN-ESN 2011, 23rd Biennial Meeting, Athens, Greece, 2011.
7) ISN Young Scientist Steering Committee (YSSC) Ambassadorship 2019-2021.
8) Biotechnology Overseas Associateship for the Scientists working in North Eastern States of India: 2017-18.
9) IEEE SENIOR MEMBER (since 20.02.2021).
10) IEEE Best Track paper Award 2020 (BHTC-2020).
11) IEEE Best paper Award 2020 (ComPE- 2020).
12) IBRO Global Engagement Seed Grant 2020.
13) Science Communicator: 105th session of Indian Science Congress, 2018.
14) Science and Engineering Research Board Travel grant 2016: SfN 2016, San Diego, USA.
15) World Federation of Neurology Junior Travelling Fellowship 2016: SfN 2016, San Diego, USA.
16) Young Investigator Award 2016: 10th World Stroke Congress, Hyderabad, 2016.
17) World Federation of Neurology Junior Travelling Fellowship 2015: SfN 2015, Chicago, USA.
18) Science Communicator: 102nd Indian Science Congress, Mumbai, 2015.
19) Session Chair for International Conference AMEST 2019.
20) Senior Research Fellow: (UGC) 2009-2012.
21) Student Achievement Award: IT-BHU Global Alumni Association, 2012.
22) Qualified Graduate Aptitude Test in Engineering (GATE- 2007): All India Rank of 691.
23) Session Chair for the track" Biomedical and Bioinformatics", I3CS-2023 (16.03.2023 to 18.03.2023)
24) Executive Committee member of Indian Academy of Neurosciences (2023-2025)
25) Evaluator for Smart India Hackathon, 2022.
26) Nikhil Bharat Shiksha Parisad Fellow (19.11.2021).
27) Honorary Fellow (Academic) of the South Asian Chamber of Scientific Research and Development (20.11.2021).
28) Sir C.V. Raman Technology Enthusiast (21.02.2021).
29) Board of Studies Member of AIEFCEMT (26.11.2021).
30) Primary evaluator in Toycathan, 2021.
31) B. TECH Admission Committee 2020 as CHAIRMAN.

32) Judge for Grand Finale for Idea Contest on TO MITIGATE POST-COVID IMPACT IN LOW- AND MIDDLE-INCOME COUNTRIES, organized by IEEE Bangladesh Section (16.09.2020).
33) Successful completion of COVID-19 projects on AUTO BOOK SANITIZATION COMPOSITE MACHINE (ABSCoM) for NEHU Central Library under the aegis of Incubation Centre, NEHU, Shillong (23.09.2020).
34) Panellist for (VCOP) IEEE TENSYMP 2020 Post Conference Initiative organized by IEEE Bangladesh Section (01.07.2020 to 02.07.2020).
35) Successful completion of COVID-19 projects INDIGENIOUS VERSION OF INFRARED THERMOMETER for NEHU under the aegis of Incubation Centre, NEHU, Shillong (09.06.2020).

v. CONFERENCE / WORKSHOP / SCHOOL ORGANIZED:

1) **Symposium Convener and Chairperson:** Symposium titled: *"Artificial Intelligence and Machine Learning in Neurosciences"* for International Conference on the Advances in Mechanisms and Approaches to neuro-Therapeutics (AIM-AT) & the XLII Annual Meeting of Indian Academy of Neurosciences (IAN) (11.11.2024 to 14.11.2024)
2) **Course Coordinator:** One-week Student Induction Programme of AICTE (13.08.2024 to 24.08.2024)
3) **Course Co-Coordinator:** One-week Student Induction Programme of AICTE (28.08.2023 to 02.09.2023)
4) **Organizing Secretary:** XL Annual Meeting of Indian Academy of Neurosciences (IAN 2022) at BME Deptt, NEHU, Shillong. (07.12.2022 to 10.12.2022)
5) **Course Coordinator:** IBRO-APRC Short term Course on Depression, Anxiety, Mental Stress, and it`s remedies in light of COVID-19 at BME Deptt, NEHU, Shillong. (14.12.2021 to 16.12.2021)
6) **Conference Chair:** IEEE International Conference on Computational Performance Evaluation (ComPE-2021) at BME Deptt, NEHU, Shillong. (01.12.2021 to 03.12.2021)
7) **Course Coordinator:** IBRO Global Engagement workshop 2020 on neurodegenerative diseases at BME Deptt, NEHU, Shillong. (01.10.2021 to 05.10.2021)
8) **Course Coordinator:** UGC-HRDC Short-term Course in Bio-medical Technology with focus on Stress and its Remedies at BME Deptt, NEHU, Shillong. (14.12.2020 to 21.12.2020)
9) **Conference Chair:** IEEE International Conference on Computational Performance Evaluation (ComPE-2020) at BME Deptt, NEHU, Shillong. (02.07.2020 to 04.07.2020)
10) **Coordinator:** AICTE-ATAL Workshop on Robotics for Healthcare at BME Deptt, NEHU, Shillong. (04.11.2019 to 08.11.2019)
11) **Technical Programme Committee:** International Conferences 'ELECTROCON-2019' and 'ELECTROCON-2020', Emerging trends in Electronics, IT and Communication at IILM Academy of Higher Learning, College of Engineering and Technology, Greater Noida, U.P, India. (19.10.2019 and 18.09.2020 to 19.09.2020)
12) **Technical Programme Committee:** 5th International Conference on Signal Processing, Computing and Control (ISPCC 2k19). Jaypee University of Information Technology, India. (10.10.2019 to 12.10.2019)
13) **Co-Coordinator and Session Chair:** International Conference on Advanced Materials for Energy Science and Technology, NEHU, India. (26.02.2019 to 28.02.2019)
14) **Advisory Committee Member:** National Seminar on Computational Approaches in personalized Medicine, SREC Coimbatore. (22.02.2019)
15) **Technical Program Committee:** IEEE sponsored Amity International Conference on Artificial Intelligence, Dubai. (04.02.2019 to 06.02.2019)
16) **Technical Program Committee:** 4th IEEE International Conference on Computing Communication and Automation, Galgotias University; India. (14.12.2018 to 15.12.2018)
17) **Coordinator:** Virtual Laboratory, NEHU, Shillong, India. (08.03.2018 to 09.03.2018)
18) **Coordinator:** B. Tech Final year students Industrial Tour at ATI-EPI, Dehradun, India (2017)
19) **Organizing committee member:** IEEE Kolkata section & IEEE Joint CSS-IMS chapter Kolkata "Outreach Programme", NEHU, Shillong. (09.10.2017)

20) **Scientific committee member:** IEEE International Conference on "Bioinformatics & Biomedicine" (BIBM-2017), Kansas City, MO, USA. (13.11.2017 to 16.11.2017)
21) **Organizing committee member:** National workshop on "Synthesis and Characterization of Nanomaterials for Solar application", NEHU, Shillong. (11.09.2017 to 16.09.2017)
22) **Convener:** IBRO-APRC Associate School of Computational approaches in Neuroprotection and Neurorehabilitation, NEHU, Shillong, India. (05.06.2017 to 10.06.2017)
23) **Organizing committee member:** National Conference on "Recent Advances in Nanoscience and Nanotechnology", NEHU, Shillong. (08.09.2016 to 09.09.2016)
24) **Organizing committee member:** National Conference on "Biomechanics and Rehabilitation Engineering", NEHU, Shillong, India. (15.09.2016)
25) **Student Presentation Judge**: Student seminar at JIS College of Engineering, Kolkata. (20.04.2016)
26) **Organizing Secretary:** 29th Annual Meeting of Society for Neurochemistry, India as well as National Workshop and Conference on "Advances in Computational Neurochemistry and Neurobiology" (SNCI-ACNN 2015)", NEHU, Shillong, India. (16.12.2015 to 21.12.2015)
27) **Organizing committee member:** National conference on "Recent Advances in Biomedical Engineering", NEHU, Shillong, India (28.08.2015 to 29.08.2015)
28) **Organizing committee member:** Programme on "Commemoration of Birth Anniversary of Madam Marie Curie and Sir C. V. Raman", NEHU, Shillong, India (07.11.2015)
29) **Organizing committee member and resource person:** Workshop on "Advances in computational Neurosciences" (ACNE-2014), NEHU, Shillong, India. (24.03.2014 to 29.03.2014).

vi. PUBLICATIONS:

PUBLICATIONS UNDER Q1, Q2, Q3 and Q4

A. Selected Journal Publications:

1) Bhagawati, M., Gupta, S., **Paul, S.**, Mantella, L., Johri, A. M., Laird, J. R., Tiwari, E., Khanna, N. N., Nicolaides, A., Singh, R., Al-Maini, M., Saba, L., & Suri, J. S. (2025). Attention-based hybrid deep learning models and its scientific validation for cardiovascular disease risk stratification. Biomedical Signal Processing and Control, 108, 107824. **[I.F: 4.9]** https://doi.org/10.1016/j.bspc.2025.107824 **[Q1]**
2) Kumari, V., Katiyar, A., Bhagawati, M., Maindarkar, M., Gupta, S., **Paul, S.**, Chhabra, T., Boi, A., Tiwari, E., Rathore, V., Singh, I. M., Al-Maini, M., Anand, V., Saba, L., & Suri, J. S. (2025). Transformer and Attention-Based Architectures for Segmentation of Coronary Arterial Walls in Intravascular Ultrasound: A Narrative Review. Diagnostics, 15(7), 848. **[I.F:3.0]** https://doi.org/10.3390/diagnostics15070848 **[Q2]**
3) Khera, P., Das, R., Kumar, N., Pankaj, D., Singh, M., **Paul, S.**, & Mourya, G. K. (2024). Objective gait assessment and quantified recurrence analysis using foot-worn wearable sensor for healthy individuals. Computer Methods in Biomechanics and Biomedical Engineering, 1–17. **[I.F: 1.7]** https://doi.org/10.1080/10255842.2024.2427113 **[Q3]**
4) Agarwal, S., Saxena, S., Carriero, A., Chabert, G. L., Ravindran, G., **Paul, S.,** & Suri, J. S. (2024). COVLIAS 3.0: cloud-based quantized hybrid UNet3+ deep learning for COVID-19 lesion detection in lung computed tomography. Frontiers in Artificial Intelligence, 7, 1304483. **[I.F: 3.0]** *https://doi.org/10.3389/frai.2024.1304483* **[Q2]**
5) **Paul, S.,** & Jain, S. (2024). A Novel Detection of Cerebrovascular Disease using Multimodal Medical Image Fusion. Recent Advances in Inflammation & Allergy Drug Discovery. **[I.F: 1.2]** *10.2174/0127722708288426240408042054* **[Q2]**
6) Bhagawati, M., **Paul, S.,** Mantella, L., Johri, A. M., Laird, J. R., Singh, I. M., & Suri, J. S. (2024). Deep learning approach for cardiovascular disease risk stratification and survival analysis on a Canadian cohort. The International Journal of Cardiovascular Imaging, 1-21. **[I.F: 1.5]** *10.1007/s10554-024-03100-3* **[Q2]**

7) Majhi, V., Choudhury, B., Saha, G., & **Paul, S**. (2023). The Behavioural Analysis of the Dosha Pattern Derived from Associated Current Diseases and Symptoms along with Parkinson`s Disease. Journal of Natural Remedies, 475-485. [I.F: 0.38] *https://doi.org/10.18311/jnr/2023/31343* **[Q4]**
8) Nahar, A., Jain, S., and **Paul, S.** (2023) Advances in Cerebral Palsy Treatment. Recent Advances in Electrical & Electronic Engineering 2023; 18 (6). **[I.F: 7.7]** *10.2174/1872212118666230822124440* **[Q4]**
9) Kumar, A., Aelgani, V., Vohra, R., Gupta, S. K., Bhagawati, M., **Paul, S**. & Suri, J. S. (2023). Artificial intelligence bias in medical system designs: A systematic review. Multimedia Tools and Applications, 1-53. **[I.F: 2.6]** *https://doi.org/10.1007/s11042-023-16029-x* **[Q2]**
10) Bhagawati, M., **Paul, S.**, Agarwal, S., Protogeron, A., Sfikakis, P. P., Kitas, G. D. & Suri, J. S. (2023). Cardiovascular disease/stroke risk stratification in deep learning framework: a review. Cardiovascular Diagnosis and Therapy, 13(3), 557. **[I.F: 2.6]** *10.21037/cdt-22-438* **[Q3]**
11) Jain, S, **Paul, S.** and Sharma, K. (2023), EEG Brain Signal Processing for Epilepsy Detection, Recent Advances in Electrical & Electronic Engineering; 16 (7). **[I.F: 7.7]** *https://dx.doi.org/10.2174/2352096516666230419102435* **[Q4]**
12) Saxena, S., Agrawal, A., Dash, P., Jena, B., Khanna, N. N., **Paul, S.**, & Suri, J. S. (2023). Prediction of O-6-methylguanine-DNA methyltransferase and overall survival of the patients suffering from glioblastoma using MRI-based hybrid radiomics signatures in machine and deep learning framework in Neural Computing and Applications, 1-17. **[I.F.: 5.13]** *10.1007/s00521-023-08405-3* **[Q1]**
13) Majhi, V., Choudhury, B., Saha, G., & **Paul, S**. (2023). Development of a machine learning-based Parkinson's disease prediction system through Ayurvedic dosha analysis. International Journal of Ayurvedic Medicine, 14(1), 180-189. **[I.F.: 6.72]** *10.47552/ijam.v14i1.3228* **[Q4]**
14) Jain, S., & **Paul, S**. (2023). Design of filters using current amplifiers for removal of noises from ECG signal in Procedia Computer Science, 218, 1888-1904 **[I.F.:0.883]** *https://doi.org/10.1016/j.procs.2023.01.166* **[Q2]**
15) Avutu, S. R., **Paul, S**., & Reddy, B. V. (2023). A review on wheelchair and add-in devices design for the disabled. In International Journal of Biomedical Engineering and Technology, 41(1), 35-59 **[I.F.: 1.38]** *https://doi.org/10.1504/IJBET.2023.128512* **[Q4]**
16) Jasjit S. Suri, Mrinalini Bhagawati, Sushant Agarwal, **Sudip Paul**, Amit Pandey, Suneet Gupta, Luca Saba, Kosmas I. Paraskevas, Narendra N. Khanna, John R. Laird, Amer M. Johri, Manudeep K. Kalra, Mostafa M. Fouda, Mostafa Fatemi, Subbaram Naidu. (2022) UNet Deep Learning Architecture for Segmentation of Vascular and Non-Vascular Images: A Microscopic look at UNet Components buffered with Pruning, Explainable Artificial Intelligence, and Bias, in IEEE Access. **[I.F.: 3.476]** *https://doi.org/10.1109/ACCESS.2022.3232561* **[Q2]**
17) Khanna NN, Maindarkar MA, Viswanathan V, Fernandes JFE, **Paul S**, Bhagawati M, Ahluwalia P, Ruzsa Z, Sharma A, Kolluri R, Singh IM, Laird JR, Fatemi M, Alizad A, Saba L, Agarwal V, Sharma A, Teji JS, Al-Maini M, Rathore V, Naidu S, Liblik K, Johri AM, Turk M, Mohanty L, Sobel DW, Miner M, Viskovic K, Tsoulfas G, Protogerou AD, Kitas GD, Fouda MM, Chaturvedi S, Kalra MK, Suri JS. (2022) Economics of Artificial Intelligence in Healthcare: Diagnosis vs. Treatment. Healthcare, 10(12):2493. **[I.F.: 3.160]** *https://doi.org/10.3390/healthcare10122493* **[Q2]**
18) Biswajit Jena, Dishant Digdarshi, **Sudip Paul**, Gopal K Nayak, Sanjay Saxena. (2022) Effect of learning parameters on the performance of the U-Net architecture for cell nuclei segmentation from microscopic cell images, Microscopy. **[I.F.:1.758]** *https://doi.org/10.1093/jmicro/dfac063* **[Q3]**
19) Khanna, N.N., Maindarkar, M., Puvvula, A., **Paul, S.**, Bhagawati, M., Ahluwalia, P., Ruzsa, Z., Sharma, A., Munjral, S., Kolluri, R., Krishnan, P.R., Singh, I.M., Laird, J.R., Fatemi, M., Alizad, A., Dhanjil, S.K., Saba, L., Balestrieri, A., Faa, G., Paraskevas, K.I., Misra, D.P., Agarwal, V., Sharma, A., Teji, J., Al-Maini, M., Nicolaides, A., Rathore, V., Naidu, S., Liblik, K., Johri, A.M., Turk, M., Sobel, D.W., Pareek, G., Miner, M., Viskovic, K., Tsoulfas, G., Protogerou, A.D., Mavrogeni, S., Kitas, G.D., Fouda, M.M., Kalra, M.K., Suri, J.S. (2022) Vascular Implications of COVID-19: Role of Radiological Imaging, Artificial Intelligence, and Tissue Characterization: A Special Report. J. Cardiovasc. Dev. Dis., 9(268). **[I.F.: 4.415]** *https://doi.org/10.3390/jcdd9080268* **[Q2]**

20) Suri, J.S.; Maindarkar, M.A.; **Paul, S**.; Ahluwalia, P.; Bhagawati, M.; Saba, L.; Faa, G.; Saxena, S.; Singh, I.M.; Chadha, P.S.; Turk, M.; Johri, A.; Khanna, N.N.; Viskovic, K.; Mavrogeni, S.; Laird, J.R.; Miner, M.; Sobel, D.W.; Balestrieri, A.; Sfikakis, P.P.; Tsoulfas, G.; Protogerou, A.D.; Misra, D.P.; Agarwal, V.; Kitas, G.D.; Kolluri, R.; Teji, J.S.; Al-Maini, M.; Dhanjil, S.K.; Sockalingam, M.; Saxena, A.; Sharma, A.; Rathore, V.; Fatemi, M.; Alizad, A.; Krishnan, P.R.; Omerzu, T.; Naidu, S.; Nicolaides, A.; Paraskevas, K.I.; Kalra, M.; Ruzsa, Z.; Fouda, M.M. (2022) Deep Learning Paradigm for Cardiovascular Disease/Stroke Risk Stratification in Parkinson's Disease Affected by COVID-19: A Narrative Review. Diagnostics 12(1543). **[I.F.:3.992]** *https://doi.org/10.3390/diagnostics12071543* **[Q1]**

21) Khanna, N.N.; Maindarkar, M.; Saxena, A.; Ahluwalia, P.; **Paul, S**.; Srivastava, S.K.; Cuadrado-Godia, E.; Sharma, A.; Omerzu, T.; Saba, L.; Mavrogeni, S.; Turk, M.; Laird, J.R.; Kitas, G.D.; Fatemi, M.; Barqawi, A.B.; Miner, M.; Singh, I.M.; Johri, A.; Kalra, M.M.; Agarwal, V.; Paraskevas, K.I.; Teji, J.S.; Fouda, M.M.; Pareek, G.; Suri, J.S. (2022) Cardiovascular/Stroke Risk Assessment in Patients with Erectile Dysfunction—A Role of Carotid Wall Arterial Imaging and Plaque Tissue Characterization Using Artificial Intelligence Paradigm: A Narrative Review. Diagnostics, 12(1249). **[I.F.:3.992]** *https://doi.org/10.3390/diagnostics12051249* **[Q1]**

22) Munjral, S.; Maindarkar, M.; Ahluwalia, P.; Puvvula, A.; Jamthikar, A.; Jujaray, T.; Suri, N.; **Paul, S**.; Pathak, R.; Saba, L.; Chalakkal, R.J.; Gupta, S.; Faa, G.; Singh, I.M.; Chadha, P.S.; Turk, M.; Johri, A.M.; Khanna, N.N.; Viskovic, K.; Mavrogeni, S.; Laird, J.R.; Pareek, G.; Miner, M.; Sobel, D.W.; Balestrieri, A.; Sfikakis, P.P.; Tsoulfas, G.; Protogerou, A.; Misra, D.P.; Agarwal, V.; Kitas, G.D.; Kolluri, R.; Teji, J.; Al-Maini, M.; Dhanjil, S.K.; Sockalingam, M.; Saxena, A.; Sharma, A.; Rathore, V.; Fatemi, M.; Alizad, A.; Viswanathan, V.; Krishnan, P.R.; Omerzu, T.; Naidu, S.; Nicolaides, A.; Fouda, M.M.; Suri, J.S. (2022) Cardiovascular Risk Stratification in Diabetic Retinopathy via Atherosclerotic Pathway in COVID-19/Non-COVID-19 Frameworks Using Artificial Intelligence Paradigm: A Narrative Review. Diagnostics, 12(1234). **[I.F.:3.992]** *https://doi.org/10.3390/diagnostics12051234* **[Q1]**

23) Suri, J.S.; **Paul, S**.; Maindarkar, M.A.; Puvvula, A.; Saxena, S.; Saba, L.; Turk, M.; Laird, J.R.; Khanna, N.N.; Viskovic, K.; Singh, I.M.; Kalra, M.; Krishnan, P.R.; Johri, A.; Paraskevas, K.I. (2022) Cardiovascular/Stroke Risk Stratification in Parkinson's Disease Patients Using Atherosclerosis Pathway and Artificial Intelligence Paradigm: A Systematic Review. Metabolites, 12(312). **[I.F.:5.581]** *https://doi.org/10.3390/metabo12040312* **[Q2]**

24) Suri, Jasjit S., Mrinalini Bhagawati, **Sudip Paul**, Athanasios D. Protogerou, Petros P. Sfikakis, George D. Kitas, Narendra N. Khanna, Zoltan Ruzsa, Aditya M. Sharma, Sanjay Saxena, Gavino Faa, John R. Laird, Amer M. Johri, Manudeep K. Kalra, Kosmas I. Paraskevas, and Luca Saba. (2022). "A Powerful Paradigm for Cardiovascular Risk Stratification Using Multiclass, Multi-Label, and Ensemble-Based Machine Learning Paradigms: A Narrative Review" Diagnostics 12, no. 3: 722. **[I.F.:3.992]** *https://doi.org/10.3390/diagnostics12030722* **[Q1]**

25) Jena, B., Nayak, G.K., **Paul, S**. et al. (2022) An Exhaustive Analytical Study of U-Net Architecture on Two Diverse Biomedical Imaging Datasets of Electron Microscopy Drosophila ssTEM and Brain MRI BraTS-2021 for Segmentation. SN COMPUT. 3, 418. *https://doi.org/10.1007/s42979-022-01347-y* **[Q3]**

26) Angana Saikia, Sushmi Mazumdar, Nitin Sahai, **Sudip Paul** & Dinesh Bhatia. (2022) Performance Analysis of Artificial Neural Network for Hand Movement Detection from EMG Signals, IETE Journal of Research, 68:2, 1074-1083. **[I.F.: 1.877]** *https://doi.org/10.1080/03772063.2019.1638316* **[Q2]**

27) Suri JS, Bhagawati M, **Paul S**, Protogeron A, Sfikakis PP, Kitas GD, Khanna NN, Ruzsa Z, Sharma AM, Saxena S, Faa G, Paraskevas KI, Laird JR, Johri AM, Saba L, Kalra M. (2022) Understanding the bias in machine learning systems for cardiovascular disease risk assessment: The first of its kind review. Comput Biol Med. 142:105204. **[I.F.: 6.698]** *https://doi.org/10.1016/j.compbiomed.2021.105204* **[Q1]**

28) Khanna NN, Maindarkar MA, Viswanathan V, Puvvula A, **Paul S**, Bhagawati M, Ahluwalia P, Ruzsa Z, Sharma A, Kolluri R, Krishnan PR, Singh IM, Laird JR, Fatemi M, Alizad A, Dhanjil SK, Saba L, Balestrieri A, Faa G, Paraskevas KI, Misra DP, Agarwal V, Sharma A, Teji JS, Al-Maini M, Nicolaides A, Rathore V, Naidu S, Liblik K, Johri AM, Turk M, Sobel DW, Miner M, Viskovic K, Tsoulfas G, Protogerou AD, Mavrogeni S, Kitas GD, Fouda MM, Kalra MK, Suri JS. (2022) Cardiovascular/Stroke

Risk Stratification in Diabetic Foot Infection Patients Using Deep Learning-Based Artificial Intelligence: An Investigative Study. Journal of Clinical Medicine. **[I.F.: 4.9]** https://doi.org/10.3390/jcm11226844 **[Q1]**

29) **Paul S**, Nahar A, Bhagawati M, Kunwar AJ. (2022) A Review on Recent Advances of Cerebral Palsy. Oxid Med Cell Longev. 30;2022: 2622310. **[I.F.: 7.310]** https://doi.org/10.1155/2022/2622310 **[Q2]**

30) **Paul, Sudip** & Jain, Shruti & Majhi, Bikram & Pegu, Karobi & Majhi, Vinayak. (2022). A Non-Invasive IoT-Based Glucose Level Monitoring System. Current Signal Transduction Therapy. 17. https://doi.org/1 0.2174/157436241766620524085231\ **[Q3]**

31) Das R, **Paul S**, Mourya GK, Kumar N, Hussain M. (2022) Recent Trends and Practices Toward Assessment and Rehabilitation of Neurodegenerative Disorders: Insights from Human Gait. Front Neurosci. 15;16: 859298. **[I.F.: 5.152]** https://doi.org/10.3389%2Ffnins.2022.859298 **[Q2]**

32) Saxena, S.; Jena, B.; Gupta, N.; Das, S.; Sarmah, D.; Bhattacharya, P.; Nath, T.; **Paul, S.**; Fouda, M.M.; Kalra, M.; Saba, L.; Pareek, G.; Suri, J.S. (2022) Role of Artificial Intelligence in Radiogenomics for Cancers in the Era of Precision Medicine. Cancers, 14(2860). **[I.F: 6.575]** https://doi.org/10.3390/cancers14122860 **[Q1]**

33) **Paul, S.**; Maindarkar, M.; Saxena, S.; Saba, L.; Turk, M.; Kalra, M.; Krishnan, P.R.; Suri, J.S. (2022) Bias Investigation in Artificial Intelligence Systems for Early Detection of Parkinson's Disease: A Narrative Review. Diagnostic, 12(166). **[I.F.:3.992]** https://doi.org/10.3390/diagnostics12010166 **[Q1]**

34) Reddy S., **Paul S.**, Reddy B. V. (2021). A Review on Wheelchair and Add-in Devices Design for Disabled. International Journal of Biomedical Engineering and Technology (IJBET), accepted for publication. https://doi.org/10.1504/IJBET.2023.128512 **[Q3]**

35) **Paul, S**., (2021). IMPORTANCE OF ANN FOR EARLY DETECTION OF CEREBRAL STROKE. In INTERNATIONAL JOURNAL OF STROKE (Vol. 16, No. 2_ SUPPL, pp. 102-102). SAGE PUBLICATIONS LTD. *10.1177/17474930211041949* **[Q1]**

36) Reddy S., **Paul S.**, (2021). Design and optimization of Direct drive motor Alloy wheel for a manual wheelchair. International Journal of System Dynamics Applications (IJSDA), accepted for publication. 11(5). https://doi.org/10.4018/IJSDA.20211001.oa10 **[Q4]**

37) Mourya G. K., **Paul S.**, Handique A., Baid U., Dutande P., Talbar S. N. (2021). Modified U-Net for Fully Automatic Liver Segmentation from Abdominal CT-Image. International Journal of Biomedical Engineering and Technology (IJBET). https://dx.doi.org/10.1504/IJBET.2022.125099 **[Q4]**

38) Majhi, V., **Paul, S.**, & Saha, G. (2020). Systematic and Symptomatic Review for Parkinson's Disease. Biomedical and Pharmacology Journal, 13(3), 1367-1380. https://doi.org/10.13005/bpj/2006 **[Q4]**

39) Pandey V. K., Majhi V., **Paul S**. (2020). Recovering Oral Motor Strength to Protect Children from Severe Cerebral Palsy through Virtual Gaming Technology. International Journal of Engineering and Advanced Technology (IJEAT). 9(2): 1217-1223. http://dx.doi.org/10.35940/ijeat.B3645.129219 **[Q4]**

40) Patgiri, Juhi & Mondal, Arindam & Kaman, Gitanjali & Deori, Pinki & Majhi, Vinayak & **Paul, Sudip**. (2020). Significant Contribution in Healthcare by using IoT. International Journal of Engineering and Advanced Technology. 10. 259-264. https://doi.org/10.35940/ijeat.A1817.1010120 **[Q4]**

41) Avutu S. R., **Paul S.**, Bhatia D. (2019). Design and feasibility test of an indigenous motorized wheel for manual wheelchair. Int. J. Manuf. Mater. Mech. Eng. 9(3):42–55. https://doi.org/10.4018/IJMMME.2019070104 **[Q4]**

42) Saikia A., Hussain M., Barua A. R., **Paul S**. (2019). Performance analysis of various neural network functions for Parkinson's disease classification using EEG and EMG. International Journal of Innovative Technology and Exploring Engineering. 9(1): 3402-3406. https://doi.org/10.35940/ijitee.A4424.119119 **[Q4]**

43) Saikia A., Majhi V., Hussain M., **Paul S**. (2019). A systematic review on application-based Parkinson's disease detection systems. International Journal on Emerging Technologies. 10(3): 166-173. **[Q4]**

44) **Paul S.**, Bhattacharya P., Pandey A. K., Patnaik R. (2014). Application of mathematical modeling as a tool to analyze the EEG signals in rat model of focal cerebral ischemia. Journal of the Institution of Engineers. Springer. 95(1): 23-27. https://doi.org/10.1007/s40031-020-00439-8 **[Q3]**

PUBLICATIONS NOT COVERED UNDER Q1, Q2, Q3 & Q4

1) Pandey V. K., Tamang D., Saikia A., **Paul S**. (2019). Sub-threshold: A Design Technique for Ultra-Low Power Operation. Journal of Advanced Database Management & Systems. 6(1): 62–68. *https://doi.org/10.37591/joadms.v6i1.2190*
2) Majhi V., Saikia A., Datta A., Sinha A., **Paul S**. (2019). Comprehensive Review on Deep Learning for Neuronal disorders: Applications of deep learning. International Journal of Natural Computing Research (IJNCR). 9(1). *https://dx.doi.org/10.4018/IJNCR.2020010103*
3) Saikia A., Hussain M., Barua A. R., **Paul S**. (2019). EEG-EMG Correlation for Parkinson s Disease. International Journal of Engineering and Advanced Technology (IJEAT). 8(6). *http://dx.doi.org/10.35940/ijeat.F8360.088619*
4) Kumar Pandey, Vinay & Saikia, Angana & **Paul, Sudip**. (2018). Unique Approach to Control Speech, Sensory and Motor Neuronal Disorder Through Natural Language Processing and Cognitive Development: A Review. International Journal on Natural Language Computing. 7. 59-65. *https://doi.org/10.5121/ijnlc.2018.7506*
5) Saikia, A., Bhattacharya, P., & **Paul, S**. (2018). Importance of dopamine in Parkinson's disease. Adv. Tissue Eng. Regen. Med. Open Access, 4. *https://doi.org/10.15406/atroa.2018.04.00077*
6) **Paul S**., Pandey V. K., Saikia A. (2018). A unique approach of cranial nerve stimulation by internet based therapy. MOJ Biology and Medicine. 3. *https://doi.org/10.15406/mojbm.2018.03.00070*
7) Saikia A., Kakoty N., Phukan N., Balakrishnan M., Sahai N., **Paul S.**, Bhatia D. (2018). Combination of EEG features and stability index for finger movements recognition. International Conference on Robotics and Smart Manufacturing (RoSMa 2018); Procedia Computer Science, Elsevier. 133: 92–98. **[I.F: 0.732]** *http://dx.doi.org/10.1016/j.procs.2018.07.012*
8) Pandey V. K., **Paul S**. (2018) Co-occurrences of Oral Motor Disability along with other Disorders: A Review and Prospective. International Journal of Basic and Applied Biology. 5(3):171-173.
9) Atul Kumar Sharma, Raghuvendra Pratap Tripathi, Dinesh Bhatia, **Sudip Paul**, Nitin Sahai, T. K. Sinha (2018), The Evolution and Advancement of Pacemaker Technology, International Journal of Computational Engineering Research (IJCER), 8(7), pp. 34-53.
10) Rajak, Bablu & Gupta, Meena & Bhatia, Dinesh & Mukhgerjee, Arun & **Paul, Sudip** & Sinha, Tapas. (2017). Power Spectrum Density Analysis of EEG Signals in Spastic Cerebral Palsy Patients by Inducing r-TMS Therapy. Journal of Biomedical Engineering and Technology. 4. 7-11. *https://doi.org/10.12691/jbet-4-1-2*
11) Rajak, Bablu & Gupta, Meena & Bhatia, Dinesh & Mukhgerjee, Arun & **Paul, Sudip** & Sinha, Tapas. (2016). Power Spectral Analysis of EEG as a Potential Marker in the Diagnosis of Spastic Cerebral palsy cases. International Journal of Biomedical Engineering and Science. 3. 23-29. *https://doi.org/10.5121/ijbes.2016.3303*
12) Bardoloi, Bijeet & Bhutia, Chungki & Bhatia, Dinesh & **Paul, Sudip**. (2016). Knee Osteoarthritis: An Overview of Recent Interventions. Journal of Biomedical Engineering and Biosciences. 3. 48-61. *https://doi.org/10.11159/jbeb.2017.001*
13) Das, Arundhuti & Ramchiary, Shrimanta & **Paul, Sudip** & Sinha, Tapas & Bhatia, Dinesh. (2016). Studying the impact of alcohol consumption and its cultural understanding using embedding dimension in young healthy adults from Shillong, Meghalaya. International Journal of Biomedical Engineering and Science (IJBES). 3. 19-25. *https://doi.org/10.5121/ijbes.2016.3403*
14) Saikia, Angana & Mazumdar, Sushmi & Sahai, Nitin & **Paul, Sudip**. (2015). Below Elbow Prosthetic: A Path to Independent Era. International Journal of Advanced Information Science and Technology. 34. 9-14. *https://doi.org/10.15693/ijaist/2015.v4i2.1-6*
15) Deepshikha Shrivastava, Dinesh & Bhatia, Nitin Sahai & **Paul, Sudip**. (2015). A Computational Approach for Early-Stage Identification of Lower Limb Muscle Abnormalities in Humans. International journal of Biomedical Engineering and Science. 2. *https://doi.org/10.5121/ijbes.2015.2402*
16) **Paul, S.**, Sinha, T. K., Patnaik, R., & Paul, M. S. (2015). EEG time series data analysis in focal cerebral ischemic rat model. International Journal of Biomedical Engineering and Science, 2(1), 1-10.

17) **Paul, S.**, Sinha, T. K., Bhattacharya, P., & Patnaik, R. (2014). Neural Network based classification of EEG Signal in induced focal cerebral ischemic rat brain. group, 32(32). *https://doi.org/10.15693/ijaist/2014.v3i12.55-60*

18) **Paul S.**, Rout N., Waghmare P. G., Patnaik R. (2014). Design of Low Cost Multi-Use, User-Friendly and Durable Hearing Aid. International Journal of Emerging Engineering Research and Technology. 2(4): 109-115.

19) **Paul, S**., Bhattacharya, P., Pandey, A., Sharma, N., Tiwari, J., & Patnaik, R. (2013). A Strategic Application of Fast Fourier Transform as a Novel Tool to Evaluate the Extent of Neuronal Insult in Rat Model of Focal Cerebral Ischemia. Bangladesh Journal of Medical Physics. 5(1), 29–36. *https://doi.org/10.3329/bjmp.v5i1.14666*

B. Books (edited / authored):

1) **Paul, S.,** & Suri, J. (2025). Artificial Intelligence in e-Health Framework, Volume 1: AI, Classification, Wearable Devices, Computer-Aided Diagnosis, E-Health Records. Academic Press. ISBN: 9780443138164

2) B Jena, S Saxena, **S Paul**. (2025). Machine Learning for Neurodegenerative Disorders: Advancements and Applications. CRC Press, Taylor & Francis. ISBN: 9781032661025

3) **Sudip Paul**, Angana Saikia, Vinayak Majhi, Vinay Kumar Pandey. (2022) Introduction to Biomedical Instrumentation and Its Applications, Elsevier Science, Academic Press, ISBN: 9780128216743

4) Verma, Jitendra & **Paul, Sudip**. (2022). Advances in Augmented Reality and Virtual Reality. Springer, Singapore, ISBN 978-9811672194

5) Saxena, Sanjay & **Paul, Sudip**. (2022). High-Performance Medical Image Processing. Apple Academic Press, Canada, ISBN: 9781003190011

6) Saxena, S., & **Paul, S**. (2021). Deep Learning Applications in Medical Imaging. IGI Global. ISBN: 9781799850717

7) Manocha, Amit & Jain, Shruti & Singh, Mandeep & **Paul, Sudip**. (2021). Computational Intelligence in Healthcare. Springer Nature, Singapore, ISBN: 9783030687229

8) Jain, S., & **Paul, S**. (2021). Assistive Technology Intervention in Healthcare. CRC Press. ISBN: 9781003207856

9) **Paul, S.,** & Bhatia, D. (Eds.). (2020). Smart healthcare for disease diagnosis and prevention. Academic Press. ISBN: 9780128179130

10) Verma, J. K., **Paul, S**., & Johri, P. (Eds.). (2020). Computational Intelligence and Its Applications in Healthcare. Academic Press. ISBN: 9780128206195

11) Johri, P., Verma, J. K., & **Paul, S.** (2020). Applications of Machine Learning. Springer, ISBN: 9789811533570

12) Jain, S. (2020). Advances in Computational Intelligence Techniques. M. Sood, & **S. Paul**, Springer Singapore. ISBN: 9789811526190

13) Jain, Shruti & **Paul, Sudip.** (2020). Recent Trends in Image and Signal Processing in Computer Vision. Springer Nature, Singapore., ISBN: 9789811527395

14) **Paul, S.,** et al. (2019). Cranial Nerves and Oral Motor Disorder in Infants and Adults, Amazon Digital Services LLC - KDP Print US, ISBN: 9781072910336

15) **Sudip Paul**, Sharad Kumar Kulshreshtha, (2019). Global Developments in Healthcare and Medical Tourism. United States: IGI Global. ISBN: 9781522597889

16) **Paul, S.,** Bhattacharya, P., & Bit, A. (Eds.). (2019). Early Detection of Neurological Disorders Using Machine Learning Systems. IGI Global. ISBN: 9781522597872

17) **Paul, Sudip.** (2019). Application of Biomedical Engineering in Neuroscience. Springer Singapore, ISBN: 9789811371424

18) **Paul, S.** (2019). Biomedical Engineering and its Applications in Healthcare, Springer Singapore. ISBN: 9811337055

19) Saikia, Angana & **Paul, Sudip.** (2017). AN OVERVIEW OF PARKINSON'S DISEASE AND ITS RELEVANCE. LAP LAMBERT Academic Publishing, Germany, ISBN: 9786133995994

C. Book Chapters:

1) Bhagawati, M., & **Paul, S.** (2025). Identifying cardiovascular abnormalities. Artificial Intelligence in e-Health Framework, Volume 1: AI, Classification, Wearable Devices, and Computer-Aided Diagnosis. In Elsevier, USA (pp. 227–244).
2) **S. Paul**, (2024). MRI: An important biomarker for radiomics study of brain cancer using machine learning. In: Radiomics and Radiogenomics in Neuro-Oncology. Academic Press publication, (pp. 181-210)
3) Avutu, S. R., & **Paul, S.** (2022). Artificial Intelligence Algorithms for Healthcare and Neurorehabilitation Engineering. Pervasive Healthcare. Springer, Cham. (pp. 103-118).
4) **Paul, S.,** & Datta, A. (2020). Application of machine learning for early diagnosis of Parkinson's disease. Smart healthcare for disease diagnosis and prevention. Academic Press. (pp. 33-41).
5) Majhi, V., & **Paul, S.** (2020). Application of Content-Based Image Retrieval in Medical Image Acquisition. In R. Kashyap, & A. Kumar (Ed.), Challenges and Applications for Implementing Machine Learning in Computer Vision. IGI Global. (pp. 220-240).
6) Saxena, S., **Paul, S.,** Garg, A., Saikia, A., & Datta, A. (2020). Deep Learning in Computational Neuroscience. In R. Kashyap, & A. Kumar (Ed.), Challenges and Applications for Implementing Machine Learning in Computer Vision. IGI Global. (pp. 43-63).
7) Majhi, V., Choudhury, B., & **Paul, S.** (2020). Prevention and Treatment of Alzheimer's Disease in the Light of Ayurveda. In Phytomedicine and Alzheimer's Disease. CRC Press. (pp. 85-96).
8) Pandey, V. K., & **Paul, S.** (2020). Therapeutic approach in cerebral palsy treatment and management: outcomes and benefits. In Smart Healthcare for Disease Diagnosis and Prevention. Academic Press. (pp. 141-151).
9) Saikia, A., & **Paul, S.** (2020). Application of Deep Learning for EEG. In D. Sisodia, R. Pachori, & L. Garg (Ed.), Handbook of Research on Advancements of Artificial Intelligence in Healthcare Engineering. IGI Global. (pp. 106-123).
10) Saikia, A., Hussain, M., Barua, A. R., & **Paul, S.** (2020). An insight into Parkinson's disease: researches and its complexities. In Smart Healthcare for Disease Diagnosis and Prevention. Academic Press. (pp. 59-80).
11) Saikia, A., & **Paul, S.** (2019). EEG signal processing and its classification for rehabilitation device control. In Application of biomedical engineering in neuroscience. Springer, Singapore. (pp. 173-196).
12) Pandey, V.K., **Paul, S.** (2019). Overview of Medical Electronics for Physically Disabled. In: Paul, S. (eds) Biomedical Engineering and its Applications in Healthcare. Springer, Singapore.
13) Bhatia, D., & **Paul, S.** (2019). Sensor fusion and control techniques for bio rehabilitation. In Bioelectronics and Medical Devices. Woodhead Publishing. (pp. 615-634).
14) Avutu, S.R., **Paul, S.,** Bhatia, D. (2019). Smart Rehabilitation for Neuro-Disability: A Review. In: Paul, S. (eds) Application of Biomedical Engineering in Neuroscience. Springer, Singapore.
15) **Paul, Sudip,** Saikia, Angana, et al. (2019) Tremor Identification Using Machine Learning in Parkinson's Disease. Early Detection of Neurological Disorders Using Machine Learning Systems, edited by Sudip Paul, et al., IGI Global, (pp. 128-151).

16) **Paul, S.** (2018) Effect of Dopamine in Parkinson's disease. Trends in Experimental Biology, Vol: 3, Excel Publication, New Delhi, India.

17) **Paul, Sudip** and Tapas Kumar Sinha. (2018) Remote Monitoring via EEG of Persons in Severe Depression. Design and Development of Affordable Healthcare Technologies, edited by Arindam Bit, IGI Global, pp. 288-298.

D. Selected Conference Publications:

1) S. Srinivas, P. DK, P. Padmanabha, **S. Paul** and P. R. Sankpal. (2025). Quantum Dots in Modern Medicine: Advancing Imaging, Diagnostics, and Drug Delivery. 2025 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), Bangalore, India, 2025, pp. 1-6
2) Bhagawati, M., & **Paul, S.** (2024, March). Generative Adversarial Network-based Deep Learning Framework for Cardiovascular Disease Risk Prediction. In 2024 5th International Conference on Innovative Trends in Information Technology (ICITIIT) (pp. 1-4). IEEE.
3) A Saikia and **S Paul.** (2023, October). Study of Early-stage Parkinson's Illness EEG Activity Using Wavelet Techniques, in XLI Annual Meeting of the Indian Academy of Neurosciences and International Conference on BRAIN: CHEMISTRY TO COGNITION
4) Pandeya, V.K., V. Majhi, **S. Paul**, S. Jain. 2023, Gamifying Therapy: A New Approach to Modern Therapeutics, in International Conference on Machine Learning and Data Engineering (ICMLDE-2023). Science Direct.
5) Bhagawati, M., & **Paul, S.** (2023, November). Artificial Intelligence Method for Identifying Cardiovascular Disease Risk. In 2nd International Conference on Data, Electronics and Computing (ICDEC 2023) (pp. 34). Springer.
6) Suri, J. S., Bhagawati, M., **Paul, S.,** Protogeron, A., Sfikakis, P. P., Kitas, G. D., & Kalra, M. (2022). How Critical is Gold Standard during Artificial Intelligence Design for Coronary Artery Disease Prediction using Carotid Ultrasound: A Bias Study. Annual integrative ultrasound meeting (AIUM), March 12-16.
7) V. Majhi, **S. Paul** and G. Saha, Impact of Surgical History on Parkinson's Disease Progression, 2022 IEEE Delhi Section Conference (DELCON), 2022, pp. 1-5.
8) S. Jain and **S. Paul**, Determination of Risk Prediction using Random Forest technique for Breast Cancer, 2022 IEEE Delhi Section Conference (DELCON), 2022, pp. 1-4.
9) V. Majhi, A. Sinha, **S. Paul** and A. K. Baruah, Designing of a Large Scale Automated Composite Book Sanitizer Machine, 2021 International Conference on Computational Performance Evaluation (ComPE), 2021, pp. 702-709.
10) K. Parasar, N. C. Bhutia, A. Saikia, S. Jaiswal and **S. Paul**, Energy of the wavelet components in EEG signal during cognitive task, 2021 International Conference on Computational Performance Evaluation (ComPE), 2021, pp. 988-991.
11) S. Chakraborty, N. De, D. Marak, M. Borah, **S. Paul** and V. Majhi, Voice Controlled Robotic Car Using Mobile Application, 2021 6th International Conference on Signal Processing, Computing and Control (ISPCC), 2021, pp. 1-5.
12) M. Bhagawati and **S. Paul**, Machine Learning for Major Depressive Disorder: An Overview, 2021 9th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO), 2021, pp. 1-4.
13) Bharadwaj S., **Paul S.** (2020). Curve Tracing Method in Segmentation and Detection of Type 2 Diabetes Mellitus in ECGs of Unhealthy Patients. 2020 IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS). Bhopal, India. (ORAL)

14) Saikia A., Majhi V., Hussain M., Barua A.R., **Paul S.,** Verma J.K., (2020). Machine learning based diagnostic system for early detection of Parkinson's disease. IEEE International Conference on Computational Performance Evaluation (ComPE), North-Eastern Hill University, India (ORAL)

15) Avutu S. R., **Paul S.**, Reddy B. V. (2020). Modeling and Comparative Analysis of Direct Drive Wheel for Manual Wheelchair. 2020 IEEE Bangalore Humanitarian Technology Conference, BHTC-2020 (Best paper award) (ORAL)

16) Avutu S. R., **Paul S**, A. P. V.V.B, Verma J. K. (2020). Modelling of Brushless DC Hub Motor to control the speed of Indigenous powered wheelchair. 2020 International Conference on Computational Performance Evaluation (ComPE), North-Eastern Hill University, Shillong, Meghalaya, India. (ORAL)

17) Majhi V., **Paul. S**, Saha G., Verma J. K. (2020). Sensor based Detection of Parkinson's Disease Motor Symptoms. 2020 International Conference on Computational Performance Evaluation (ComPE), North-Eastern Hill University, Shillong, Meghalaya, India. (ORAL)

18) Saikia A., Hussain M., Barua, A. R., **Paul S**. (2019). Significance of Lyapunov Exponent in Parkinson's Disease Using Electroencephalography. 6th IEEE International Conference on Signal Processing and Integrated Networks (SPIN), Amity University, India. (ORAL)

19) Majhi, V., **Paul S.,** Jain R. (2019). Bioinformatics for Healthcare Applications. 2019 IEEE Amity International Conference on Artificial Intelligence (AICAI). IEEE sponsored Amity International Conference on Artificial Intelligence, Dubai. (ORAL)

20) **Paul S.,** Verma J., Datta A., Shaw R., Saikia A. (2018). Deep Learning and its Importance for Early Signature of Neuronal Disorders. 4th IEEE International Conference on Computing Communication and Automation, Galgotias University; India (ORAL)

21) **Paul S.,** Bhattacharya P, Saikia A. (2018). Early detection of cerebral stroke using bio signals. 11th World Stroke Congress, Montreal, Canada. International Journal of Stroke. 13(2S):136 [ISSN: 17474949; I.F.: 3.833] (E-POSTER)

22) Rajak B. L., Gupta M., Bhatia D., Mukherjee A., **Paul S.,** Sinha T. K. (2018). Power Spectral Study of EEG Signal from the Frontal Brain Area of Autistic Children, in Proceedings of the International Conference on Computing and Communication Systems. Springer, Singapore. [ISBN: 9789811068898].

23) Sari I., Bhalerao G.V., **Paul S.** (2018). An Image-Based Approach for the Classification of Dementia from Brain Magnetic Resonance Images, in Proceedings of the International Conference on Computing and Communication Systems. Springer, Singapore. [ISBN: 9789811068898].

24) **Paul S.,** Sinha T., Patnaik R. (2017). Feedforward neural network-based classification cans possibly a novel tool to evaluate the neuronal condition in rat model. XXIII World Congress of Neurology, Kyoto, Japan. (E-POSTER) [ISSN: 1878-5883; I.F.: 2.447]

25) Mazumdar S, Saikia A, Sahai N, Bhatia D, **Paul S.** (2017). Determination of Significant Muscle in Movement of Upper Limb using Maximum Voluntary Contraction of EMG Signal. 4th IEEE Signal Processing and Integrated Networks Conference. India. (ORAL)

26) Pandey V. K., Saikia A, **Paul S.** (2017). Unique approach to control speech sensory and motor neuronal disorder through natural language processing and cognitive development: A Review. REGICON 2017, IIIT Manipur, India. (ORAL)

27) **Paul S.,** Sinha T. K. (2016). Effect of cerebral stroke on collective neural oscillations in rat brain. 10th World Stroke Congress, Hyderabad. International Journal of Stroke. 11(Supp 3): 203-204. [ISSN: 1747-4949; I.F.: 3.833] (POSTER; Young Investigator Award)

28) Saikia A., Mazumdar S., Sahai N., **Paul S.,** Bhatia D. (2016). Comparative study and feature extraction of the muscle activity patterns in healthy subjects. 3rd IEEE International Conference on Signal Processing and Integrated Networks, SPIN 2016, pp. 147-151. (ORAL)

29) Bhatia D., Rajak B.L., Gupta M., Mukherjee A., **Paul S.,** Sinha T.K. (2016). Improved motor performance in spastic cerebral palsy children after repetitive transcranial magnetic stimulation. SfN Neuroscience 2016 Conference, San Diego, USA. (POSTER)

30) Rajak B.L., Gupta M., Bhatia D., Mukherjee A., **Paul S**., Sinha T.K. (2015). FFT Based Analysis Provide a New Dimension for Spastic Cerebral Palsy Children- Post rTMS therapy. 29th Annual Meeting of the Society for Neurochemistry, India: National Workshop and Conference on Advances in Computational Neurochemistry and Neurobiology, NEHU. (ORAL; Best Oral Presentation Award)

31) Saikia A., Mazumdar S., Sahai N., **Paul S.,** Bhatia D. (2015). Brain computer interfaced controlled prosthetic hand using EMG Signal. 29th Annual Meeting of the Society for Neurochemistry, India: National Workshop and Conference on Advances in Computational Neurochemistry and Neurobiology, NEHU. (ORAL)
32) Afrooz M., Dutta J., Islam M., Khandokar M. U., **Paul S.** (2015). Design of ECG amplifier with QRS component detector Module. National Conference on Recent Advances in Biomedical Engineering, NEHU, India. (ORAL; Best Oral Presentation Award)
33) Mazumdar S., Saikia A., Sahai N., **Paul S.,** Bhatia D. (2015). Microcontrollers in Prosthetics: An Overview. National Conference on Recent Advances in Biomedical Engineering, NEHU, India. (ORAL)
34) **Paul S.** (2015). Advanced EEG Recordings as Tools for Treating Brain Strokes. 102nd Indian Science Congress, University of Mumbai, India. (POSTER)
35) **Paul S.,** Bhattacharya P., Sinha T. K., Patnaik R. (2014). Characterization of the brain attractors in focal cerebral ischemic rat model using EEG time series data analysis. SfN Neuroscience-2014, Washington DC, USA. (POSTER)

E. Special Issue editors/guest editors / conference proceedings editor:

1) **Paul, Sudip** & Jain, Shruti. (2022). Special Issue: Modern Technological Intervention in Healthcare: Vol 1, *https://www.sciencedirect.com/journal/measurement-sensors/special-issue/10SV36HVLC4*
2) **Paul, S.,** et al. (2022). Advancement in Biomaterials & Smart Materials for Healthcare (Guest Editor), Tech Science Press, ISSN 1546-2218.
3) **Paul, S.,** et al. (2021) International Conference on Computational Performance Evaluation (ComPE) Proceedings, Shillong, India, 2021, ISBN 9781665436564, DOI: *https://doi.org/10.1109/ComPE53109.2021*
4) **Paul, Sudip** & Jain, Shruti. (2021). Special Issue: Sensor-based Wireless Biomedical Systems for Health Technologies. Measurement: Sensors ISSN 2665-9174, 17. 100058. DOI: *http://dx.doi.org/10.1016/j.measen.2021.100058*
5) **Paul, S.,** et al. (2021). Abstract Book of IBRO Global Engagement Workshop 2021 on Neurodegenerative Diseases, Self-Published (Raja Rammohun Roy National Agency for ISBN), ISBN 9789355268655
6) **Paul, S.,** et al (2020) International Conference on Computational Performance Evaluation (ComPE) Proceedings, Shillong, India, 2020, ISBN 9781728166445, DOI: *https://doi.org/10.1109/ComPE49325.2020*
7) **Paul, S.,** et al. (2017). Journal of Biological Engineering Research and Review (Guest Editor), Journal of Biological Engineering Research & Review, ISSN 2349-3232

vii.INVITED TALK / RESOURCE PERSONS:

Topic of Talk	*Name of The Event with Place*	*Date*
Parkinson's Disease Risk Classification: A Deep Learning-based Artificial Intelligence Approach	IAN 2024, NIMHANS Bengaluru	14.11.2024
Biomedical Waste and Management	Faculty Induction Programme, UGC-MMTTC, University of Rajasthan, Jaipur	21.09.2024

Biomedical Waste Management	NEHU, Shillong in collaboration with Meghalaya Medical Drugs and Services Limited, Govt. of Meghalaya	19.09.2024
Biomedical Waste and environmental impacts	Refresher Course at UGC-MMTTC, NEHU, Shillong	11.09.2024
Advancement of Artificial Neural Networks to Enhance Cognitive Disorder Treatment	International Conference on Recent Innovations in Biomedical Science & Healthcare for Sustainable Development (ICBSH) 2024 at Galgotias University, Noida	03.09.2024
AI in Biomedicine	VPM`s Maharshi Parshuram College of Engineering	27.08.2024
The efficacy of Artificial Intelligence in comprehending, diagnosing, and addressing neurological disorders and mental health conditions	Refresher Course on Recent Trends in Artificial Intelligence, Machine Learning and applications at UGC-MMTTC, NEHU, Shillong	28.06.2024
AI in Healthcare	Short-term Course in Telemedicine and Digital Health held at UGC-MMTTC, NEHU, Shillong	05.03.2024
IPR and its importance in Research and Development	Online International Faculty Development Program on Bridging Research &Innovation in Biomedical Sciences and Engineering, Galgotias University, Greater Nodia	23.02.2024
Biomedical Engineering and Its recent applications	7th International Conference on Recent Trends in Bioengineering (ICRTB 2024) held at MIT School of Bioengineering Sciences & Research, MIT-ADT University, Pune during	19.01.2024 t o 20.01.2024
Safety Parameters while working under Lab conditions	UGC-HRDC, NEHU Short term course	18.02.2023
Development of Innovative Healthcare Devices	VRITIKA Internship Programme	31.08.2022
Future Technologies	VIGYANUTSAV	May, 2022
How to write a good Project Proposal	DIC, NEHU, Shillong, India	20.02.2021
Application of IOT in Healthcare	Tech World Congress, EFY Group	23.01.2021
Efficacy of gaming therapy for oral motor and cranial nerve disorders	34th SNCI Annual conference on Brain Diseases, Injuries and Infections: Emerging Challenges and treatment strategies, University of Hyderabad, India	13.12.2020
Artificial Neural Network for Parkinson`s disease	International Conference on Applications of Networks, Sensors and Autonomous Systems Analytics (ICANSASA 2020)	12.12.2020
Basics of Biomedical Engineering (Discussion on the Project`s Topic)	DIC, NEHU, Shillong, India	28.11.2020

Basics of Biomedical Engineering	DIC, NEHU, Shillong, India	10.10.2020
Application of IoT in Medical Science	AICTE-ATAL, IT Department, NEHU, India	09.10.2020
Application of Medical Image Processing in Healthcare	AICTE sponsored short-term training programme, Sri Ramakrishna Engineering College, Coimbatore, India	19.08.2020/ 23.09.2020 /21.10.2020
Introduction to Medical Image Processing	AICTE sponsored short-term training programme, Sri Ramakrishna Engineering College, Coimbatore, India	17.08.2020/ 21.09.2020/ 19.10.2020
Applications of Artificial Neural Network for Parkinson's Disease	IEEE Conference AMPHE 2020	09.04.2020
Detection of neuronal impairment in Parkinson's disease	IBRO- APRC Bangladesh Associate School of Neuroscience (2019): Fundamental of Neuroscience, Neural Disorders and Neural Engineering	06.12.2019
Neuronal Oscillations: An early signature of Parkinson`s Disease	IBRO- APRC Bangladesh Associate School of Neuroscience (2019): Fundamental of Neuroscience, Neural Disorders and Neural Engineering	08.12.2019
Electrophysiology and Brain Signal Analysis	Department of Biomedical Physics & Technology University of Dhaka	05.12.2019
Development of Artificial Neural Network to Improve the Cognitive Disorder	XXXVII Annual Meet of Indian Academy of Neurosciences, AIIMS, New Delhi	19.11.2019
Artificial Intelligence and allied areas	DIC, NEHU, Shillong, India	16.11.2019
Robotics: An Advanced Technology for Healthcare System	AICTE-ATAL, Biomedical Engineering, NEHU, India	06.11.2019
Hands on Training Basics of Robotics	AICTE-ATAL, Biomedical Engineering, NEHU, India	05.11.2019
Importance of Tremor Identification for Parkinson's disease	International Conference on Neurological Disorders and Therapeutics 2019 (ICNDT-2019), NIPER-Ahmedabad	26.10.2019
Design of power supply and amplifier, filter for any device development	DIC, NEHU, Shillong, India	19.10.2019
Intervention of Early Signature of Neurodegenerative disorders	International Conference on Frontiers in Neuroscience and Neurochemistry: Dynamic Challenges and Approaches, with SNCI meeting Jamia Hamdard, Delhi	11.10.2019
Introduction to DIC and how to implement project with your general knowledge for benefit of mankind	DIC, NEHU, Shillong, India	07.09.2019

Aspects of SCIENCE, Engineering and Technology	Induction Programme 2019, Techno International Batanagar, India	01.08.2019
Advancements in Biomedical Instrumentation and its application in Healthcare for Benefit of Mankind	JIS College of Engineering, India	26.07.2019
Comprehensive analysis of rat brain stroke model EEG signal and it`s classifications	Special Neuroscience Seminar, Florey Institute of Neuroscience & Mental Health, Melbourne, Australia	15.10.2018
Yoga: A regenerative medicine special focus to North-East India	North Eastern Institute of Ayurveda & Homoeopathy (NEIAH). Shillong	31.05.2018
Medical Electronics: Past, Present and Future Scenario	National Institute of Electronics and Information Technology (NIELIT) Shillong	30.05.2018
Early Detection of Parkinson's Disease Using EEG	Third Annual Meeting of Neuroscience Society of Nepal (NSN)	12.05.2018 to 13.05.2018
Mathematical approach to determine the brain activity using EEG signals-DURING ISCHEMIC STROKE CONDITION of RAT BRAIN	IBRO Associate Neuroscience School, Nepal	08.05.2018 to 12.05.2018
EEG and its importance	Showcase (Key Collaborators meet), Central India Institute of Medical Sciences (CIIMS) Research Showcase at Hotel Centre point, Nagpur	08.02.2018 and 09.02.2018
NEURAL MODELLING BASED CLASSIFICATION OF RAT BRAIN EEG SIGNAL DURING ISCHEMIC STROKE CONDITION	VII Congress of Federation of Indian Physiological Societies (FIPS) & XXIX Annual Conference of Physiological Society of India (PSI) Organized by Defence Institute of Physiology & Allied Sciences, DRDO, Delhi, India	05.03.2017 to 07.03.2017
Mathematical approach to determine the brain activity using EEG signals	2nd IBRO/APRC Chandigarh Neuroscience School at Panjab University, Chandigarh, India	14.12.2016 to 22.12.2016
Analysis of HUMAN Brain ACTIVITY	TEQIP Sponsored Invited lecture at JIS College of Engineering	29.07.2016
EEG Time-Series Data Analysis In Focal Cerebral Ischemic Rat Model	QIP Short term course on "Advances in Biomedical Engineering", IIT-Guwahati	(25.02.2015 to 01.03.2015)
Techniques for EEG signal analysis	Workshop on "Advances in computational Neurosciences", NEHU	(24.03.2014 to 29.03.2014)

viii. CONFERENCE / SEMINARS / WORKSHOPS ATTENDED:

International:

1) International Conference on Signal Processing, Computing and Control organized by JUIT, India (07.10.2021 to 09.10.2021)
2) International Symposium on Impact of COVID-19 on Geo-Politics and international Relations: Prospects and Challenges organized by Galgotias University (22.05.2020)

3) International Virtual Summit under Theme: Technology and Computational Advancements and Challenges and Theme: Global Impacts and Trends of the pandemic organized by Galgotias University (01.05.2020 to 02.05.2020)
4) Science, Technology, Engineering and Mathematics (STEM) Postgraduate Information Evening, The University of Western Australia. (10.10.2018)
5) Western Australian Mental Health Research Alliance Annual Symposium, Collaboration, Innovation and Research Excellence, Bruce Hunt Theatre, Royal Perth Hospital, Australia. (05.10.2018)
6) Maximizing Data Quality in Life Science Data Acquisition and Analysis, Brandon Bucher, Head of Research, AD Instruments, Dunedin, New Zealand. (04.10.2018)
7) Supporting Students with Autism Spectrum Conditions, The University of Western Australia. (25.09.2018)
8) International Conference on "Emerging Microbes & Infection & its Impact on Public Health", CIIMS, Nagpur, India.09.02.2018)
9) Society for Neuroscience (SfN) 2016 Conference, San Diego, USA. (12.11.2016 to 16.11.2016)
10) 10th World Stroke Congress, Hyderabad, India. (26.10.2016 to 29.10.2016)
11) Society for Neuroscience (SfN) 2015 Conference, Chicago, USA. (17.10.2015 to 21.10.2015)
12) 22nd Meeting of the European Neurological Society, Prague, Czech Republic. (09.06.2012 to 12.06.2012)
13) IBRO / UNESCO Advanced School, Cape Town, South Africa. (12.12.2011 to 23.12.2011)
14) Electrophysiology School of Strasburg-2011, University of Strasburg, France. (10.10.2011 to 15.10.2011)
15) International Conference- ISN-ESN 2011, 23rd Biennial Meeting, Athens, Greece. (28.08.11 to 01.09.11)
16) ISN, APSN, IBRO & SNCI School on Neurodegenerative Diseases, Cochin University, India. (07.12.2009 to 11.12.2009)

National:

1) Conference on DELCON, IEEE 2022, organized by Netaji Subhas University, New Delhi, India (11.02.2022 to 13.02.2022)
2) Workshop on National Education Policy 2020 with a focus on Higher Education and Research under TEQIP-III, organized by NIT-Meghalaya (17.02.2021)
3) Innovation Series on Patent Search and Filing organized by Turnip Innovations, India (16.02.2021 to 20.02.2021)
4) Workshop on Technology Commercialization organized by Turnip Innovations, India (15.02.2021)
5) India International Science Festival, 2020 (IISF 2020) organized by Ministry of Science and Technology, Ministry of Earth Sciences and Ministry of Health and Family Welfare, Govt. of India (22.12.2020 to 25.12.2020)
6) TEQIP-III Sponsored Short-term Course on Current Trends in Biomedical Signal and image Processing organized by IIT Indore (20.10.2020 to 22.10.2020)
7) IEEE Bangalore Humanitarian Technology Conference (B-HTC) 2020 organized by IEEE Bangalore Section (08.10.2020 to 10.10.2020)
8) Workshop on MOOCs, online Courses & Open Educational Resources organized by UGC-HRDC, NEHU, Shillong (28.09.2020 to 05.10.2020)
9) National Training Programme on Earthquake Risk Mitigation jointly organized by National Institute of Disaster Management, Ministry of Home Affairs and NEHU, Shillong (08.07.2020 to 10.07.2020)
10) Awareness and Prevention Program on nCOVID-19 organized by Apollo MedSkills (14.04.2020)
11) North East Regional Training Programme for Administrators of plagiarism Detection Software (PDS) URKUND jointly organized by NEHU, Shillong and INFLIBNET Centre, Gandhinagar (23.08.2019)

12) Workshop on Massive Open Online Courses (MOOCs) on the theme of Adoption, promotion and Development of MOOCs through SWAYAM platform organized by NEHU, Shillong. (28.05.2019 to 29.05.2019)
13) Workshop on IPR, Patent & Trade Mark organized by NEHU, Shillong. (04.05.2019)
14) #BioTweet18, Twitter based poster conference organized by Amity Institute of Biotechnology, Amity University Mumbai. (28.09.2018 to 29.09.2018)
15) Workshop on Recent Advances in Mechatronics and Robotics organized by NIT-Meghalaya. (22.03.2018 to 24.03.2018)
16) 105th Indian Science Congress organized by Manipur University. (16.03.2018 to 20.03.2018)
17) Workshop on Virtual Laboratory organized by NEHU, Shillong. (08.03.2018 to 09.03.2018)
18) Workshop on Synthesis and Characterization of Nanomaterials for Solar application organized by NEHU, Shillong. (11.09.2017 to 16.09.2017)
19) Faculty Knowledge sharing program on Data Analytic using R organized by NEHU, Shillong. (08.09.2017)
20) Workshop on an introduction to Biomedical Signal Processing using MATLAB organized by NEHU, Shillong. (12.08.2017 to 14.11.2017)
21) Workshop on Medical Image Processing using MIMICS Innovation Suite organized by NEHU, Shillong. (10.08.2017 to 11.08.2017)
22) Training on Power Lab Data Acquisition System and Lab Chart Software organized by AD INSTRUMENTS, New Delhi. (20.01.2017 to 30.01.2017)
23) Workshop on Advanced tools in MATLAB organized by NEHU, Shillong. (27.09.2016)
24) Workshop on MIMICS organized by NEHU, Shillong. (19.09.2016 to 20.09.2016)
25) Workshop on Introduction to Robotics organized by Tezpur University, Assam. (29.04.2016 to 30.04.2016)
26) Workshop on Virtual Laboratory, NEHU, Shillong. (30.10.2015 to 31.10.2015)
27) Seminar program on MATLAB for Data Analytics and Computer Vision organized by MATH WORKS, Kolkata. (15.09.2015)
28) Entrepreneurship Awareness Camp organized by NEHU, Shillong. (26.03.2015 to 28.03.2015)
29) Symposia on Research Methodology and Biomaterials for Human applications for Clinical Translational Research organized by NEIGRIHMS, Shillong. (20.03.2015 to 21.03.2015)
30) QIP Short term course on Advances in Biomedical Engineering organized by IIT-Guwahati. (25.02.2015 to 01.03.2015)
31) 102nd Indian Science Congress organized by University of Mumbai, India. (03.01.2015 to 07.01.2015)
32) TEQIP Short term course on Sophisticated Instruments in Interdisciplinary Research organized by IIT-Guwahati. (24.11.2014 to 27.11.2014)
33) Workshop on Value proposition personality development and communication skills organized by NEHU, Shillong. (11.09.2014 to 12.09.2014)
34) Workshop on Advances in computational Neurosciences organized by NEHU, Shillong. (24.03.2014 to 29.03.2014)
35) Short –Term course in SPSS organized by UGC-ASC, NEHU. (02.12.2013 to 07.12.2013)
36) North East Conference on Rehabilitation of Persons with Multiple Disabilities organized by NIEPMD, Chennai at Guwahati. (27.11.2013 to 28.11.2013)
37) Conference on Rehabilitation of Persons with Multiple Disabilities organized by NIEPMD, Chennai at New Delhi. (27.09.2013 to 28.09.2013)
38) Brain Storming Workshop on Development of R & D proposals for North Eastern States of India organized by Tripura State Council for Science and Technology, Agartala & DST, Delhi. (18.10.2012 to 19.10.2012)
39) National Conference on Mathematical Modeling and Computer Simulation organized by Banaras Hindu University, Varanasi. (25.03.2011 to 27.03.2011)
40) Symposium on Brain Aging and Dementia organized by Banaras Hindu University, Varanasi. (29.11.2010 to 30.11.2010)
41) Training on Ischemic Model of Rat organized by CDRI, Lucknow. (13.09.2010 to 17.09.2010)

42) Magnetic Resonance Imaging training organized by IIT- BOMBAY, Mumbai. (19.05.2010 to 23.05.2010)
43) Training on HPLC, UPLC and operating software like- Empower by Waters India (P) Ltd, New Delhi. (16.11.2009 to 17.11.2009)
44) Workshop on Scientific Computing in Biomedical Engineering organized by HCST, Agra. (30.08.2008 to 31.08.2008)
45) Implant Industrial Training on Bio-Medical Engineering organized by IIMT, Kolkata. (26.06.2006 to 15.07.2006)
46) National Technical Symposium on Biomedical Engineering organized by Siliguri, West Bengal. (07.04.2006 to 08.04.2006)
47) Implant Industrial Training on Bio-Medical Engineering organized by Electronic Engineering Corporation, Chennai. (25.07.2005 to 10.08.2005)

ix. ORIENTATION PROGRAMMES / REFRESHER COURSE / FDP ATTENDED:

1) Participated in NEP 2020 Orientation & Sensitization Programme, organized by MMTTC, NEHU (05.12.2023 to 15.12.2023)
2) Special Summer School (Refresher Course) on 'Society, Polity and Economy' (online) by UGC-HRDC, Mizoram University. (16.06.2022 to 29.06.2022)
3) FDP (online) on Applied Machine Learning and Deep Learning by Assam Science and technology University, Assam under TEQIP III, MHRD (24.02.2021 to 01.03.2021)
4) 7th Winter School (online) on Science-Tech, Ed-Research & Yoga-Meditation, Stress Management, IDC by UGC-Human Resource Development Centre, Gauhati University, Assam (20.01.2021 to 02.02.2021)
5) Refresher Course (online) on Indigenous Knowledge & Ethics by UGC-Human Resource Development Centre, Himachal Pradesh University, Shimla (31.08.2020 to 12.09.2020)
6) AICTE-ATAL FDP (online) on Stress Management organized by IIT-Madras (26.08.2020 to 30.08.2020)
7) AICTE-ATAL FDP (online) on Online teaching and learning technologies organized by MNNIT-Allahabad (17.08.2020 to 21.08.2020)
8) Refresher Course (online) in Engineering, Physical Science and Management by IEEE Delhi Section & AICTE's Industry Institute Partnership Cell (IIPC) of Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi in collaboration with IEEE Computer Society (Delhi Section), CSI & ISTE, Delhi Section at Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), India (22.06.2020 to 04.07.2020)
9) International FDP (online) on RECENT ADVANCES IN COMPUTER SCIENCE AND ALLIED DOMAINS (RACSAD 2020) by Department of CSE, Sharda University, India (08.06.2020 to 12.06.2020)
10) FDP (online) on Innovation Start-up IPR: A Post COVID-19 View by JIS College of Engineering, Kalyani, India (03.06.2020 to 09.07.2020)
11) AICTE-ATAL workshop on 3D Printing & Design organized by NEHU, Shillong (02.03.2020 to 06.03.2020)
12) AICTE-ATAL workshop on Energy Management and Audit organized by NEHU, Shillong (14.10.2019 to 18.10.2019)
13) Special Summer School by UGC-Human Resource Development Centre, NEHU, Shillong, India (08.07.2019 to 21.07.2019)
14) GIAN Course on Innovative Principles of Gait Training: Neuroplasticity Principles, Biomechanics, and Computational Method, NIT, Rourkela. (26.12.2017 to 30.12.2017)
15) Special Summer School by UGC-Human Resource Development Centre, NEHU, Shillong, India (27.06.2016 to 17.07.2016)
16) 32nd Orientation Programme by UGC-Human Resource Development Centre, NEHU, Shillong, India (20.04.2015 to 17.05.2015)

x. MEMBERSHIPS:

1) Overseas member Japanese Neuroscience Society (JNS)
2) Regular member of Asian-Pacific Society for Neurochemistry (APSN)
3) Member of World Stroke Organization
4) Life member of Indian Academy of Neuroscience (IAN)
5) Life member of International Brain Research Organization (IBRO)
6) Life member of the Western Australian Mental Health Research Alliance
7) Life member of UWA Biomedical Engineering Society
8) Life member of Biomedical Engineering Society of India (BMESI)
9) Life member of Society for Biomaterials and Artificial Organs, India
10) Life member of Society for Neurochemistry, India (SNCI)
11) Life Member of Indian Science Congress Association (ISCA)
12) Regular member of Asian-Pacific Society for Neurochemistry (APSN)
13) Member of The Institute of Electrical and Electronics Engineers (IEEE)
14) Member of IEEE Industrial Applications Society (IEEE-IAS)
15) Member of Society for the Neural Control of Movement

xi. JOURNAL EDITORIAL BOARD MEMBER / REVIEWER / CONFERENCE REVIEWER:

1) CRC Press, Taylor & Francis
2) Wiley
3) Neuropharmacology
4) International Conference for Advancement in Technology (ICONAT), IEEE
5) International Conference on Advances and Applications of Artificial Intelligence and Machine Learning (ICAAAIML), Sharda University, UP, India
6) International Journal of Cognitive Informatics and Natural Intelligence (IJCINI), IGI Global, USA
7) International Journal of Healthcare Information Systems and Informatics (IJHISI), IGI Global, USA
8) International Journal of Natural Computing Research (IJNCR), IGI Global, USA
9) Journal of Advanced Emergency Medicine
10) Advances in Tissue Engineering and Regenerative Medicines: Open Access
11) Journal of Biomedical Signal Processing and Control
12) Equipes FRM
13) Medical Hypothesis, Elsevier, ACS Chemical Neuroscience
14) International Journal of Biomedical Engineering and Science
15) International Journal of Bionics and Biomaterial
16) Journal of Biological Engineering Research and Review
17) International Journal of Biomedical Engineering
18) Journal of The Institution of Engineers (India): Series B, Springer
19) Neural Computing and Applications, Springer
20) 7th IEEE International Conference on Signal Processing and Integrated Networks (SPIN), Amity University, India.
21) 8th International Conference on Pattern Recognition and Machine Intelligence (PReMI 2019), Tezpur University, India.
22) 6th IEEE International Conference on Signal Processing and Integrated Networks (SPIN), Amity University, India.
23) IEEE sponsored Amity International Conference on Artificial Intelligence (AICAI`2019), Dubai.
24) 4th IEEE International Conference on Computing Communication and Automation (ICCCA 2018), Galgotias University, India.
25) International Conference on Computing and Communication Systems (I3CS'16), NEHU, India.

26) International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET 2016), JIS College of Engineering, India.
27) Editor in-Chief - IBRO/APRC Associate School 2017, NEHU, India.
28) Editor in-Chief - Conference proceedings (SNCI-ACNN 2015), NEHU, India.
29) Editor in-Chief - Conference proceedings (NCRABME-2015), NEHU, India

D. ADMINISTRATIVE RESPONSIBILITIES:

1) Administrative Responsibilities as Assistant Registrar (I/c) Estt-II, NEHU since 01.12.2023.
2) Administrative Responsibilities as Teacher (I/c) BME Department (03.04.2020 to 25.09.2023).
3) Central Public Information Officer for RTI of Establishment-II section since 14.12.2023.
4) Member of University MoU committee since 24.07.2023.
5) Member Secretary for the preparing the feasibility report to start new MBA course in Hospital Administration.
6) University Universal Human Value Co-coordinator (UCC-UHV).
7) Council Member from INDIA- Asian Pacific Society for Neurochemistry (APSN) (2018-2022).
8) Coordinator- SNCI North-East Local chapter.
9) Member- Board of Studies in ECE, ENE, BME, MCA Department, NEHU.
10) Member- Departmental Research Committee (DRC), Departmental Purchase Committee (DPC) and Department Disciplinary Committee (DDC).
11) Member-B. Tech Admission committee, NEHU and B. Tech Lateral admission committee, NEHU.
12) Member of Institutional Bio-Safety Committee.
13) Member- School Board (SOT, NEHU).
14) Coordinator- B. Tech Admission Committee, NEHU.
15) Joint Secretary- Biomedical Engineering Society of India (BMESI)
16) TPC- NRHM Division- I, Ministry of Health & Family Welfare, Govt. of India.
17) Member- UGC Special grant in aid committee from NEHU.