


Curriculum Vitae (CV)

Prof. Jiten Ch. Dutta Department of ECE Tezpur University (A Central University) Assam	
--	---

1. General Information:

Name	DR. JITEN CH. DUTTA
Date of Birth	01/03/1963
Father's Name	Late Hit Nath Dutta
Mother's Name	Late Kusum Dutta
Nationality	India
Phone No.	Mobile No. : 9954707774
Email	jitend@tezu.ernet.in
Correspondence Address	Professor Electronics and Communication Engg. Department Tezpur University Tezpur, Assam, India Napam 784028
Permanent Address	Phakum Nakatani Vill P.O. Nakatani Dist: Sibsagar Assam, India Sibsagar 785667

2. Educational Qualification (In chronological order from latest to Pre University level)

S.No.	Qualification	University/ Institution	Year	Subject(s) / Topic(s)	% of marks obtained	Distinctions etc.
1.	Ph.D (Engg.)	Jadavpur University	2001	Biosensors	N/A	N/A
2.	Master of Engineering (M.E)	Jadavpur University	1994	Electrical Engineering/Electrical Measurements & Instrumentation	72.4	Ist Class/4th position
3.	Bachelor of Engineering (B.E)	Dibrugarh University	1985	Electrical Engineering	72	Ist Class/7 th Position
4.	Pre-Degree (science)	Dibrugarh University/Sibsagar college Joysagar	1981	Science (As,Eng,Ph, Ch,Maths,biology)	67.1	Ist Div

3. Present Position:

a.	Post	Professor
b.	Organization	Tezpur University
c.	Pay Scale	Academic Level-14: Present Basic pay: Rs. 218200/
d.	Date of appointment to the present post	01/01/2009
e.	Total experience at the level of Professor	16 years at the position of Professor (Up to 2025)

4. Area of specialisation:

Biosensors and Bioelectronics

5. Details of experience possessed as per eligibility criteria:

S.No.	Post held	Pay Scale	Organisation	Nature of duties	Experience (In Years and Months)
1.	Professor (Academic)	Academic Level-14	Tezpur University (TU)	Teaching, Research, Contribution towards institution building and Administrative.	16 years
2.	Head of the Electronics and Communication Engg.(ECE) Department, TU (Administrative)	Academic Level-14	TU	Teaching, Reasearch and works related to administrative head of the department including the responsibility of Chairman, Board of studies	03 years (From April 1, 2012 to March 31, 2015)
3.	Head of Electrical Engineering (EE) Department, TU (Founder HoD)	Academic Level-14	TU	Teaching, Reasearch and works related to administrative head of the department including the responsibility of Chairman,	More than 03 years (From Sep 23, 2016 to Sep 30,2019)

	(Administrative)			Board of studies	
4.	Professor-in-charge & Wardenship etc. (Administrative)	Lecturer/ Assistant Professor	Assam Engineering college	Wardenship, Hostel No. 2, Assam Engineering College	02 years
5.	Coordinator of Teaching and Research in innovative programme of UGC (Academic and Administrative)	Reader	TU	Establishment of M.Tech in Bioelectronics programme.	05 Years (From 12-06-2004 to 01-08-2009)
6.	Coordinator of Career and Market-oriented Programme of UGC (Academic and Administrative)	Academic Level-14	TU	Establishment of Advanced Diploma in Health care and Informatics and Management	05 Years (From Aug, 2012 to 2017)
7.	Coordinator of Visvesvaraya PhD scheme, DIC, Ministry of Electronics and Information Technology, GOI (Academic and Administrative)	Academic Level-14	TU	Research activities in Electronics and IT/ITES for Phase I. Coordination between DIC and TU	05 years
8	Nodal Officer, Visvesvaraya PhD scheme, DIC, Ministry of Electronics and Information Technology, GOI (Academic and Administrative)	Academic Level-14	TU	Research activities in Electronics and IT/ITES for Phase II. Distribution of PhD seats among the departments, research progress analysis	02 years

6. Member of different academic /professional bodies

S. No.	Post	Organization/ University	Duration		Experience	Nature of Duties
			From (Date)	To (Date)		
4.	Member of Academic Council	TU	01-04-2012	30.09.2019	7 years, 6 months.	Activities related with academic programmes and presentation in AC meeting
5.	Member of Academic Council	Assam Science and Technology University	01-01-2020	continuing-	4 years	Activities related with academic programmes and presentation in AC meeting

6.	Member of Board of studies (BOS)	NERIST	01-01-2019	31-12-2020	2 years	Advising towards Modernization, restructuring and new formulation of syllabus
7.	Member of Professional association	1. Member of IEEE , American 501 professional association 2. Member of IEEE Sensor Council 3. Member of IEEE Electron Devices society 4. Member of IEEE Nanotechnology Council	18-07-2022 18-07-2022 18-07-2022 18-07-2022	Continuing Continuing Continuing Continuing	Continuing Continuing Continuing Continuing	Participation in IEEE activities dedicated to advancing technology for the benefit of humanity.
8.	Member of Planning Board, TU	TU	17-08-2022	Continuing	Continuing	Activities related to institution building
9.	Member of Advisory Committee, NEP-2020	NIT, Arunachal Pradesh	06-07-2021	05-07-2022	01 year	Implementation of Syllabus for B.Tech programmes as per NEP 2020 guidelines.
10.	Member of Academic Council	TU	02-07-2024	Continuing		Activities related with academic programmes and presentation in AC meeting

7. Academic/Contribution in Higher education/ Development of Programmes /MoU/Chair position

(a) Academic/Teaching Experience & responsibilities (In chronological order from latest to oldest)

S. No.	Post	Organization/ University	Duration		Experience (In Years and Months)	Nature of Duties
			From (Date)	To (Date)		
1.	Professor	TU	01-01-2009	Continuing	16 years	Teaching, Research, institution building and Administrative
2.	Associate Professor	TU	01-01-2006	31-12-2008	03 Years	Teaching, institution building and Research
3.	Reader	TU	12-11-2001	31-12-2005	4 years, 1 month	Teaching, institution building and Research
4.	Lecturer/Asstt. Professor	TU	01-08-2000	11-11-2001	1 year, 3 months	Teaching and Research

5.	Lecturer/Asstt. Professor	Assam Engineering College	01-01-1989	31-07- 2000	11 years, 6 months	Teaching
----	---------------------------	---------------------------	------------	-------------	--------------------	----------

(b) Participation and contribution in relevant areas in higher education

	Organisation	Area of specialization
Visiting Professor	NIT, Nagaland	Estimation and Detection
Resource Person	<p>1. Department of Electronics and Communication Engineering, Muthayammal Engineering college, Rasipuram, Tamil Nadu, India (National Seminar, 4th Jan'2022.</p> <p>2. Department of Electronics and Communication Engineering, ITM University Gwalior (MP), India (AICTE sponsored STTP, Dec'2021).</p> <p>3. Department of Electronics & Communication Engineering, North-Eastern Hill University (NEHU), Shillong (FDP sponsored by AICTE ATAL Academy, NewDelhi, 8-12th Feb,2021).</p> <p>4. GIMT, under Assam Science and Technology University (ASTU) ((TEQIP(AICTE) sponsored FDP))</p> <p>5. Department of Biomedical Engineering, North-Eastern Hill University (NEHU), Shillong, Meghalaya (Workshop on Neuroscience sponsored by DBT, GoI, 24-29th March,2014).</p> <p>6. Department of ECE, North Eastern Regional Institute of Science and Technology (NERIST), Arunachal Pradesh (FDP sponsored by AICTE, 15-19th May,2012).</p> <p>7. Department of Electronics, Vidyasagar University, Midnapore, WB (Seminar under Merged Scheme of UGC, 5th March,2012).</p> <p>8. Donbosco University, Assam (IEEE National conference, 2-3 March,2011)</p> <p>9. UGC-Academic College, Gauhati University, Assam (Refresher course in Electronics and Instrumentation, 8-28th Feb,2010).</p> <p>10. Dept. of ECE,CSE and IT, Gyan Ganga College of Technology, Jabalpur (Key note address on national conference sponsored by AICTE,31st oct,2009).</p> <p>11. Dibrugarh University, Assam (DST sponsored workshop on sensors for Agricultural and Industrial Applications, Sep'20 – Oct'01, 2004).</p>	<p>1. Biosensor</p> <p>2. BioFETOLOGY</p> <p>3. CNT based Bioelectronic sensors</p> <p>4. Power Electronics</p> <p>5. Neuro-bioengineering</p> <p>6. ISFETOLOGY</p> <p>7. ISFETOLOGY</p> <p>8. Modeling and Simulation of ISFETs</p> <p>9. ISFETOLOGY</p> <p>10. Multidisciplinary Research</p> <p>11. Biosensors for Agricultural and Industrial applications</p>
Others	<p>1. Coordinator: Faculty Development Programme from 29th Jan -2nd Feb, 2018 sponsored by AICTE under NEQIP Scheme.</p> <p>2. Coordinator: Faculty development programme from</p>	<p>1. Recent Advancements in Electrical Engineering.</p> <p>2. Current Approaches in Teaching and Research in</p>

	15th Dec -27th Dec, 2014 sponsored by AICTE.	Science and Technology.
	3. Coordinator: Staff Development Programme (SDP), from June 20 to July 1, 2005 sponsored by AICTE	3. Bioelectronics.

(c) Involvement with formulation of academic programmes:

S.No.	Nomenclature of Academic Programmes formulated	Date of approval by AC	Year of Introduction
1.	M.Tech in Bioelectronics (under UGC's Innovative Programme)	12-06-2004	2004
2.	Advanced Diploma in Health care Informatics and Management (under UGC's career oriented programme)	29-11-2012	2012
3.	B.Tech. programme in Electrical Engineering (Under NEQIP scheme, AICTE)	19-12-2013	2014

(d) Important MoUs formulated for academic collaborations:

S. No.	MoUs formulated	Name of Agencies/Departments involved	Year of MoU
1.	For helping one another in the academic areas arising out of the interface between Medical and Engineering, Neurology and engineering and Biology and Electronics.	Guwahati Neurological Research Centre (GNRC), Guwahati	2007

(e) Position of Chairs

S. No.	Name of Chair	Name of Agencies/Departments involved	Period of holding the Chair
1.	Chairman of B.Voc Programme	Departments of Food Engineering and Technology and Energy Technology, TU.	01-01-2013 to 01-01-2014
2.	Chairman of Board of Studies (BoS)	Department of ECE, Tezpur University (TU)	01-04-2012 to 31-03-2015
3.	Chairman of Departmental Research Committee(DRC)	Department of ECE, Tezpur University (TU)	01-04-2012 to 31-03-2015
4.	Chairman of Board of Studies (BoS)	Department of Electrical Engineering (EE), TU	23-09-2016 to 30-09-2019
5.	Chairman of Departmental Research Committee(DRC)	Department of EE, TU	23-09-2016 to 30-09-2019

(f) e-content Development:

Module	Topic	Delivery mode	Link
M.Tech	MOS Structure to MOSFET	Lecture presentation	https://www.youtube.com/channel/UCQGq2UWFyphoUMAo_kde2ug/videos
	EIS structure to ISFET		
	Concept of intrinsic and extrinsic biological medium		
	Buffer capacity and Differential capacitance of EIS structure		
	Lecture on ISFETOLOGY		
	Experiments on ISFET: pt 1 and pt2		
	Dynamic characteristics and chemical stability of ISFET		
	Buffer capacity and Differential capacitance of ISFET		
	ISFET: Instrumentation and Fabrication		
	ISFET: Modeling and simulation		

PhD	Biosensor: Definition, principle, characteristics, Classification		
	BioFETOLOGY		
	Experimental Determination of Characteristics of BioFET		

8. International academic Exposure

S. No.	Post/ Assignment	Organization/ Institute	Area of Assignment	Duration	
				From	To
1	Reviewer	IEEE	Sensors, Electron Devices and Biomedical Circuits and Systems	Jul 28, 2017	2019
2	Reviewer	Electrochemical society	Electrochemical sensors	Feb 14, 2022	2023

9. Scholarly achievements:

A. Contribution to Books/Editorship/Peer Reviewer and others:

Book Chapters authored	Book Chapter Title	Book Title	Book Authors , name of publisher and year
1.	Synthesis and Fabrication of Fe ₃ O ₄ -MWCNT nanocomposite-based electrochemical biosensor for Sarcosine detection.	<i>Emerging Technologies with Advanced Devices from Micro to Nano 2024</i> , Lecture Notes in Electrical Engineering (LNEE, volume 1370)	Springer, 2025 ISBN: 978-3-031-84333-4
2.	“FET-Based Biosensors (BioFETs): Principle, Methods of Fabrication, Characteristics, and Applications”.	Advanced Materials and Techniques for Biosensors and Bioanalytical Applications. ISBN: 9781003083856.	Pranab Goswami (eds) CRC press, 2020
3.	“Modeling of Dual-Gate Carbon Nanotube Based Ion Sensitive Field Effect Transistor (DG-CNTISFET)”.	Electronic Systems and Intelligent Computing. Lecture Notes in Electrical Engineering, vol 686.	Malik P.K, Mehar P, Majumder A, Das S.K. (eds) Publisher: Springer, Singapur 2020. https://doi.org/10.1007/978-981-15-7031-5_36
4.	“Fabrication and Electrochemical Modeling of CNT-Based BioFET for Cholesterol Detection”.	Electronic Systems and Intelligent Computing. Lecture Notes in Electrical Engineering, vol 686.	Malik P.K, Mehar P, Majumder A, Das S.K. (eds) Publisher: Springer, Singapur 2020. https://doi.org/10.1007/978-981-15-7031-5_41
5.	“Fabrication and Physical Characterization of Different Layers of CNT-BioFET for Creatinine Detection”.	Pattern Recognition and Machine Intelligence. Lecture Notes in Computer Science, vol 11942.	Deka B, Maji P, <i>et.al</i> (eds) Publisher: Springer , Cham. ,2019. https://doi.org/10.1007/978-3-030-34872-4_59
6.	“ A model to demonstrate the Universality of DNA-NAND Gate”	Advances in Electronics, Communication and Computing. Lecture Notes in Electrical Engineering, vol 443.	Kalam A. <i>et. al</i> (eds), Publisher: Springer, Singapur, 2018. https://doi.org/10.1007/978-981-10-4765-7_8
7.	“Optimization of Hodgkin–Huxley Conductance- Based Model Using Particle Swarm Optimization and Firefly Method”.	Advances in Electronics, Communication and Computing. Lecture Notes in Electrical Engineering, vol 443.	Kalam A. <i>et. al</i> .(eds), Publisher: Springer, Singapur, 2018. https://doi.org/10.1007/978-981-10-4765-7_7

8.	“Forty Years of BioFETOLOGY: A Research Review”.	Advances in Computer and Computational Sciences. vol 553.	Bhatia S, Mishra K, <i>et. al.</i> (eds). Publisher: Springer, Singapur, 2017. https://doi.org/10.1007/978-981-10-3770-2_65
9.	“Adaptive Network Based Fuzzy Inference System for Early Diagnosis of Dengue Disease”.	Advances in Computer and Computational Sciences, vol 553.	Bhatia S, Mishra K, <i>et. al.</i> (eds). Publisher: Springer, Singapur, 2017. https://doi.org/10.1007/978-981-10-3770-2_68
Editorships	1. Guest Editor, Frontiers in Electronics:		
Peer reviewer for	1. IEEE Sensors letter 2. IEEE Electron Device letter 3. IEEE Transactions on Biomedical Circuits and Systems 4. Journal of Electrochemical society		
Others	Evaluators of PhD theses of IITG, Jadavpur University, NIT Silchar, NIT Arunachal Pradesh, Gauhati University, Assam Science and Technology University, Donbosco University etc.		

B. Publications:

B.I List of scholarly publications in recognized professional and/or academic journals:

S. No	Type of publication	Publication date	Title	Name of publisher
1.	IEEE Sensors Alert weekly Digest	Nov, 2025	“Highly Sensitive Enzyme-Modified Field Effect Transistor Based Biosensor for Sarcosine Detection,” <i>IEEE Sensors Alert</i> , Nov, 2025. https://ieee-sensorsalert.org/	IEEE
2	Journal (SCI)	1 July, 2025	"An Electrochemical Sensor Based on a Facile Synthesis of Chitosan-Blend-Polyaniline Decorated COOH-MWCNT-Hollandite/ α -MnO ₂ Nanocomposites for Creatinine Detection," <i>IEEE Sensors Journal</i> , vol. 25, no. 13, pp. 23579-23586, 1 July, 2025. ISSN: 1558-1748., doi: 10.1109/JSEN.2025.3574062 .	IEEE
3	Journal (SCI)	15 June, 2025	"Highly Sensitive Enzyme-Modified Field Effect Transistor Based Biosensor for Sarcosine Detection," <i>IEEE Sensors Journal</i> , vol. 25, no. 12, pp. 20991-20999, 15 June 15, 2025, ISSN: 1558-1748, doi: 10.1109/JSEN.2025.3567082 .	IEEE
4	Journal (SCI)	01 August 2024	"Fabrication and Characterization of an Electrochemical Biosensor Based on DMSO Treated PEDOT:PSS-MWCNT- Chitosan Nanocomposite Modified ITO Electrode for Sarcosine Detection", <i>IEEE Sensors Journal</i> , Volume: 24, Issue:15 , pp 23480 – 23489. , 01 August 2024. ISSN: 1558-1748. DOI: 10.1109/JSEN.2024.3409751	IEEE
5.	Journal (SCI)	17 Nov 2023	“Clinical Analysis and Detection of Creatinine by Conventional Methods and Electrochemical Biosensors: A Review”, <i>IEEE Sensors Journal</i> , Volume: 24, Issue: 1 , 16-27. ISSN: 1558-1748. DOI: 10.1109/JSEN.2023.3332131	IEEE
6.	Journal (SCI)	12 March 2019	“High performance Dual-Gate Carbon Nanotube Ion-Sensitive Field Effect Transistor with high- κ top gate and low- κ bottom gate dielectrics”, <i>IEEE Sensors Journal</i> , vol.19,no.14,pp.5692–5699, 12 March 2019. ISSN: 1558-1748.	IEEE

			DOI: 10.1109/JSEN.2019.2904517	
7.	Journal (SCI)	Feb27,2018.	“Fabrication, characterization and electrochemical modeling of CNT based enzyme field effect acetylcholine biosensor,” <i>IEEE Sensors Journal</i> , 18(8), 3090 – 3097, Feb27,2018. ISSN: 1558-1748. DOI: 10.1109/JSEN.2018.2810133	IEEE
8.	Journal (SCI)	April19, 2017.	“Sensitivity determination of CNT based ISFETs for different high- κ dielectric materials ,” <i>IEEE Sensors Lett.</i> ,vol.1,no.2, April19, 2017 Electronic ISSN: 2475-1472 DOI: 10.1109/LSSENS.2017.2695648	IEEE
9.	Journal (SCI)	Sep 23,2015	“Carbon Nanotube-Based Dual-Gated Junctionless Field-Effect Transistor for Acetylcholine Detection,” <i>IEEE Sensors Journal</i> , 16 (2), 280 – 286, Sep 23,2015 . ISSN: 1558-1748. DOI: 10.1109/JSEN.2015.2481604	IEEE
10.	Journal (SCI)	1 May 2023	“Confined growth of NiCo2S4 on 2D/2D porous carbon self-repairing g-C3N4/rGO heterostructure for enhanced performance of asymmetric super capacitors”, <i>Chemical Engineering Journal</i> , Volume: 463, 142376, 1 May 2023. ISSN: 1385-8947. https://doi.org/10.1016/j.cej.2023.142376	ELSEVIER
11.	Journal (SCI)	Aug 07,2014	“Fabrication and characterization of junctionless carbon nanotube field effect transistor for cholesterol detection,” <i>Appl.Phys. Lett.</i> 105,053509 Aug 07,2014. ISSN: 0003-6951/ 1077-3118 https://doi.org/10.1063/1.4892469	American Institute of Physics (AIP).
12.	Journal (SCI)	July 09,2014.	“Highly Sensitive Potassium-Doped Polypyrrole/Carbon Nanotube Based Enzyme Field Effect Transistor(ENFET)for Cholesterol Detection,” <i>Applied biochemistry and biotechnology</i> ,174,1109-1114. July 09,2014. ISSN: 0273-2289. DOI:10.1007/s12010-014-1029-5	Springer US.
13.	Journal (SCI)	Sep19, 2017.	“Modeling and simulation of carbon nanotube-based dual-gated enzyme field effect transistor for acetylcholine detection,” <i>Journal of Computational Electronics</i> ,vol.16,no.3,pp.584-592, Sep19, 2017 https://doi.org/10.1007/s10825-017-0992-9	Springer, US.
14.	Journal (SCI)	15 July 2019	“Modeling of Carbon nanotube ISFETs with high- κ Gate dielectrics for biosensing applications,” <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , vol.32, no. 6, p. e2654. DOI: https://doi.org/10.1002/jnm.2654	Wiley
15.	Journal (SCI)	Nov 11, 2017.	“Numerical Modeling of Potassium doped Polypyrrole/Carbon Nanotube graphene based cholesterol enzyme field effect transistor,” <i>International Journal of Numerical Modelling:Electronic Networks, Devices and Fields</i> , 30(6), Nov 11, 2017 https://doi.org/10.1002/jnm.2223	Wiley.
16.	Journal (SCI)	Oct 31,2018.	“Modeling of a circuit using ISFET (Ion Sensitive FET) for Obtaining Neuronal Signals,” <i>Journal of Engineering research</i> , 6(3), Oct 31,2018. ISSN: 2307-1877. https://kuwaitjournals.org/jer/index.php/JER/article/view/2943	Academic Publication Council, Kuwait University.
17.	Journal (UGC CARE List)	13 Oct, 2023	“Synthesis and characterization of high- κ dielectric zirconium oxide for biosensor applications”, <i>AIP Conf. Proc. Journal</i> , 2904 (1), 110001, 13 Oct, 2023. ISSN 1551-7616. https://doi.org/10.1063/5.0170557	American Institute of Physics(AIP)
18.	Referred Journal(UGC CARE)	Feb 21,2018	“An improved generalized DNA computing model to simulate logic functions and combinational circuits, “International Journal of Information Technology, Springer,10, 379-390 (Feb21,2018), ISSN:2511-2104 https://link.springer.com/article/10.1007/s41870-018-0110-7	Springer
19.	Referred Journal (UGC CARE List)	Jan1, 2017.	“Modelling of Potassium-Doped Polypyrrole/CarbonNanotubeBased Enzyme Field Effect Transistor for Cholesterol Detection”, <i>Materials Today: Proceedings</i> , 4(9). Jan1, 2017.ISSN 2214-7853 https://doi.org/10.1016/j.matpr.2017.06.378	Elsevier.

20.	Referred Journal (UGC CARE List)	13 January 2023	"Fabrication and characterization of different polymer doped CNT nanocomposites for creatinine detection", <i>Materials Today: Proceedings Journal</i> , 13 January 2023 ISSN 2214-7853.	Elsevier
21.	Referred Journal (UGC CARE List)	16 Jan, 2023	"Carbon nanotube based biologically modified field effect transistors (CNT-BioFETs): A research review", <i>Materials Today: Proceedings Journal</i> , 16 Jan, 2023. ISSN 2214-7853 https://doi.org/10.1016/j.matpr.2023.01.033	Elsevier
22.	Journal (UGC CARE List)	May 31, 2021	"CNT based high- κ dielectric Ion Sensitive Field Effect Transistor Based Cholesterol Biosensor", <i>Current Trends in Biotechnology and Pharmacy</i> , Vol.15(2),182-188, May 31, 2021, ISSN 0973-8916. DOI: 10.5530/ctbp.2021.2.20	Association of Biotechnology and Pharmacy (ABAP).
23.	Journal (UGC CARE)	Apr.1, 2017.	"Development of NEUROAChFET circuit for patients having neurological disorder," <i>Current Trends in Biotechnology and Pharmacy</i> , 11(2), Apr.1, 2017. ISSN 0973-8916 https://www.indianjournals.com/ijor.aspx?target=ijor:ctbp&volume=11&issue=2&article=004	ABAP.
24.	Journal (UGC CARE)	Apr.1, 2017.	"Algorithm to simulate a Chemically Induced DNA Logic gate and Boolean circuit," <i>Current Trends in Biotechnology and Pharmacy</i> , 11(2), Apr.1, 2017. ISSN 0973-8916 https://www.indianjournals.com/ijor.aspx?target=ijor:ctbp&volume=11&issue=2&article=007	ABAP.
25.	Referred Journal (UGC CARE)	May 12, 2016.	"DNA Computing model for realization of Boolean circuit", <i>International Journal of Control Theory and Applications</i> , 9(21), 281-287, May 12, 2016. ISSN: 0974-5572 https://serialsjournals.com/index.php?route=product/product/volumearticle&issue_id=246&product_id=365	International Science Press
26.	Referred Journal	Feb 23, 2013.	"Hodgkin-Huxley's Introduction of the Conductance Based Model of Neuron (1952)," <i>International Journal of Advances in Electrical and Electronics Engineering</i> , 3(1), Feb 23, 2013. ISSN: 2319 - 1112	Ijecs (India)
27.	Referred Journal	Jul 1, 2011.	"Modeling Neuron for Simulation of Transmitter Gated Ion Channels of Postsynaptic Membrane at Synaptic Cleft," <i>American Journal of Biomedical Sciences</i> , 1(2), Jul 1, 2011	NWPPI
28.	Referred Journal	Apr.1, 2010.	"Integrate-and-Fire Based Circuit Model for Simulation of Excitatory and Inhibitory Synapses," <i>Canadian Journal on Biomedical Engineering & Technology</i> , 1(2), Apr.1, 2010.	Am publisher
29.	Referred Journal	2010.	"Biologically Motivated Circuit Model of Neuron for Simulation of Excitatory and Inhibitory Actions of Synapses," <i>Canadian Journal on Biomedical Engineering & Technology</i> , 1(3).	Am publisher
30.	Referred Journal	2010	"Modeling Ion Sensitive Field Effect Transistors for Biosensor applications," <i>International Journal of Advanced Research in Engineering and Technology</i> , 1(1), ISSN: 0976-6499 https://iaeme.com/MasterAdmin/Journal_uploads/IJARET/VOLUME_1_ISSUE_1/IJARET_01_01_003.pdf	IFERP.
31.	Referred Journal	Jan 18, 2017	"DNA computing algorithm for realization of DNA Boolean logic based on micro-cantilever deflection," <i>International Journal of Pharmaceutical Sciences Review and Research</i> , 42(1), Jan 18, 2017. ISSN 0976 - 044X https://globalresearchonline.net/journalcontents/v42-1/21.pdf	Global Research online
32.	Referred Journal National	July 2007	"Ion Sensitive Field Effect Transistors (ISFETs): Transducers for Biosensors", <i>IE(I) Journal- ET</i> , Vol. 88, ISSN: 0251-1096.	Institute of Engineers, (India) (IE, India)
33.	Referred Journal National	2001.	"A novel Fiber Optic Temperature Sensor", <i>J. of IE(I)-EL</i> , Vol. 82, pp 113-116. ISSN: 0251-1096	(IE, India)

34.	Referred Journal National	2000	"A review on optical Fiber Sensors for Biomedical Applications", Journal of IE-part(ID), Vol.80, March'2000, pp34-35. ISSN: 0251-1096	(IE,India)
35.	Referred Journal National	2000	"A Fiber Optic Temperature Sensor for Medical and Clinical Applications" Journal of Inst. Soc. of India, vol. 30, pp. 115-120. ISSN: 0970-9983	IISc

B.II List of articles in popular magazines or newspapers or website

Total Articles: 03

S.No.	Date	Title	Name of Magazine/ Newspaper
1.	Nov, 2025	Highly Sensitive Enzyme-Modified Field Effect Transistor Based Biosensor for Sarcosine Detection.	IEEE Sensors Alert Weekly Digest https://ieeeseensorsalert.org/
2.	Nov 22, 2012	Bioelectronics Engineering education for next generation engineers	TechXetra 2012 Souvenir (Technical Event of TU)
3.	Nov 21, 2011	Transformation of electronics engineering education towards new frontiers: Some initiatives.	TechXetra 2011 Souvenir
4.	Year 2010	ISFETOLOGY to BIOFETOLOGY: What happened in the past and what may happen in the next	www.scribd.com/doc/35284252

C. Participation and scholarly presentations in conferences:

National

S.No.	Date	Title of Conference or Institution	Title/Subject of presentation (if made)
1	Mar 2, 2012	2012 2nd National Conference on Computational Intelligence and Signal Processing (CISP), DONBOSCO University, Guwahati	"Ion sensitive field effect transistor for applications in bioelectronic sensors: A research review," . https://ieeexplore.ieee.org/document/6189704
2	Mar 3, 2012	2012 2nd National Conference on Computational Intelligence and Signal Processing (CISP), DONBOSCO University, Guwahati	"A simple variant of Integrate-and-Fire model of neuron for application in neuronal area," . https://ieeexplore.ieee.org/document/6189679
3	Apr 29, 2009	National Conference on Emerging Trends in Engg. Technology & Applications (NCETETA-2009) Sirdi Sai Engineering College, Bangalore	"Analog Circuit Model & Simulation of Neurons"

International

S.No.	Date	Title of Conference or Institution	Title/Subject of presentation
1	Oct 17, 2019	2019 IEEE Region 10 Conference (TENCON), 2019 ,IEEE Kerala Section, Kochi, India	"Fabrication and electrical characterization of carbon nanotube based enzyme field effect transistor for cholesterol detection". https://ieeexplore.ieee.org/document/8929330
2	Mar 7, 2019	2019 6th International Conference on Signal Processing and Integrated Networks (SPIN), Amity University,	"Characterization of Thin Zirconia Films Deposited by ECD on ITO Coated Glass for Biosensing Applications".

		Noida, India	https://ieeexplore.ieee.org/document/8711640
3	Mar 1, 2019	2019 2nd International Conference on Innovations in Electronics, Signal Processing and Communication (IESC), NIT, Meghalaya, Shillong	"Physical model for drift in carbon nanotube based ZrO ₂ gate dielectric ion sensitive field effect transistor". https://ieeexplore.ieee.org/document/8902394
4	Oct 19, 2017	2017 International Conference on Innovations in Electronics, Signal Processing and Communication (IESC), NIT, Meghalaya, Shillong	"Sensitivity of carbon nanotube based junctionless ion sensitive field effect transistor (CNTJLISFET) for HfO ₂ and ZrO ₂ gate dielectrics: Experimental and theoretical investigation". https://ieeexplore.ieee.org/document/8071880
5	May 5, 2017	2017 International Conference on Computing, Communication and Automation (ICCCA), Galgotias University, Uttar Pradesh	"Effect of different dielectric materials on enzyme field effect transistor". https://ieeexplore.ieee.org/document/8230029
6	Nov 22, 2016	2016 IEEE Region 10 Conference (TENCON), IEEE Singapore Section, Singapore	"Electrochemical modeling of carbon nanotube based dual gated junctionless enzyme field effect transistor". https://ieeexplore.ieee.org/document/7848544
7	Apr 29, 2016	2016 International Conference on Computing, Communication and Automation (ICCCA), Galgotias University, Greater Noida, India	"Fabrication and characterization of a carbon nanotube based junctionless ion sensitive field effect transistor (CNT-JLISFET)". https://ieeexplore.ieee.org/document/7813948
8	Mar 3, 2016	2016 International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT), DMI College of Engineering, Palanchur, Nazarethpet, Chennai, Tamil Nadu, India	"Enzyme modified field effect transistors for applications in bioelectronic sensors: Modelling and technology," . https://ieeexplore.ieee.org/document/7755471
9	Feb 27, 2016	2016 2nd International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (AEEICB), Prathyusha Engineering College, Chennai, India	"Estimation of parameters using evolutionary algorithm in Hodgkin-Huxley model," . https://ieeexplore.ieee.org/document/7538277
10	Feb 27, 2016	2016 2nd International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (AEEICB), Prathyusha Engineering College, Chennai, India	"Development of a DNA computing model for Boolean Circuit," . https://ieeexplore.ieee.org/document/7538295
11	Jan 23, 2016	2016 International Conference on Microelectronics, Computing and Communications (MicroCom), NIT, Durgapur	"Early diagnosis of dengue disease using fuzzy inference system," . https://ieeexplore.ieee.org/document/7522513
12	Feb 14, 2015	2015 IEEE International Conference on Computational Intelligence & Communication Technology , ABES Engineering College, Ghaziabad	"Parameter Extraction for Neuron Model & Simulation of Action Potential in Earthworm Giant Nerve Fiber," . https://ieeexplore.ieee.org/document/7078799
13	Feb 13, 2015	2015 IEEE International Conference on Computational Intelligence & Communication Technology , ABES Engineering College, Ghaziabad	"DNA Computing Models for Boolean Circuits and Logic Gates," . https://ieeexplore.ieee.org/abstract/document/7078759 .
14	Jan 30, 2015	2015 International Conference on Electronic Design, Computer Networks & Automated Verification (EDCAV), NIT Meghalaya, Shillong	"Twenty years of DNA computing: From complex combinatorial problems to the Boolean circuits," . https://ieeexplore.ieee.org/document/7060538
15	Jan 29, 2015	2015 International Conference on Electronic Design, Computer Networks & Automated Verification (EDCAV), NIT, Meghalaya, Shillong	"Traditional and junctionless field effect transistor for cholesterol detection," . https://ieeexplore.ieee.org/document/7060545

16	Jan 29, 2015	2015 International Conference on Electronic Design, Computer Networks & Automated Verification (EDCAV), NIT, Meghalaya, Shillong	"Modeling and simulation of a NEUROBIOFET for application in neurology,". https://ieeexplore.ieee.org/abstract/document/7060547
17	Dec 3, 2014	2014 IEEE 2nd International Conference on Emerging Electronics (ICEE), IISc Bengaluru	"Traditional graphene and junctionless carbon nanotube field effect transistor for cholesterol sensing,". https://ieeexplore.ieee.org/document/7151205
18	Nov 15, 2013	2013 International Conference on Cloud & Ubiquitous Computing & Emerging Technologies , Pune Institute of Computer Technology, Pune, India	"An Approach to Develop Parametric Analogy of Improved H-H Model Using GUI," . https://ieeexplore.ieee.org/document/6701508
19	Mar 16, 2012	2012 International Conference on Devices, Circuits and Systems (ICDCS), Karunya University, Coimbatore	"Threshold voltage and I-V characteristics of cylindrical, surrounding- electrolyte ISFET,". https://ieeexplore.ieee.org/document/6188658
20	Mar 15, 2012	2012 International Conference on Devices, Circuits and Systems (ICDCS), Karunya University, Coimbatore	"A simple electronic analog of the postsynaptic membrane: The NEUROBIOFET," . https://ieeexplore.ieee.org/document/6188656
21	Mar 15, 2012	2012 International Conference on Devices, Circuits and Systems (ICDCS), Karunya University, Coimbatore	"Modeling of Enzyme biosensor based on pH-sensitive field effect transistor for detection of glucose,". https://ieeexplore.ieee.org/document/6188660
22	Feb 24, 2011	2011 International Conference on Devices and Communications (ICDeCom), Mesra	"An Electronic Circuit Model for Simulation of Synaptic Communication: The NEUROISFET for Wireless Biotelemetry," . https://ieeexplore.ieee.org/abstract/document/5738455
23	Nov 30, 2010	2010 IEEE EMBS Conference on Biomedical Engineering and Sciences (IECBES), Kualalumpur, Malaysia	"Biologically inspired circuit model for simulation of acetylcholine gated ion channels of the postsynaptic membrane at synaptic cleft," . https://ieeexplore.ieee.org/abstract/document/5742191
24	Dec 7, 2006	Int. Conference on Recent trends in Nanoscience & Technology (ICRTNT - 06), Jadavpur University	"Mixed domain modeling and simulation of nano size ISFET for Bioelectronic Device"
25	Jan 3, 2004	International conference on Communication, Device and intelligent Systems, CODIS – 2004, Jadavpur University	"Simulation of a pH Sensitive ISFET based on Site binding and Electrical Double layer theory",
26	Jan 1, 2004	International conference on Computers and Devices for Communication, CODEC – 2004 , University of Calcutta	"Simulation of Cylindrical ISFET based on the site binding model",
27	Jun 12, 2001	International Conference on Fiber Optics and Photonics, 2001, IITKG, Calcutta, India	"Optical characteristic of biomembrane in the development of a biosensor" Proc. SPIE 4417. https://doi.org/10.1117/12.441345
28	Nov 3, 1994	16th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 1994, Baltimore, MD, USA	"pH dependence of the interactions in blood pressure transduction," . https://ieeexplore.ieee.org/document/415180

D. Participation and contribution in National/International Fora in the area of academic and professional expertise

		Number(s)
Plenary Lectures/Invited Talks	National	10
Congresses attended	International	01
	National	02
Examinership etc.	National	06
Others: 1. Participation as a Member of Advisory committee constituted for implementation of NEP- 2020 , NIT, Arunachal Pradesh (03) 2. Participation in ATAL online FDP inaugurated by Hon'ble Minister of Education Shri Ramesh Pokhriyal Nishank Ji organized by ATAL Academy- AICTE, 17th May, 2021 (01) 3. Participation in NAAC Assesment Orientation Programme (01) 4. participation and contribution in Board of studies meeting, NERIST(02) 5. participation and contribution in Academic Council meetings , Assam Science and Technology University (04) 6. Participation in AICTE Visit for approval of Institution and AICTE Project evaluation (03)	National	15

10. Research Projects:

S.No.	Client/Organisation's name	Nature of project	Duration of project	Amount of grant (Rupees)
1	Digital India Corporation (DIC) under Ministry of Electronics and Information Technology, GoI	Visvesvaraya PhD scheme for Electronics and IT:Phase-II (#Order No. pHd-02/2022/50 dated 06-09-2022)	05 Years	10291200.00
2	AICTE	Research promotion scheme of AICTE # F.No.8-140/RIFD/RPS-NER/Policy-1/2018-19, Dated 14 March 2019	3 Years	2500000.00
3	DIC under Ministry of Electronics and Information Technology, GoI	Visvesvaraya PhD scheme for Electronics and IT:Phase-I (#Order No. pHd-MLA/4(41)/2015-16/01 dated 05-02-2016)	5 Years	38526000.00
4	UGC	Career and Market-oriented Programme of UGC # F.No.4-265/2011 (COC) Dated 22-12-2011	5 Years	1000000.00
5	UGC	Major Research Project: Modeling and simulation of Bioelectronics devices: cylindrical ISFET and ENFET, # F.No.30-28/2004 (SR).	3 Years	806000.00
6	UGC	Teaching and Research in interdisciplinary area # No.F.14-4/2004(Inno/ASIST)	5 Years	4600000.00

11. Honours /Awards & Fellowships for Outstanding Work:

S. No.	Name of Award/Fellowshipetc.	Elected/Honorary Fellow	Awarded by	Year of Award
1	Dr. Sarvepalli Radhakrishnan Distinguished Professor & Researcher Award in Bioelectronics	Elected	International Multidisciplinary Research Foundation (IMRF), Institute of Higher Education and Research, Andhra Pradesh	2022
2	Shiksha Rattan Puraskar Award	Elected	India International Friendship Society, New Delhi	2008
3	QIP Fellowship	Elected	AICTE	1997
4	QIP Fellowship	Elected	AICTE	1994
5	Merit Fellowship	Elected	Govt. of Assam	1981

12. Membership of Societies and their names

S.No.	Membership of Societies and their names
1.	IEEE , Professional (Membership No: 94927801)
2.	IEEE Sensors Council, Professional
3.	Member of IEEE Electron Devices society
4.	Member of IEEE Nanotechnology Council

13. No. of Research Scholars guided / under progress:

Name of Programme	Awarded (No.)	Under-progress (N0.)
PhD	09	04
M.Tech	30	01

14. PhD Students successfully guided: 09**: 01 Thesis submitted**

Sl. No.	Student Id	Student Name	Thesis Title	PhD completion Year
1	TZ167117 of 2016	Gaurav Keshwani	Study of high k dielectric ENFET using CNT in transporting and sensing layers for cholesterol detection.	2022
2	TZ167094 of 2016	Hiranya Ranjan Thakur	Development and analysis of high k-dielectrics CNT based Ion sensitive Field Effect Transistors (CNTISFET)	2020

3	TZ121474 1012	of	Taslina Ahmed	Application of HH Model of Neuron in Characterization of certain Neurological and Pathological disorders.	2019
4	TZ144318 2014	of	Kuntala Baruah	Development of some DNA computing-based algorithms for logic gates and Boolean Circuits.	2018
5	TZ167095 2016	of	Purnima Kumari Sharma	Electrochemical modelling and validation of high-k dielectric and nanomaterial-based Enzyme Field Effect transistors (ENFETs) for biomolecules detection.	2018
6	TZ144319 2014	of	Rashmi Deka	Development of NeuroAchFET: A Biologically inspired Electronic Neuron Model	2017
7	TZ133633 2013	of	Md. Abdul Barik	Fabrication and Characterization of Enzyme Field Effect Transistors (ENFETs) for Cholesterol and Acetylcholine Detection	2016
8	218/98		Soumik Roy	Modeling and Simulation of Artificial Synapse	2011
9	135/99		Santanu Sharma	Modeling and Simulation of Nano-bioelectronic device: Cylindrical ISFET	2010

15. No. of Patents (Awarded/filed/Applied) :

Filed
1. Patent name: Automated device for stem removal of King Chilli (Bhut Jolokia) Application number: 202331047578 Patent filing date: 2024/07/08
2 . Patent name: DNA biosensor for ultrasensitive detection of bacterial meningitis. Application no.: 202431064005 Patent filing date:2024/08/23
3 . Patent name: Fabrication and Characterization of a Carbon Nanotube based Enzyme Field Effect Transistor (CNT-ENFET) for the detection of Sarcosine Application No. 202431095009 Patent filing date: 2024/12/03
4. Patent name: A nano-composite based electrochemical sensor for creatinine detection Application No. 202431103369 Patent filing date: 2024/12/26
5. Patent name: A non-enzymatic electrochemical sensor for detection of creatinine. Application No. 202531010140 Patent filing date: 2025/02/06
6. Patent name: FET-based Potentiometric Biosensor for Ultrasensitive Detection of Dopamine Application No. 202531092754 Patent filing date: 2025/09/26
7. Patent name: Chitosan/MWCNT Nanocomposite based Biosensor for Glutathione Detection Application No. 202531092819 Patent filing date: 2025/09/26

16. Social Works:

- (i) Swachh Bharat Abhiyan in nearby area
- (ii) Less cash workshop in nearby area
- (iii) Self Defense workshop in nearby area
- (iv) Blood donation camp in nearby area
- (v) Skill development workshop on mobile repairing
- (vi) Start-up workshop

17. Strengths :

Referring to my contribution in institution building, I have introduced the nation's first Masters of Technology program in **Bioelectronics** in 2004 and then integrated it with **Visvesvaraya PhD scheme** to make this programme sustainable.

I was one of the member of three members academic committee constituted for introduction of **B.Tech. programmes (2006)**.

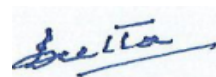
I have introduced the **Career oriented programme** of innovative nature "Advanced Diploma in Health care Informatics and Management".

I have introduced B. Tech programme in **Electrical Engg.** from 2014 under NEQIP scheme. I was the **founder HoD** of this Department.

I have served as Nodal Officer, Visvesvaraya PhD scheme, DIC, Ministry of Electronics and Information Technology, GOI

My research outputs have been published in well regarded Journals.

Place: Tezpur University



(Signature of the Applicant)