Brief CV

- Name in full :**DR. JITEN CHANDRA DUTTA**
- Father's name:**Late Hit Nath Dutta**
- Present Communication Address :

PROFESSOR, DEPT. OF ELECTRONICS AND COMMUNICATION ENGINEERING

TEZPUR UNIVERSITY

NAPAAM 784028

TEZPUR, ASSAM, INDIA

E-Mail: jitend@tezu.ernet.in ; jitenchdutta@gmail.com

Mobile No: 9954707774

- Nationality:**Indian**
- Date of Birth:**01-03-1963**
- Category:**General**
- Date of Superannuation:**29-02-2028**
- Educational Qualifications:

Name of Course	University/Board from where passed/Year	Percentage/CGPA of marks overall	Specialization
BE	Dibrugarh University/ 1985	72%	Electrical Engineering
ME	Jadavpur University/ 1994	72.4%	Instrumentation and Measurement (Under Electrical Engineering)
PhD	Jadavpur University/ 2001	-	Biosensors & Bioelectronics

- Experience**:**
  - **Teaching**

    At Assam Engineering College: Lecturer: From 01-01-1989 to 31-07-2000

    At Tezpur University: Lecturer: From 01-08-2020 to 11-11-2020

At Tezpur University: Reader: From 12-11-2020 to 31-12-2005

At Tezpur University: Associate Professor: From 01-01-2006 to 31-12-2008

At Tezpur University: Professor: From 01-01-2009 to present

- **Research**(Doctoral Theses Guided/Guiding)**:**

07 completed, 02 continuing(Annexure I)

- **Administrative experience:**

HoD, Electronics and Communication Engineering Dept. TU, For 3 Years

2012- 2015).

&

HoD, Electrical Engineering Department, TU For 3 Years (2016 – 2019)

- **Experience in institution building :**

Leading from the front, we have introduced the nation's first Masters of Technology program in Bioelectronics Engineering in 2004 to drive the next generation of disruptive technologies emerging from the cross fertilization between biology and micro/nanoelectronics. Today this program is considered as one of the important innovative programs in the country capable of producing the next generation of engineers that will stay ahead in innovations and be globally competitive. It is also involved in research for the development of diagnostic and electronic devices for health and environmental care. (India Today, September 5, 2016, page 61).

Leading from the front, we have introduced B. Tech programme in Electrical Engg. from 2014. I was the founder HoD of this Department.

As a coordinator, we have introduced the Career oriented programme in ECE "Advanced Diploma in Health care Informatics and Management" supported by UGC under its scheme "Career Orientation Programme" from 2012 with 20 intake.

As the coordinator of NSQF, we have carefully studied the Scheme NSQF formulated by HRD, guidelines of UGC and AICTE's scheme uploaded in the AICTE's website. After deliberations from the members and some HoDs of relevant Departments, we

have identified seven specializations under five vocational sectors for introduction in the University. (Reference:www.aicte.india.org.education.vocational education and www.ugc.ac.in). Two specializations namely (i) Food Processing and (ii) Renewable Energy have been approved by UGC (D.O.No.F.2-380/2014(b.Voc.) dated 17 June,2014 (Total Rs. 135.00 Lakh)

- **No. of Short term courses / Seminars organized as Coordinator :**04
- **Experience as Reviewer:**
  1. IEEE transaction on Biomedical circuits and systems.
  2. IEEE sensor letter
  3. IEEE Electron Device letter
  4. IET Signal Processing Journal
  5. IET software Journal.
- **National Level works:**

  NAAC, AICTE, NBA

- **Project Grants Received:**

Project Title	**Funding agency**	**Project cost in Rs- in Lakh**
Fabrication, characterization and modeling of CNT-C-ENFET	AICTE# F.No.8-140/RIFD/RPS-NER/Policy-1/2018-19, Dated 14 March 2019	25.00
VISVESVARAYA PhD Scheme	DeitY, MCIT, GOI,#Order No. phD-MLA/4(41)/2015-16/01 dated 05-02-2016	283.97935
Career and Market-oriented Programme "Advanced Diploma in Health care Informatics and Management" under the scheme of Career Orientation Programme of UGC	UGC # F.No.4-265/2011 (COC) Dated 22-12-2011	10.00

Modeling and simulation of Bioelectronics devices: cylindrical ISFET and ENFET	UGC # F.No.30-28/2004 (SR).	8.06
Innovative Programme "M.Tech in Bioelectronics" under the scheme of Teaching and Research in interdisciplinary area, UGC	UGC # No.F.14-4/2004(Inno/ASIST)	46.00+2 regular lecturers

- Publications**:** (Annexure II)
    - Journal publications: 29
    - Conference publications: 33
    - Book chapter**:** 05 + 01 (in CRC press)

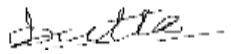
- Awards/Fellowship:
    - Awarded Merit Scholarship at school Level by Govt. of Assam in 1974
    - Awarded Merit Scholarship at BE Level 1981 by Govt. of Assam in 1981
    - Awarded QIP Scholarship leading to ME by AICTE in 1994
    - Awarded QIP Scholarship leading to PhD by AICTE in 1997

- Member of Academic committees:
    1. **Chairman** of Doctoral Committee, Department of ECE**, NIT, Nagaland**
    2. Member of **Academic Council**, Assam Science and Technology University.
    3. **Chairman of Departmental Research Committee** constituted for scrutinizing the research proposal of faculty members under TEQIP- II project, Department of Electronics & Communication Engineering, Tripura Institute of Technology.
    4. External **Member of Innovative program** (UGC), Dept. of ECT, Guwahati University.
    5. Member of **Academic Council**, Tezpur University
    6. Member of **Central Research Committee**, Tezpur University
    7. Member of BOS, **NERIST**
    8. Member of BOS, **USTM**

- 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) Startup workshop

- VIDWAN Portal: Vidwan-ID : 57328
- Scopus Id: 55084616100
- You tube Channel: https://www.youtube.com/channel/UCQGq2UWFyphoUMAo_kde2ug/featured?view_as=subscriber



(Prof. Jiten Ch. Dutta)

Annexure I

Doctoral Theses Guided/Guiding:

Sl. No	Name of Students	Theses Title	Theses Awarded Year/Submitted
1	Dr.Santanu Sharma	Modeling and Simulation of Nano-bioelectronic device: Cylindrical ISFET	2010
2	Dr.Soumik Roy	Modeling and Simulation of Artificial Synapse	2011
3	Dr. Abdul Barik	Fabrication and Characterization of Enzyme Field Effect Transistors (ENFETs) for Cholesterol and Acetylcholine Detection	2016
4	Dr. Rashmi Deka	Development of NeuroAchFET: A Biologically inspired Electronic Neuron Model	2017
5	Dr. Kuntala Boruah	Development of some DNA computing-based algorithms for logic gates and Boolean Circuits.	2018
6	Dr. Purnima Kumari Sharma	Electrochemical modelling and validation of high-k dielectric and nanomaterial-based Enzyme Field Effect transistors (ENFETs) for biomolecules detection.	2018
7	Taslima Ahmed	Application of HH Model of Neuron in Characterization of certain Neurological and Pathological disorders.	2019
8	Hiranya Ranjan Thakur	Development and analysis of high k-dielectrics CNT based Ion sensitive Field Effect Transistors (CNTISFET)	Submitted (2020)
9	Gaurav Keshwani	Fabrication and Characterization of Biologicallymodified Field Effect Transistor (BioFET) for Cholesterol detection	Likely to submit

Annexure -II

Publications in Journals:

[1] J. C. Dutta, H. R. Thakur, and G. Keshwani, "High performance Dual-Gate Carbon Nanotube Ion-Sensitive Field Effect Transistor with high-κ top gate and low-κ bottom gate dielectrics," ***IEEE Sensors Journal***,vol.19, no. 14, pp. 5692–5699, July 2019. **DOI:** 10.1109/JSEN.2019.2904517

[2] H. R. Thakur and J. C. Dutta, "Modeling of Carbon nanotube ISFETs with high-κ Gate dielectrics for biosensing applications," ***International Journal of Numerical Modelling: Electronic Networks, Devices and Fields***, vol. 32, no. 6, p. e2654, Nov. 2019. https://doi.org/10.1002/jnm.2654

[3] J. C. Dutta and Sharma, P. K., "Fabrication, characterization and electrochemical modeling of CNT based enzyme field effect acetylcholine biosensor," ***IEEE Sensors Journal,*** 18(8),2018,DOI: 10.1109/JSEN.2018.2810133

[4] Md. A. Barik, R. Deka, and J. C. Dutta, "Carbon nanotube based dual gated junctionless field effect transistor for acetylcholine detection," ***IEEE Sensors Journal,***16 (2) , 2016.DOI: 10.1109/JSEN.2015.2481604

[5] Md. A. Barik and J. C. Dutta, " Fabrication and characterization of junctionless carbon nanotube field effect transistor for cholesterol detection," ***Applied Physics Letters***, 105.5 , 2014:053509 doi: 10.1063/1.4892469

[6] Barik, Md Abdul, Manoj Kumar Sarma, C. R. Sarkar, and J. C.Dutta, "Highly Sensitive Potassium-Doped Polypyrrole/Carbon NanotubeBased Enzyme Field Effect Transistor (ENFET) for Cholesterol Detection," ***Applied biochemistry and biotechnology***, 1-11,2014.DOI:10.1007/s12010-014-1029-5

[7] J. C. Dutta and H. R. Thakur, "Sensitivity determination of CNT based ISFETs for different high-κ dielectric materials," ***IEEE Sensors Lett.***, vol. 1, no. 2, Apr. 2017.**DOI:** 10.1109/LSENS.2017.2695648

[8] P. K. Sharma, H. R. Thakur**,** and J. C. Dutta, "Modeling and simulation of carbon nanotube-based dual-gated enzyme field effect transistor for acetylcholine detection," ***Journal of Computational Electronics***, vol. 16, no. 3, pp. 584-592, Sept. 2017. DOI:https://doi.org/10.1007/s10825-017-0992-9

[9] Sharma, P. K., J. C. Dutta, Barik, M. A. and Sarma, M. K., "Numerical Modeling of Potassium doped Polypyrrole/Carbon Nanotube graphene based cholesterol enzyme field effect transistor," ***Wiley International Journal of Numerical Modelling: Electronic Networks, Devices and Fields,*** 30(6) ,2017.**https://doi.org/10.1002/jnm.2223**

[10] R. DekaandJ. C. Dutta, "Modelling of a circuit using ISFET (Ion Sensitive FET) for Obtaining Neuronal Signals," ***Journal of Engineering research***, 6(3),2018, https://kuwaitjournals.org/jer/index.php/JER/article/view/2943

[11] Sarma, M. K., Sharma, P. K. and J. C. Dutta, "Modelling of Potassium-Doped Polypyrrole/Carbon NanotubeBased Enzyme Field Effect Transistor for Cholesterol Detection," ***Elsevier Materials Today: Proceedings Journal***,4(9), 2017.https://doi.org/10.1016/j.matpr.2017.06.378

[12] R. DekaandJ. C. Dutta, "Development of NEUROAchFET circuit for patients having neurological disorder," ***Current Trends in Biotechnology and Pharmacy,*** 11(2), 2017. (Scopus indexed)

[13] K. Boruah, R. DekaandJ. C. Dutta, "Algorithm to simulate a Chemically Induced DNA Logic gate and Boolean circuit," ***Current Trends in Biotechnology and Pharmacy,*** 11(2),2017.(Scopus indexed)

[14] K. Boruah and J. C. Dutta, "DNA computing algorithm for realization of DNA Boolean logic based on micro-cantilever deflection," ***International Journal of Pharmaceutical Sciences Review and Research***, 42(1),2017. (Scopus indexed)

[15] T. Ahmed, J. C. Dutta, "Bifurcation analysis of H-H parameters and their contribution to neurology," ***International Journal of Applied Engineering Research***, 1(2),2015.(Scopus indexed)

[16] Boruah K, **Dutta J,"** DNA Computing model for realization of Boolean circuit",***International Journal of Control Theory and Applications,***ISSN: 09745572, 2016(Scopus indexed)

[17] Boruah, K., and J. C. Dutta, " An improved generalized DNA computing model to simulate logic functions and combinational circuits,"***International Journal of Information Technology***, Springer ,10(3), 2018

[18] T. AhmedandJ. C. Dutta, "A GUI (Graphical User Interface) framework to Introduce H-H Model in Comparison with Kv3.3 Model," ***American Journal of Biomedical Sciences, Am. J. Biomed. Sci***., 6(1), 2014.

[19] J. C. Dutta, T. Ahmed, "Hodgkin-Huxley's Introduction of the Conductance Based Model Neuron (1952)," ***International Journal of Advances in Electrical and Electronics Engineering***, 3(1) , 2013.

[20] S. Sharma, J. C. Dutta and M. Bharadwaj, "Response of ISFET as a function of Reference electrode position and arule for reference electrode placement," ***Canadian Journal on Electrical and Electronics Engineering***, 2(1),2011.

[21] J. C. Dutta, S. Roy, "Modeling Neuron for Simulation of Transmitter Gated Ion Channels of Postsynaptic Membrane at Synaptic Cleft," ***American Journal of Biomedical Sciences***, 1(2), 2011

[22] J. C. Dutta, "Modeling Ion Sensitive Field Effect Transistors for Biosensor applications,"***International Journal of Advanced Research in Engineering and Technology***, 1(1),2010

[23] S. Roy, J. C. Dutta, S. Phukan, "Integrate-and-Fire Based Circuit Model for Simulation of Excitatory and Inhibitory Synapses," ***Canadian Journal on Biomedical Engineering & Technology***, 1(2), 2010.

[24] J. C. Dutta, S. Roy **, "**Biologically Motivated Circuit Model of Neuron for Simulation of Excitatory and Inhibitory Actions of Synapses," ***Canadian Journal on Biomedical Engineering & Technology***, 1(3), 2010.

[25] J. C. Dutta, S. Sharma, S. Roy, "Ion Sensitive Field Effect Transistors (ISFETs): Transducers for Biosensors", ***IE(I) Journal-ET,***Vol. 88, July 2007, ISSN: 0251-1096.

[26] J. C. Dutta and Ghosh S. K. : "A novel Fiber Optic Temperature Sensor", ***J. of IE(I)-EL,***Vol. 82, pp 113-116, 2001.

[27] S.K. Ghosh, A. Rakshit, J.C. Dutta, S. Mondal, S. Chakraborty, "Development of Fiber Optic Non contact Rotation Sensor for Calibration of Energy Meter", ***Journal of IE(India), ID,*** Vol.32, Nov. 2001.

[28] J. C.Dutta, S.K.Ghosh andT.K.Basak, " A review on optical Fiber Sensors for Biomedical Applications", ***Journal of IE – part(ID),*** Vol.80, March'2000, pp 34-35

IEEE/SPIE Conference Publications :

[29] G. Keshwani, , H. R. Thakurand J. C. Dutta, "Fabrication and electrical characterization of carbon nanotube based enzyme field effect transistor for cholesterol detection," ***TENCON, IEEE Region 10 International Conference,*** 2019, DOI: 10.1109/TENCON47323.2019

[30] Keshwani, G., Thakur, H. R., and J. C. Dutta, "Characterization of thin zirconia films deposited by ECD on ITO coated glass for biosensing applications," ***IEEE International Conference on Signal Processing and Integrated Networks (SPIN-2019),*** DOI: 10.1109/iSES.2018.00048, **2019.**

[31] Thakur, H. R., Keshwani, G., and J. C. Dutta, "Physical model for drift in carbon nanotube based ZrO_2 gate dielectric ion sensitive field effect transistor," ***IEEE International Conference on Innovations in Electronics, Signal Processing and Communication (IESC' 2019)***, 2019.

[32] P. K. Sharma, H. R. ThakurandJ. C. Dutta, "Effect of different dielectric materials on enzyme field effect transistor," ***IEEE International Conference on Computing, Communication and Automation (ICCCA)***, DOI: 10.1109/CCAA.2017.8230029,ISBN: 978-1-5090-6471-7, **2017.**

[33] P. K. Sharma, J. C. Dutta, "Electrochemical modeling of carbon nanotube based dual gated junctionless enzyme field effect transistor," ***IEEE Region 10 Annual International Conference, Proceedings/TENCON***, DOI: 10.1109/TENCON.2016.7848544,2765 – 2770,ISSN: 2159-3450, **2017.**

[34] Sharma P. K., Thakur H. R. &J. C. Dutta, "Fabrication and characterization of a Carbon Nanotube based Junctionless Ion Sensitive Field Effect Transistor (CNT-JLISFET)," ***International Conference on Computing Communication and Automation (ICCCA' 2016), IEEE***, DOI: 10.1109/CCAA.2016.7813948,ISBN: 978-1-5090-1666-2, **2016.**

[35] Deka, R., J. C. Dutta, "Estimation of parameters using evolutionary algorithm in Hodgkin-Huxley model," ***IEEE 2nd International Conference on Advances in***

Electrical, Electronics, Information, Communication and Bio-Informatics (AEEICB), DOI: 10.1109/AEEICB.2016.7538277,ISBN: 978-1-4673-9745-2, 2016.

[36] Boruah, K., J. C. Dutta, "Development of a DNA computing model for Boolean Circuit," ***IEEE 2nd International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (AEEICB)***, DOI: 10.1109/AEEICB.2016.7538295,ISBN: 978-1-4673-9745-2, 2016.

[37] Saikia, DandJ. C. Dutta, "Early diagnosis of dengue disease using fuzzy inference system," ***IEEE International Conference on Microelectronics, Computing and Communications (MicroCom)***, DOI:10.1109/MicroCom.2016.7522513,ISBN: 978-1-4673-6621-2, **2016.**

[38] Sarma, M. K., Sharma, P. K., J. C. Dutta, "Enzyme modified field effect transistors for applications in bioelectronic sensors: Modelling and technology," ***IEEE International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT)***, DOI: 10.1109/ICEEOT.2016.7755471,ISBN: 978-1-4673-9939-5, **2016.**

[39] Barik, M. A., J. C. Dutta,"Traditional and junctionless field effect transistor for cholesterol detection," ***IEEE International Conference on Electronic Design, Computer Networks & Automated Verification (EDCAV)***, DOI:10.1109/EDCAV.2015.7060545,ISBN: 978-1-4799-6208-2, **2015.**

[40] Boruah, K., J. C. Dutta, "Twenty years of DNA Computing: From Complex Combinatorial Problems to the Boolean Circuits," ***IEEE International Conference on Electronic Design, Computer Networks & Automated Verification, (EDCAV)***," DOI: 10.1109/EDCAV.2015.7060538, ISBN: 978-1-4799-6208-2, **2015.**

[41] Deka, R. &J. C. Dutta,"Modeling and Simulation of a NEUROBIOFET for Application in Neurology," ***IEEE International Conference on Electronic Design, Computer Networks & Automated Verification, (EDCAV)***," DOI: 10.1109/EDCAV.2015.7060547, ISBN: 978-1-4799-6208-2, **2015.**

[42] Boruah, K., J. C. Dutta, " DNA Computing Models for Boolean Circuits and Logic Gates,"***IEEE International Conference On Computational Intelligence And Communication Technology***, DOI: 10.1109/CICT.2015.105,ISBN: 978-1-4673-9745-2 , **2015.**

[43] Deka, R.,andJ. C. Dutta, "Parameter Extraction for Neuron Model Simulation of Action Potential in Earthworm giant nerve fiber," ***IEEE International Conference On Computational Intelligence And Communication Technology***, DOI: 10.1109/CICT.2015.57,ISBN: 978-1-4673-9745-2 , **2015.**

[44] Barik, M. A., Sharma. MandJ. C. Dutta, "Traditional graphene based and junctionless carbon nanotube based field effect transistor for cholesterol sensor," ***2nd IEEE International Conference on Emerging Electronics (ICEE)***, DOI: 10.1109/ICEmElec.2014.7151205,ISBN: 978-1-4673-6528-4, **2014.**

[45] T. Ahmed,J. C. Dutta, "An Approach to Develop Parametric Analogy of "improved" H-H Model Using GUI," ***IEEE International conference publication***, DOI: 10.1109/CUBE.2013.49,ISBN: 978-1-4799-2235-247**, 2013.**

[46] J. C. Dutta, T. Ahmed, "A Simple Electronic Analog of the Postsynaptic Membrane: The NEUROBIOFET," ***IEEE International conference publication***, DOI: 10.1109/ICDCSyst.2012.6188656,ISBN: 978-1-4577-1546-4, **2012.**

[47] J. C. Dutta, P. S. Warjri, "Threshold voltage and *I-V* Characteristics of Cylindrical, Surrounding- Electrolyte ISFET," ***IEEE International conference publication***, DOI: 10.1109/ICDCSyst.2012.6188658,ISBN: 978-1-4577-1546-4, **2012.**

[48] J. C. Dutta, M. Hazarika, "Modeling of Enzyme Biosensor based on pH-sensitive Field Effect Transistor for detection of Glucose," ***IEEE International conference publication***, DOI: 10.1109/ICDCSyst.2012.6188660,ISBN: 978-1-4577-1546-4, **2012.**

[49] J.C.Dutta, **"**Ion Sensitive Field Effect Transistor for Applications in Bioelectronic Sensors: A Research Review," ***IEEE conference publication***, DOI: 10.1109/NCCISP.2012.6189704,ISBN: 978-1-4577-0720-9, **2012**

[50] S. Roy, T. Ahmed, J. C. Dutta, "A Simple Variant of Integrate-and-Fire Model of Neuron for Application in Neuronal Area," ***IEEE conference publication***, DOI: 10.1109/NCCISP.2012.6189679,ISBN: 978-1-4577-0720-9,**2012.**

[51] J.C.Dutta, S.Roy, "An Electronic Circuit Model for simulation of Synaptic Communication: The NEUROISFET for Wireless Biotelemetry," ***IEEE International Conference on Devices and Communications (ICDeCom)***, DOI: 10.1109/ICDECOM.2011.5738455,ISBN: 978-1-4244-9190-2, **2011.**

[52] J.C.Dutta, S.Roy, "Biologically Inspired Circuit Model for Simulation of Acetylcholine Gated Ion Channels of the Postsynaptic Membrane at Synaptic Cleft," ***IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010),***DOI:10.1109/IECBES.2010.5742191,ISBN: 978-1-4244-7600-8, **2010.**

[53] J. C. Dutta, Basak, T. K., Ghosh, S. K. , "Some Optical Characteristics of Bio Membrane in the Development of Bio-sensor", ***SPIE*****, Vol. 4417-69**, **2001**. DOI:http://dx.doi.org/10.1117/12.441345

[54] Basak, T.K, J. C. Dutta, "pH dependence of the interactions in blood pressure transduction", *Engineering in Medicine and Biology Society, 1994. Engineering Advances: New Opportunities for Biomedical Engineers. Proceedings of the 16th Annual International Conference of the IEEE,* DOI:10.1109/IEMBS.1994.415180,Publication Year: 1994 , Page(s): 852 - 853 vol.2

International/ National Conference Papers

[55] H. R. Thakur,G. Keshwani, and J. C. Dutta, "Modeling of dual-gate carbon nanotube based ion sensitive field effect transistor (DG-CNTISFET)," In ***International Conference on Electronic Systems and Intelligent Computing*** **(ESIC 2020)**, NIT Arunachal Pradesh, **2020**.

[56] G. Keshwani, K. Hazarika, H. R. Thakurand J. C. Dutta, "Fabrication and electrochemical modeling of CNT based BioFET for cholesterol detection," In ***International Conference on Electronic Systems and Intelligent Computing*** **(ESIC 2020)**, NIT Arunachal Pradesh, **2020.**

[57] H. R. Thakur, G. Keshwani, J. C. Dutta, "Sensitivity of carbon nanotube based junctionless ion sensitive field effect transistor (CNTJLISFET) for HfO2 and ZrO2 gate dielectrics: Experimental and theoretical investigation," ***International Conference on Innovations in Electronics, Signal Processing and Communication (IESC)***, DOI: 10.1109/IESPC.2017.8071880,ISBN: 978-1-5090-5620-0, 2017.

[58] S Roy, J. C. Dutta, "Analog Circuit Model & Simulation of Neurons", ***Proc.National Conference on Emerging Trends in Engg. Technology & Applications (NCETETA-2009),*** Organized by Sirdi Sai Engg. College, Bangalore, in association with Computer Society of India, IETE, ISTE, SAEINDIA, 29-30th April'**2009**.

[59] J.C.Dutta and *et al*, " Mixed domain modeling and simulation of nano size ISFET for Bioelectronic Device", ***Proc. Int. Conference on Recent trends in Nanoscience & Technology (ICRTNT -06)***, 7-9 Dec,'**2006**, Kolkata.

[60] S. Sharma, J. Bora and J.C. Dutta, "Simulation of a pH Sensitive ISFET based on Site binding and Electrical Double layer theory", ***Proc. International conference on Communication, Device and intelligent Systems, CODIS – 2004,*** Kolkata

[61] S. Sharma, J.C. Dutta, J. Bora, "Simulation of Cylindrical ISFET based on the site binding model", ***Proc. International conference on Computers and Devices for Communication,*** **CODEC – 2004** .

Book Chapters:

[62] Devi K, Keshwani G, Thakur H, **Dutta J**, "Fabrication and Physical Characterization of Different Layers of CNT-BioFET for Creatinine Detection", ***Lecture Notes in Computer Science*** *(including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) (2019) 11942 LNCS 535-542*, DOI: 10.1007/978-3-030-34872-4_59

[63] K. Boruah, R. Deka, J. C. Dutta, " A Model to Demonstrate the Universality of DNA-NAND Gate,"***Advances in Electronics, Communication and Computing***, Vol 443, 2018, page 67-76,DOI:http://sci-hub.tw/10.1007/978-981-10-4765-7_8,ISBN: 978-981-10-4765-7.

[64] R. Deka, K. Boruah, J. C. Dutta, "Optimization of Hodgkin–Huxley Conductance-Based Model Using Particle Swarm Optimization and Firefly Method," ***Advances in Electronics, Communication and Computing***, Vol 443, 2018, page 61-65,DOI:http://sci-hub.tw/10.1007/978-981-10-4765-7_7,ISBN: 978-981-10-4765-7.

[65] **J. C. Dutta**, P. K. Sharma, andH. R. Thakur, "Forty years of BioFETOLOGY: A Research Review," ***Advances in Computer and Computational Sciences book series***, vol. 553, pp. 687-697, DOI: 10.1007/978-981-10-3770-2_65

[66] D. Saikia, J. C. Dutta, "Adaptive Network Based Fuzzy Inference System for Early Diagnosis of Dengue Disease,"***Advances in Computer and Computational Sciences book series***, vol. 553, pp. 721-728. DOI:10.1007/978-981-10-3770-2_68