MEMBERS FROM ANNAUNIVERSITY AND AFFILLIATED COLLEGES

Name : Dr. N.Balamurugan

Designation: Professor

Department: Electronics and Communication Engineering

Name of the Organization: Thiagarajar College of Engineering

Place: Madurai

Pincode: 625015

Mobile: 9894346320

Email: nbbalamurugan@tce.edu

Area of Specialization: Analog VLSI Design, Communication System, Wireless Sensor Networks,

Publications

Journals

1. M Venkatesh, M Suguna, NB Balamurugan, Subthreshold Performance Analysis of Germanium Source Dual Halo Dual Dielectric Triple Material Surrounding Gate Tunnel Field Effect Transistor for Ultra Low Power Applications,Journal of Electronic Materials 48 (10), 6724-6734
2. S Manikandan, NB Balamurugan, TSA SamuelImpact of uniform and non-uniform doping variations for ultrathin body junctionless FinFETs,Materials Science in Semiconductor Processing 104, 104653
3. K Sowmya, NB Balamurugan," Modeling and simulation of dual-material-gate AlGaN/GaN high-electron-mobility transistor using finite difference method January 2019International Journal of Numerical Modelling Electronic Networks Devices and Fields 32(1) DOI: 10.1002/jnm.2546
4. Dharshana, NB Balamurugan, TS Samuel ,Journal of Nano Research ,2019,57, 68-76, "An Analytical Modeling and Simulation of Surrounding Gate TFET with an Impact of Dual Material Gate and Stacked Oxide for Low Power Applications"
5. K Sowmya, NB Balamurugan, V Parvathy,2019 "A 2-D MODELING OF Fe DOPED DUAL MATERIAL GATE Algan/Aln/Gan HIGH ELECTRON MOBILITY TRANSISTORS FOR HIGH FREQUENCY APPLICATIONS"AEU-International Journal Of Electronics And Communications
6. M.Venkatesh & N. B Balamurugan 2019,"New subthreshold performance analysis of germanium based dual halo gate stacked triple material

surrounding gate tunnel field effect transistor",Superlattices and Microstructures-Elsevier (130),485-498
7. Buvaneswari, B & Balamurugan, NB 2018, '2D analytical modeling and simulation dual material DG MOSFET for biosensing application', AEU-International Journal of Electronics and Communications.
8. G.Lakshmi Priya, N.B.Balamurugan," New Dual Material Double Gate Junctionless Tunnel FET: Subthreshold Modeling and Simulation", International Journal of Electronics and Communications (2018) https://doi.org/10.1016/j.aeue.2018.11.037
9. Buvaneswari, B & Balamurugan, NB 2018, 'Sensitivity analysis of double gate metal oxide semiconductor field effect transistor for bio-sensing applications', Journal of Nanoelectronics and Optoelectronics.
10. B. BUVANESWARI, N.B.Balamurugan, "Comparative analytical analysis of various configurations of nanoscaled dielectric-modulated double gate MOSFET based biosensors" Journal of Optoelectronics and Advanced materials, Vol.20,no.9-10 Sep-Oct (2018).
11. G.Lakshmi Priya, N.B.Balamurugan, "Subthreshold Modeling of Triple Material Gate-All-Around Junctionless Tunnel FET with Germanium and High-K Gate Dielectric Material" , Journal of Microelectronics, Electronic Components and Materials Vol. 48, No. 1(2018), 53 – 61
12. T. Venish kumar, N.B. Balamurugan ," Analytical Modeling of InSb/AlInSb Heterostructure Dual gate High Electron Mobility Transistors" International Journal of Electronics and Communications (2018), doi: https://doi.org/10.1016/j.aeue.2018.06.033
13. D.Saraswathi , Dr.N.B.Balamurugan , and G.Lakshmi Priya, "Tri-Material Gate Work Function Engineering of Gate-AllAround (Gaa) Nanowire Tunnel Field Effect Transistors: Scale Length Model", International Journal of Applied Engineering and Research, Volume 10, Number 2 (2015) pp. 3627-3638.
14. P.Vanitha, Dr.N.B Balamurugan G. Lakshmi Priya "Triple Material Surrounding Gate (TMSG) Nanoscale Tunnel FET - Analytical Modeling and Simulation", Journal of Semiconductor Technology and Science, ISSN 2233 – 4866,Vol.15,No.6,2015.
15. Saraswathi D, Lakshmi Priya G, Balamurugan NB, Manikandan S, "Transconductance-to-Drain Current Ratio and Subthreshold Analysis of Tri-Material Gate-All-Around Silicon Nanowire Tunnel FET", International Journal of Applied Engineering and Research (ISSN 9734562), pp. 1381-1387, Vol.10, N0.2, 2015.
16. Saraswathi D, Lakshmi Priya G, Balamurugan NB, Manikandan S, "A 2D Threshold Voltage Model for Triple Material Gate-All-Around Silicon Nanowire Tunnel FET", International Journal of Applied Engineering and Research (ISSN 9734562), pp. 1376-1381, Vol.10, N0.2, 2015.

17. Theodore Chandra, S, Balamurugan, NB, Lakshmi Priya, G & Manikandan, S 2015, 'Analysis of Subthreshold Behavior of AlInSb/InSb High Electron Mobility Transistors (HEMTs)', Chinese Physics B Impact Factor: 1.392, Vol. 24, No. 7 (2015) 076105 (1-5).
18. Theodore Chandra, S, Balamurugan, NB, Bhuvaneswari, M, Anbuselvan, N & Mohankumar, N 2015, 'Analysis of Charge Density and Fermi Level of AlInSb/InSb Single Gate High Electron Mobility Transistor', Journal of Semiconductors, vol. 36, no. 6, pp. 064003-1 - 064003-6
19. G.Lakshmi Priya, N.B.Balamurugan, "Triple Material Gate Work Function Engineering in Surrounding Gate Nanoscale MOSFETs for reduced Short Channel Effects (SCE's): Scale Length Model", International Journal of ChemTech Research, vol.7, No.02, 2015, pp.1005-1013.
20. Theodore Chandra, S, Balamurugan, NB, Lakshmi Priya, G, Muralidharan, V, Sugirtha Ruba Rani, DS 2015, 'Compact modeling of gate engineered triple material gate (TMG) AlInSb/InSb high electron mobility transistors', Journal of Optoelectronics and Advanced Materials, vol.17, no.1-2, pp.222 - 228.
21. Theodore Chandra, S, Balamurugan, NB, Bhuvaneswari, M, Anbuselvan, N & Mohankumar, N 2015, 'Analysis of Charge Density and Fermi Level of AlInSb/InSb Single Gate High Electron Mobility Transistor', Journal of Semiconductors, vol.36, no.6 Impact Factor: 0.378.
22. Sheela. L, N. B. Balamurugan, S. Sudha and J. Jasmine, 'Analysis of Tunnelling Rate Effect on Single Electron Transistor',Journal of Electrical Engineering and Technology Vol. 9, No. 5: 1670-1676, 2014.
23. M.Karthigai Pandian, Dr.N.B.Balamurugan and S. Manikandan, 'Analytical I-V Modeling of Accumulation Mode Cylindrical Surrounding Gate Nanowire Mosfets', International Journal of Applied Engineering and Research, Volume 9, Number 22 (2014) pp. 17745-17758.
24. TS Arun Samuel, NB Balamurugan, T Niranjana and B Samyuktha, ' Analytical Surface Potential model with TCAD Simulation verification for evalution of Surrounding Gate TFET' Journal of Electrical Engineering and Technology,Vol.9,No.2, 655-661,2013.
25. Theodore Chandra, S, Balamurugan, NB, Subalakshmi, G, Shalini, T & Lakshmi Priya, G 2014, 'Compact analytical model for single gate AlInSb/InSb high electron mobility transistors', Journal of Semiconductors, vol.35, no.11, pp.114003-1 to 114003-5 (ISSN: 1674-4926 Impact Factor: 0.378.
26. P Suveetha Dhanaselvam, NB Balamurugan, and N Basheer Ahamed, 'A Charge Control model of Surrounding gate MOSFET', International Journal of Engineering and Computer science, vol. 2, no. 3, pp.777-780,2013.

27. M. Karthigai Pandian and N.B. Balamurugan, 'Analytical Threshold Voltage Modeling of Surrounding Gate Silicon Nanowire Transistors with Different Geometries', Journal of Electrical Engineering Technology Vol. 9, No. 6: 2079-2088, 2014.
28. Theodore Chandra, S & Balamurugan, NB 2014, 'Performance analysis of silicon nanowire transistors considering effective oxide thickness of high-k gate dielectric', Journal of Semiconductors, vol.35, no.4, pp.044001-1 to 044001-4 .
29. TS Arun Samuel, NB Balamurugan, 2014, 'Analytical Modeling and Simulation of Germanium Single Gate Silicon on Insulator TFET', Journal of Semiconductors, vol.3, in press.
30. P Suveetha Dhanaselvam, & NB Balamurugan, N Basheer Ahamed, 2013, 'A Charge Control model of Surrounding gate MOSFET', International Journal of Engineering and Computer science, vol. 2, no. 3, pp.777-780.
31. P Suveetha Dhanaselvam, & NB Balamurugan, Vivek Chakaravarthi, GC, Ramesh, RP & Sathishkumar, BR 2013, 'A 2D Analytical Modeling of Single halo Triple material Surrounding gate (SHTMSG) MOSFET', Journal of Electrical Engineering & Technology, accepted for Publication.
32. P Suveetha Dhanaselvam, & NB Balamurugan, 2013, 'Performance analysis of fully depleted triple material surrounding gate(TMSG) SOI MOSFET', Journal of Computational Electronics, vol. 12, no. 4.
33. P Suveetha Dhanaselvam, & NB Balamurugan, 2013, 'A 2D Transconductance and Sub-threshold behavior model for triple material surrounding gate MOSFETs', Microelectronics Journal, vol. 44, no. 12, pp. 1159-1164.
34. TS Arun Samuel, NB Balamurugan, Sibitha,S, Saranya,R & Vanisri, D 2013, 'Analytical Modeling and Simulation of Dual Material Gate Tunnel Field Effect Transistors', Journal of Electrical Engineering & Technology, vol. 8, no. 6, pp. 1481-1486.
35. P Suveetha Dhanaselvam, & NB Balamurugan, 2013, 'Analytical approach of a nanoscale triple-material surrounding gate MOSFETs for reduced short channel effects', Microelectronics Journal, vol. 44, no. 5, pp. 400-404.
36. TS Arun Samuel, NB Balamurugan, Bhuvaneswari,S, Sharmila, D & Padmapriya, K 2013, 'Analytical modelling and simulation of single-gate SOI TFET for low-power applications', International Journal of Electronics, online.
37. N.B.Balamurugan, An analytical 2D Model for a symmetric double gate MOSFET considering quantum mechanical effects, International journal of Micro and Nano systems, vol-2,pp.41-45,2011
38. N.B.Balamurugan, Compact Thermal Noise modeling for Submicron MOSFETs , International Journal of Micro and Nano Electronics, Circuits And Systems, PP.43-47,Vol.3,2011

39. N.B.Balamurugan, New 2D Analytical Threshold Voltage Model For Dual Material Surrounding Gate Soi Mosfet For Low Power Applications, AMSE Journal, 2009, June.
40. N.B.Balamurugan, New Scaling Theory For Effective Conducting Path Effect Of Dual Material Surrounding Gate Mosfet In Cmos Applications , AMSE Journal, 2009 June.
41. N.B.Balamurugan, Modeling And Simulation Of Dual Material Surrounding Gate Nanoscale Soi Mosfets With Enhanced Transconductance To Drain Current Ratio For Wireless Communication, Journal Of Semiconductor Technology And Science, 2009, June.
42. N.B.Balamurugan, A New Scaling Theory For The Effective Conducting Path Effect Of Dual Material Surrounding Gate Nano Scale Mosfets, Journal Of Semiconductor Technology And Science, 2008 Vol. 8, No. 1, pp. 92-97
43. N.B.Balamurugan, A Novel 2-D Model For The Surface Potential And Threshold Voltage Of Nanoscale Dual Material Surrounding Gate (Dmsg) Mosfets, International Engineering And Technology Journal Of Communication Techniques, 2008 Vol. 2, No. 1, pp. 1-7
44. N.B.Balamurugan, An Analytical Modeling Of Threshold And Subthreshold Swing On Dual Material Surrounding Gate Nanoscale Mosfets For High Speed Wireless Communication, Journal Of Semiconductor Technology And Science, 2008 Vol. 8, No. 3, pp. 221-226
45. N.B.Balamurugan, Two Dimensional Analytical Modeling Of Surface Potential And Threshold Voltage Of A Dual Material Surrounding Gate (Dmsg) Mosfets For Nanoscale Cmos Applications, International Journal Of Image Processing And Networking Techniques, 2008 Vol. 1, No. 1, pp. 89-96.
46. N.B.Balamurugan, A Phenomenal Scaling Theory For The Effective Conductive Path Effect Of Dual Material Surrounding Gate (Dmsg) Nanoscale Mosfets, International Engineering And Technology Journal Of Communication Techniques, 2008 Vol. 2, No. 1, pp. 8-13.
47. N.B.Balamurugan, Dual Material Surrounding Gate Nanoscale Mosfets: A Novel Device For Reliable Nanoscale Cmos Applications, Far East Journal Of Electronics And Communication, 2007 Vol. 1, No. 2, pp. 135-146.
48. P.vimala & N. B. Balamurugan, “Modeling and Simulation of Centroid and Inversion charge density in Cylindrical Surrounding Gate MOSFETs including Quantum Effects”, Journal of Semiconductors, vol.34, no.11,pp. 114001-6, 2013.
49. P.vimala & N. B. Balamurugan, Modelling the centroid and charge density in double-gate MOSFETs including quantum effects, International Journal of Electronics, vol.100, no.9, pp.1283–1295, 2013.
50. P.vimala & N.B.Balamurugan Quantum Mechanical Compact Modeling of Symmetric Double-Gate MOSFETs using Variational

approach, Journal of Semiconductors, Vol. 33, No. 3, pp. 034001-1 to 034001-5,2012

51. P.vimala & N.B.Balamurugan Analytical Modeling and Simulation of single gate SOI TFET for low power applications, International Journal of Electronics, pp.1–10.Available at online, 2013
52. P.vimala & N.B.Balamurugan Analytical approach of a nanoscale triple material surrounding gate (TMSG) MOSFETs for reduced short channel effects, Microelectronics Journal, Volume 44, Issue 5, Pages 400–404, 2013
53. TS Arun Samuel, NB Balamurugan, 2013, 'An Analytical Modeling and Simulation of Dual Material Double Gate Tunnel Field Effect Transistor for Low Power Applications', Journal of Electrical Engineering & Technology, vol. 9, no. 1, pp. 247-253.
54. P.vimala & N. B. Balamurugan, "A Compact Quantum Model for Cylindrical Surrounding Gate MOSFETs using High-K Dielectrics", Journal of Electrical Engineering
55. P.vimala & N. B. Balamurugan, "Modeling and simulation of nano scale Tri-gate MOSFETs including quantum effects", Journal of Semiconductors, vol.35, no.3, 2014 in Forthcoming articles.
56. P.vimala & N. B. Balamurugan, "A New Analytical model for Nanoscale Trigate SOI MOSFETs Including Quantum Effects", IEEE Journal of the Electron Devices Society, Accepted. DOI: 10.1109/JEDS.2014.2298915.
57. P.vimala & N. B. Balamurugan, "Analytical Modeling of Quantum Effects in Surrounding Gate MOSFETs", COMPEL- The International Journal for Computation and Mathematics in Electrical and Electronic Engineering Journal of Semiconductors, vol.33, no.1/2, 2014 in Early Cite Article.
58. Theodore Chandra, S, Balamurugan, NB, Lakshmi Priya, G 2015, "Subthreshold behaviour of AlInSb/InSb high electron mobility transistor", Vol.24, No.7, pp 076105-1 to 076105-5.
59. N.B.Balamurugan,Theodore Chandra,S., Suveeta,Vanitha,2D Analytical Surface Potential Model for Dual Material Gate MOSFETs with Reduced Short Channel EffectsInternational Journal of Science and Engineering Support Society18,49-58,2010
60. N.B.Balamurugan, An Optimal Strategy For Analysing Characteristics Of Optical Fiber Waveguide , Journal Of Optics, 1997
61. N.B.Balamurugan, Analytical modeling of drain current, capacitance and transconductance in symmetric double-gate MOSFETs Considering quantum effects, International Journal of Nanoscience, Vol. 12, No. 1, 1350005 (9 pages)
62. N.B.Balamurugan, Analytical approach of a nanoscale triple material surrounding gate (TMSG) MOSFETs for reduced short channel effects., Microelectronics Journal, Volume 44, Issue 5, Pages 400404

63. N.B.Balamurugan, Quantum Mechanical Compact Modeling of Symmetric Double-Gate MOSFETs using Variational approach, Journal of Semiconductors, Vol. 33, No. 3 pp. 034001-1 to 034001-5

Conferences

1. Analyze the Behavior of Sub Threshold in Nanoscale Triple Material Gate AlGaN/GaN/AlN HEMT by analytical Modeling And Simulation,International Conference On Microwave and Optical Communication,2nd March 2017 ,Alagappa Chettiar College Of Engineering And Technology, Karaikudi.
2. Two Isolated Depletion Regions Analytical Model Of Sheet Carrier Density And Thershold Voltage For InAlAs/InGaAs Heterostructure Of HEMT. International Conference On Microwave and Optical Communication,2nd March 2017 ,Alagappa Chettiar College Of Engineering And Technology, Karaikudi.
3. Analytical Modeling of Gate Engineered Triple Material Gate(TMG) AlGaN/GaN High Electron Mobility Transistors for CMOS ApplicationsInternational Conference on NextGen Electronic Technologies: Silicon to Software (ICNETS2),March 23, 2017 – VIT , Chennai, India
4. A 2D Analytical Modeling Of Dual Material Surrounding Gate Junctionless Tunnel Field Effect TransistorInternational Conference On Microwave and Optical Communication,2nd March 2017, Alagappa Chettiar College Of Engineering And Technology, Karaikudi.
5. Dr.N.B.Balamurugan, Analytical Modeling of Dual Material Gate All Around Stack Architecture of Tunnel FET, VLSID 2016,JANUARY 4 – 8 ,KOLKATTA, INDIA International 2016
6. Dr.N.B.Balamurugan , Analyze the Behavior of Sub Threshold in Nanoscale Triple Material Gate AlGaN/GaN/AlN HEMT by analytical Modeling And Simulation,International Conference On Microwave and Optical Communication,2nd March 2017 ,Alagappa Chettiar College Of Engineering And Technology, Karaikudi.
7. Dr.N.B.Balamurugan , A 2D Analytical Modeling Of Dual Material Surrounding Gate Junctionless Tunnel Field Effect Transistor,International Conference On Microwave and Optical Communication,2nd March 2017, Alagappa Chettiar College Of Engineering And Technology, Karaikudi.
8. Dr.N.B.Balamurugan ,Analytical Modeling of Centroid and Gate Voltage in Quad gate MOSFET including Quantum Mechanical Efect, International Conference on Electrical,Electronics and Communication-(ICEEC'16) Alagappa Chettiar College of ENGG & TECH.,31st March-1st April 2016
9. Dr.N.B.Balamurugan ,An Analytical study for the effect of gate engineering in Tri Material Gate All Around Junctionless

MOSFETs,International Conference on Computing, Communication, Nanophotonics, Nanoscience, Nanomaterials and Nanotechnology I2C4N-2K16 Holy Grace Academy of Engg.,7-8th April,2016 Kerala,India. International2016

10. Dr.N.B.Balamurugan ,Two Isolated Depletion Regions Analytical Model Of Sheet Carrier Density And Thershold Voltage For InAlAs/InGaAs Heterostructure Of HEMT. International Conference On Microwave and Optical Communication,2nd March 2017 ,Alagappa Chettiar College Of Engineering And Technology, Karaikudi.
11. Dr.N.B.Balamurugan, Analytical Modeling of Gate Engineered Triple Material Gate(TMG) AlGaN/GaN High Electron Mobility Transistors for CMOS Applications,International Conference on NextGen Electronic Technologies: Silicon to Software (ICNETS2),March 23, 2017 – VIT , Chennai, India.
12. Karthigai Pandian, M, & Balamurugan, NB 2014, 'Anlytical threshold voltage modeling of surrorunding gate silicon nanowire transistors with different geometries', Journal of Electrical Engineering & Technology, vol. 9, no. 6, pp. 2079-2088 (ISSN: 1975-0102)
13. Balamurugan N.B., Sankaranarayanan K. and Fathima John .M, "2D Transonductance to Drain Current Ratio Modeling of Dual Material Surrounding Gate Nanoscale SOI MOSFETS", Journal Of Semiconductor Technology And Science, vol. 9, no. 2, pp. 110-115,June 2009.
14. Dr.N.B.Balamurugan "A Novel Scaling Theory for Effective Conductive Path Effect of Double gate (DG) MOSFETs for Nano – Scale CMOS Circuit Design",IEEE – International Conference on Signal Processing, Commnications and Networking, MIT, Anna Univeristy,Chennai,2008
15. Karthigai Pandian, M, Balamurugan, NB, & Pricilla, A 2013, 'Potential and quantum threshold voltage modeling of gate-all-around nanowire MOSFETs', Active and Passive Electronic Components (ISSN: 1563-5031)
16. Sheik Arafat, I & Balamurugan, NB 2016, 'Influence of scattering in near ballistic silicon nanowire metal-oxide-semiconductor field effect transistor', Journal of Nanoscience and Nanotechnology, Vol. 16, no. 6, pp.6032-6036 (ISSN 1533-4880)
17. Sheik Arafat, I & Balamurugan, NB 2015, 'Temperature effect in scattered SiNW MOSFET', International Journal of Applied Engineering Research, Vol. 10, no. 55, pp. 123-127. (ISSN 0973-4562)
18. Sheik Arafat, I, Balamurugan, NB 2014, 'Role of Discrete Dopants in Carrier Transport of Near Ballistic Silicon NanoWire MOSFET', Jokull Journal, Vol. 64, No.3 pp. 382-390
19. Karthigai Pandian, M, Balamurugan, NB, & Manikandan, S 2014, 'Analytical modeling of junctionless surrorunding gate silicon nanowire transistors', Journal of Nanoelecronics and Optoelectronics, vol. 9, no. 4, pp. 468-473 (ISSN: 1555-1318)

20. P Suveetha Dhanaselvam, & N.B.Balamurugan, “A 2D sub – threshold current model for single halo triple material surrounding gate (SHTMSG) MOSFETs”, Microelectronics Journal, 45 (2014) 574 – 577.
21. P.Suveetha Dhanaselvam & N.B.Balamurugan, “A 2D Novel Approach of Partially Depleted Dual Material MOSFETs for Reduced Short Channel Effects”, Nanostructured Materials for Electronics, Energy and Environmental Applications,31 – 36 (2010)
22. Dr.N.B.Balamurugan,M.Surya Abirami,K.Sowmya" Analytical Modeling of Centroid and Gate Voltage in Quad gate MOSFET including Quantum Mechanical Efect" International Conference on Electrical,Electronics and Communication-(ICEEC’16) Alagappa Chettiar College of ENGG & TECH.,31st March-1st April 2016
23. Dr.N.B.Balamurugan, S.Manikandan An Analytical study for the effect of gate engineering in Tri Material Gate All Around Junctionless MOSFETs,International Conference on Computing,Communication,Nanophotonics,Nanoscience, Nanomaterials and Nanotechnology I2C4N-2K16 Holy Grace Academy of Engg.,7-8th April,2016 Kerala,India.
24. Dr.N.B.Balamurugan, Shri Kalpa Virutcha, M.Radhika, M.MangalaBency, S.Elaswari "Comparitive Analysis of Dual Material Gate and Gate All Around Tunnel Field Effect Transistor for Low Power Applications" NCCT ’16 National conference on Communication Technologies, March- 23,2016MEPCO Schlenk Engineering College
25. Dr.N.B.Balamurugan,M.Surya Abirami,B.Buvaneswari,K.Sowmya "Analytical Modeling of Nanoscale Quad gate MOSFET including Quantum Mechanical Effects" IEEE conference on Emerging Devices and smart system March 4 – 5 , 2016 ICEDSS2016 Mahendra Engineering College
26. Dr.N.B.Balamurugan,Mr.S.Manikandan,Ms.G.Srimathi,Lakshmi Priya.G, "Analytical Modeling of Dual Material Gate All Around Stack Architecture of Tunnel FET,VLSI DESIGN 2016, Kolkatta,India, January 4 - 8, 2016. 29th International Conference on VLSI Design.
27. Saraswathi D , Balamurugan N B, Lakshmi Priya G, Manikandan S,"A Compact Analytical Model for 2-D Triple Material Surrounding Gate Nanowire Tunnel Field Effect Transistors", ICICA'14, NIT Durgapur, Dec 22-24 2014. Published in proceedings of springer Intelligent Computing and Applications, vol.343.
28. Vanitha P, Lakshmi Priya G, Balamurugan N B, Theodore Chandra S, Manikandan S,"Analytical Approach on the Scale Length Model for Triple Material Surrounding Gate Tunnel Field Effect Transistors (TMSG – TFET’s)", ICICA'14, NIT Durgapur, Dec 22-24 2014. Published in proceedings of springer Intelligent Computing and Applications, vol.343.
29. N.B.Balamurugan, An Analytical 2D model for a Symmetric Double Gate MOSFET considering Quantum Mechanical Effects, ICCOS’11, Karunya university, Coimbatore, 17th to 18th Mar2011

30. N.B.Balamurugan, Potential and Electric field model for 18nm SG Tunnel Field Effect Transistor, ICEVENT 2013SKP Engg. College,Thiruvannamalai.7th ,8th
31. N.B.Balamurugan FPGA Synthesis of SIRM Fuzzy System Classication of Diabetil Epilepsy Risk Level, ICMOC 2012Noorul Islam Centre for higher Education. 10th and 11th April 2012
32. N.B.Balamurugan, Electrical Characteristics of silicon and Germanium Nanowire transistors-A simulation study, CODIS 2012Jadavpur University, Kolkata 28th and 29th Dec 2012
33. N.B.Balamurugan Quantum Centroid Modeling for Surrounding Gate MOSFETs, CODIS 2012Jadavpur University, Kolkata28th and 29th Dec 2012
34. N.B.Balamurugan, Modeling the Inversion Charge Centroid in Tri-Gate MOSFETs including Quantum Effects, ICEVENT 2013SKP Engg. College,Thiruvannamalai.7th ,8th
35. N.B.Balamurugan, High performance double gate Silicon Nanowire Transistors, ICEVENT 2013SKP Engg. College,Thiruvannamalai.7th ,8th
36. N.B.Balamurugan, Performance analysis and threshold voltage modeling of surrounding gate Silicon Nanowire Transistors, ICEVENT 2013SKP Engg. College,Thiruvannamalai.7th ,8th
37. N.B.Balamurugan, Parameter Extraction for single electron transistor based on master equation approach , ICEVENT 2013SKP Engg. College,Thiruvannamalai.7th ,8th
38. N.B.Balamurugan, Modeling the Centroid and Charge density in Double Gate MOSFETs including Quantum Effects, ICANN-2011,IIT Guwahati, 8th to 10th Dec 2011
39. N.B.Balamurugan, Synthesis, Fabrication Techniques and Applications of high performance Silicon Nanowire Transistors, ICMAT2011,Singapore, 26th June to 1st July,2011
40. N.B.Balamurugan, A 2D Analytical surface potential model of multigate Silicon Nanowire Transistors for Biosensor Applications, ICMAT2011,Singapore, 26th June to 1st July,2011
41. N.B.Balamurugan, Compact Thermal Noise modeling for Submicron MOSFETs , ICCOS'11 Karunya university, Coimbatore. 17th to 18th Mar2011 ,
42. N.B.Balamurugan, Analytical model for deep submicron MOSFETs thermal noise, DSC2011 Muthayammal college of engg and Tech, Rasipuram, 26th Feb2011,
43. N.B.Balamurugan, 2D Analytical charge density model for Double Gate MOSFET including Quantum Mechanical Effects, DSC2011 Muthayammal college of engg and Tech, Rasipuram, 26th Feb2011 ,
44. N.B.Balamurugan, Analytical model for deep submicron MOSFETs thermal noise, DSC2011 Muthayammal college of engg and Tech, Rasipuram, 26th Feb2011,

45. N.B.Balamurugan, FPGA Synthesis of SIRM Fuzzy System Classication, ICMOC 2012 Noorul Islam Centre,
46. N.B.Balamurugan, A 2D Approach of Partially depleted Dual material MOSFETs for Reduced short channel effects, NANO 2010,K.S.Rangasamy College of Technology, 13th to 16th Dec 2010
47. N.B.Balamurugan, Modeling of Nanoscale Double gate MOSFET, NANO 2010,K.S.Rangasamy College of Technology, 13th to 16th Dec 2010
48. N.B.Balamurugan, Two Dimensional Analytical Modeling of a Nanoscale Dual Material Gate MOSFETs, MiNDSS 2010 , 2010
49. N.B.Balamurugan, A 2D Analytical Surface Potential Model For Dual Material Gate Mosfets With Reduced Short Channel Effects, ICON 2010, 2010
50. N.B.Balamurugan, Dsigital Signal processing Lab Manual, DSP,
51. N.B.Balamurugan, Performance analysis of dual-material gate MOSFETs for reduced short channel effects, ETWT2010, 2010
52. N.B.Balamurugan, Silicon-On-Nothing (SON) An Innovative Architecture for Advanced CMOS: A Review, ETWT2010, 2010
53. N.B.Balamurugan, Technology Assessment of Hybrid Approaches to the Fabrication of High Performance Silicon Nanowire Transistors, ETWT2010, 2010
54. N.B.Balamurugan, Signals and Systems Lab Manual, DSP,
55. N.B.Balamurugan, A New Scaling Theory For Fully Depleted Soi Dual Material Surrounding Gate Nano-Scale Mosfets: Including Effective Conductive Path Effect, IEEE Indicon , 2007
56. N.B.Balamurugan, A New Analytic Description Of Short-Channel Effects In Fully Depleted Single Gate Soi Mesfets For Low Power Vlsi Applications, Proceedings Of The National Conference On Signal Processing Communication And Networking(ICNSPC), 2007
57. N.B.Balamurugan, A Novel Scaling Theory For Dual Material Surrounding Gate Nanoscale Mosfets, International Conference On Materials For Advanced Technologies (ICMAT) , Singapore, 2007
58. N.B.Balamurugan, Two Dimensional Analytical Modeling Of Dual Material Surrounding Gate Mosfets For Nanoscale Cmos Applications, International Conference On Materials For Advanced Technologies (ICMAT), Singapore, 2007
59. N.B.Balamurugan, A New Scaling Theory For Nanoscale Fully Depleted Dual Material Surrounding Gate Mosfets, Proceedings Of The National Conference Of Nanoscale Devices And Systems(Nds), 2007
60. N.B.Balamurugan, Capacitance Model Of Ion Implanted Opfet, Applied Photonics Superresolution And Photonics, 2005
61. N.B.Balamurugan, I-V Character Tics Of A GaAs Mesfet Photo Detector For Oeic Photo Receivers, Applied Photonics Superresolution And Photonics, 2005

62. N.B.Balamurugan, Time Dependent Anaylsis Of An Opfet Using Monte Carlo Simulation, Xxx Optical Society Of India Symposium , 2005
63. N.B.Balamurugan, Numerical Simulation Of Switching Characteristics Of Gaas Opfet, Xxx Optical Society Of India Symposium , 2005
64. N.B.Balamurugan, Time Dependent Behaviour Of An Ion-Implanted Generalised Model Of Gaas Opfet, NCE-12,TCE, 2005
65. N.B.Balamurugan, A Monte Carlo Simulation Of An Ion-Implanted Gaas Opfet, Xxx Optical Society Of India Symposium , 2005
66. N.B.Balamurugan, Spice Modelling Of an Ion-Implanted Gaas Opfet, Optical Society Of India Symposium , 2005
67. N.B.Balamurugan, Two Dimensional Analytical Modelling Of Drain Induced Barrier Lowering Of Fully Depleted Short- Channel Soi Mesfets, Opto electronic Materials And Thin Films For Advanced Technology, 2005
68. N.B.Balamurugan, Threshold Voltage Model Of Short Channel Gaas Opfet For Optical Communication System, Nce-12,Tce, 2005
69. N.B.Balamurugan, Current- Voltage Character Tics Of A Low Pinch Off Voltage Voltage Gaas Mesfet, Nce-12,Tce, 2005
70. G.Lakshmi Priya, S.Manikandan, N.B.Balamurugan, S.Theodore Chandra "A Novel Scaling Theory for Single gate AlInSb/InSb High Electron Mobility Transistors", ICCNT'2014,Mepco Schlenk Engineering College, Sivakasi,December 18-19,2014
71. Dr.N.B.Balamurugan, G.Raja Gowri ,S.P.Murshidhabegum, M.Venkatesh "Analytical Modeling and simulation of Triple Material Surrounding Gate Stack Tunnel Field Effect Transistors" NCCT ’16 National conference on Communication Technologies, March- 23,2016, MEPCO Schlenk Engineering College
72. N.B.Balamurugan, Potential and Electric field model for 18nm SG Tunnel Field Effect Transistor, ICEVENT2013,
73. N.B.Balamurugan, Parameter Extraction for single electron transistor based on master equation approach , ICEVENT2013,
74. N.B.Balamurugan, Modeling the Inversion Charge Centroid in Tri-Gate MOSFETs including Quantum Effects, ICEVENT2013,
75. N.B.Balamurugan, Performance analysis and threshold voltage modeling of surrounding gate Silicon Nanowire Transistors, ICEVENT2013,
76. N.B.Balamurugan, High performance double gate Silicon Nanowire Transistors, ICEVENT2013,
77. N.B.Balamurugan, FPGA Synthesis of SIRM Fuzzy System Classication of Diabetil Epilepsy Risk Level, ICMOC,
78. N.B.Balamurugan, Quantum Centroid Modeling for Surrounding Gate MOSFETs, CODIS2012 Jadavpur University Kolkata,

79. N.B.Balamurugan, Electrical Characteristics of silicon and Germanium Nanowire transistors-A simulation study, CODIS2012 Jadavpur University Kolkata, 200

Books

1. Jothi sangeeth, N B Balamurugan, Parameter Evaluation of Diabetic Neuropathy, Lambert publications
2. NB Balamurugan , Analytical Modeling of High Electron Mobility TransistorsHandbook for III-V High Electron Mobility Transistor Technologies, 173
3. VDAT 2018 Proceedings ,Springer CCIS,S.Rajaram,N.B.Balamurugan,D.Gracia Nirmala Rani
4. Digital Signal processing Lab Manual, National Instruments, Bangalore - 2010
5. Signals and Systems Lab Manual, National Instruments, Bangalore-2009