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Publications

Publications in Journals:

1. M. Venkatesh, M. Suguna, and **N.B.Balamurugan**, "Influence of Germanium Source Dual Halo Dual Dielectric Triple Material Surrounding Gate Tunnel FET for Improved Analog/RF Performance," *Silicon*, pp. 1–9, 2020.
2. M. Venkatesh and **N.B.Balamurugan**, "Influence of Threshold Voltage Performance Analysis on Dual Halo Gate Stacked Triple Material Dual Gate TFET for Ultra Low Power Applications," *Silicon*, pp. 1–13, 2020.
3. I. S. Arafat, **N.B.Balamurugan**, and S. B. Khan, "Influence of Temperature in Scattered SiNW MOSFET," *Proceedings of the National Academy of Sciences, India Section A: Physical Sciences*, vol. 89, no. 1, pp. 35–40, 2019.
4. G. Lakshmi Priya and **N.B.Balamurugan**, "New dual material double gate junctionless tunnel FET: Subthreshold modeling and simulation," *AEU-International Journal of Electronics and Communications*, vol. 99, pp. 130–138, 2019.
5. B. Buvaneswari and **N.B.Balamurugan**, "2D analytical modeling and simulation of dual material DG MOSFET for biosensing application," *AEU-International Journal of Electronics and Communications*, vol. 99, pp. 193–200, 2019.
6. B. Buvaneswari and **N.B.Balamurugan**, "Sensitivity Analysis of Double Gate Metal Oxide Semiconductor Field Effect Transistor for Bio-Sensing Applications," *Journal of Nanoelectronics and Optoelectronics*, vol. 14, no. 1, pp. 136–145, 2019.
7. K. Sowmya, **N. B. Balamurugan**, and V. Parvathy, "A 2-D Modeling of Fe doped Dual Material Gate AlGaIn/AlN/GaN High Electron Mobility Transistors for High Frequency Applications," *AEU-International Journal of Electronics and Communications*, vol. 103, pp. 46–56, 2019.
8. V. Dharshana, **N. B. Balamurugan**, and T. S. Samuel, "An Analytical Modeling and Simulation of Surrounding Gate TFET with an Impact of Dual Material Gate and Stacked Oxide for Low Power Applications," *Journal of Nano Research*, vol. 57, pp. 68–76, 2019.

9. M. Venkatesh and **N. B. Balamurugan**, “New subthreshold performance analysis of germanium based dual halo gate stacked triple material surrounding gate tunnel field effect transistor,” *Superlattices and Microstructures*, vol. 130, pp. 485–498, 2019.
10. M. Venkatesh, M. Suguna, and **N. B. 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*, vol. 48, no. 10, pp. 6724–6734, 2019.
11. S. Manikandan, **N. B. Balamurugan**, and T. S. A. Samuel, “Impact of uniform and non-uniform doping variations for ultrathin body junctionless FinFETs,” *Materials Science in Semiconductor Processing*, vol. 104, p. 104653, 2019.
12. S. Manikandan, **N. B. Balamurugan**, and D. Nirmal, “Analytical Model of Double Gate Stacked Oxide Junctionless Transistor Considering Source/Drain Depletion Effects for CMOS Low Power Applications,” *Silicon*, pp. 1–11, 2019.
13. L. Priya, **N.B.Balamurugan** “Subthreshold Modeling of Triple Material Gate-All-Around Junctionless Tunnel FET with Germanium and High-K Gate Dielectric Material,” *Informacije MIDEM*, vol. 48, no. 1, pp. 53–62, 2018.
14. T. V. Kumar and **N.B.Balamurugan**, “Analytical modeling of InSb/AlInSb heterostructure dual gate high electron mobility transistors,” *AEU-International Journal of Electronics and Communications*, vol. 94, pp. 19–25, 2018.
15. B. Buvaneswari, **N.B.Balamurugan**, and others, “Comparative analytical analysis of various configurations of nanoscaled dielectric-modulated double gate MOSFET based biosensors,” *Journal of Optoelectronics and Advanced Materials*, vol. 20, no. September-October 2018, pp. 526–536, 2018.
16. M. Jothi, **N.B.Balamurugan**, and R. H. Kumar, “Performance Analysis of Fuzzy processor for a Healthcare Application-Diabetic Epilepsy Risk Classifier,” *Asian Journal of Research in Social Sciences and Humanities*, vol. 7, no. 2, pp. 124–140, 2017.
17. I. S. Arafat and **N.B.Balamurugan**, “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, 2016.
18. P. Vanitha, G. L. Priya, **N.B.Balamurugan**, S. T. Chandra, and S. Manikandan, “Analytical Approach on the Scale Length Model for Tri-material Surrounding Gate Tunnel Field-Effect Transistors (TMSG-TFETs),” in *Intelligent Computing and Applications*, Springer, New Delhi, 2015, pp. 231–238.
19. D. Saraswathi, **N.B.Balamurugan**, G. L. Priya, and S. Manikandan, “A compact analytical model for 2D triple material surrounding gate nanowire tunnel field effect

- transistors,” in *Intelligent Computing and Applications*, Springer, New Delhi, 2015, pp. 325–332.
20. Vimala Palanichamy and **N.B.Balamurugan**, “COMPARATIVE ANALYSIS OF QUANTUM EFFECTS IN NANO-SCALE MULTIGATE MOSFETS USING VARIATIONAL APPROACH,” *Journal of Engineering Science and Technology*, vol. 10, no. 2, pp. 224–234, 2015.
 21. S. Theodore Chandra, **N.B.Balamurugan**, G. L. Priya, V. Muralidharan, D. S. S. R. RANI, and others, “Compact modeling of gate engineered triple material gate (TMG) AlInSb/InSb high electron mobility transistors,” *Journal of Optoelectronics and Advanced Materials*, vol. 17, no. January-February 2015, pp. 222–228, 2015.
 22. S. Theodore Chandra, **N.B.Balamurugan**, M. Bhuvaneswari, N. Anbuselvan, and N. Mohankumar, “Analysis of charge density and Fermi level of AlInSb/InSb single-gate high electron mobility transistor,” *Journal of Semiconductors*, vol. 36, no. 6, p. 64003, 2015.
 23. S. Theodore Chandra, **N. B. Balamurugan**, G. L. Priya, and S. Manikandan, “Subthreshold behavior of AlInSb/InSb high electron mobility transistors,” *Chinese Physics B*, vol. 24, no. 7, p. 76105, 2015.
 24. G. L. Priya, **N. B. Balamurugan**, and D. Saraswathi, “Impact of Electricfield Distribution on the performance of Dual Material Gate Work function Engineered Surrounding Gate Nanowire Tunnel FETs,” *International Journal of Applied Engineering Research*, vol. 10, no. 1, pp. 1018–1023, 2015.
 25. P. Vanitha, **N. B. Balamurugan**, and G. L. Priya, “Triple material surrounding gate (TMSG) nanoscale tunnel FET-analytical modeling and simulation,” *Journal of Semiconductor Technology and science*, vol. 15, no. 6, pp. 585–593, 2015.
 26. T Venish Kumar, NB Balamurugan, Three-dimensional analytical modeling for small-geometry AlInSb/AlSb/InSb double-gate high-electron-mobility transistors (DG-HEMTs),*Journal of Computational Electronics*,Springer,2020.
 27. S Manikandan, NB Balamurugan, The improved RF/stability and linearity performance of the ultrathin-body Gaussian-doped junctionless FinFET, *Journal of Computational Electronics*,Springer,2020.