

## Dr.D.Nirmal publication list

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### **INTERNATIONAL JOURNALS PUBLICATIONS**

1. J.Ajayan, D.Nirmal, P.Mohankumar, M.Saravanan, M.Jagadesh and L.Arivazhagan, "A review of photovoltaic performance of organic/inorganic solar cells for future renewable and sustainable energy technologies" Superlattices and Microstructures, [https://doi.org/ 10.1016/j.spmi.2020. 106549](https://doi.org/10.1016/j.spmi.2020.106549), (2020) pp 1-53 (Impact Factor:2.385).
2. K.Husna Hamza and D. Nirmal, " A review of GaN HEMT broadband power amplifiers", International Journal of Electronics and Communications (AEU), Vol 116, (2020) DOI: 10.1016/j.aeue.2019.153040 (Impact Factor:2.853 )
3. D.Godfrey, D.Nirmal, L. Arivazhagan, R.Rathes kannan, P.Issac Nelson, S.Rajesh, B.Vidhya and N.Mohankumar " A novel ZnPc nanorod derived piezoelectric nanogenerator for energy harvesting " Physica E Low-Dimensional Systems and Nanostructures Vol.118 (2020) (Impact Factor:3.176).
4. S.Angen, J. Grace jency and D.Nirmal, " A wearable energy storage capacitor using graphene oxide and magnesuim oxide as electrodes" Physica E Low-Dimensional Systems and Nanostructures 115 (2020) (Impact Factor:3.176).
5. A.S. Augustine Fletcher, D. Nirmal, L. Arivazhagan, J. Ajayan and Varghese, A, " Enhancement of Johnson figure of merit in III-V HEMT combined with discrete field plate and AlGaIn blocking layer", International Journal of RF and Microwave Computer-Aided Engineering, vol 30, Issue 2(2020). (Impact Factor:1.472 ) 2019
6. Rani, C.S.H., Bagan, K.B., Nirmal, D and Roach, R.S., " Enhancement of Performance in TFET by Reducing High-K Dielectric Length and Drain Electrode Thickness" Silicon, doi:10.1007/s12633-019-00328-w (2019) (Impact Factor:1.210).
7. M.Manikandan, D.Nirmal, J.Ajayan, P.Mohankumar, P.Prajoon and L.Arivazhagan "A review of blue light emitting diodes for future solid state lighting and visible light communication applications", Superlattices and Microstructures 136 (2019). [https://doi.org/ 10.1016/j.spmi. 2019.106294](https://doi.org/10.1016/j.spmi.2019.106294), (Impact Factor:2.385).
8. J.Ajayan, D.Nirmal, Dheena Kurian, P.Mohankumar, L.Arivazhagan , A.S. Augustine Fletcher ,T.D.Subash and M.Saravanan" Investigation of impact of gate underlap/overlap on the analog/RF performance of composite channel double gate MOSFETs" Journal of Vacuum Science & Technology B 37, 062201 (2019); <https://doi.org/10.1116/1.5116199>(Impact Factor:1.351).

9. J.Ajayan, D.Nirmal, P.Mohankumar, Dheena Kurian, A.S. Augustine Fletcher , L.Arivazhan and B.Santhosh kumar" GaAs metamorphic high electron mobility transistors for future deep space-biomedical-military and communication system applications: A review" Microelectronics journal, <https://doi.org/10.1016/j.mejo.2019.104604> Vol 108, (2019) (Impact Factor:1.284).
- 10.J.Ajayan, D.Nirmal, P.Mohankumar, and L.Arivazhan, " Investigation of Impact of Passivation Materials on the DC/RF Performances of InP-HEMTs for Terahertz Sensing and Imaging" Silicon, [doi.org/10.1007/s12633-019-00226-1](https://doi.org/10.1007/s12633-019-00226-1) (2019) pp 1-6 (Impact Factor:1.210).
11. L. Arivazhagan , , D. Nirmal, D.Godfrey, J. Ajayan , P.Prajoon A.S. Augustine Fletcher, A.Amir Anton Jone and J.S.Raj Kumar, "Improved RF and DC performance in AlGaIn/GaN HEMT by P-type doping in GaN buffer for millimetre-wave applications", International Journal of Electronics and Communications (AEU), Vol 108, (2019) Pg 189-194. (Impact Factor:2.853 )
12. A.S. Augustine Fletcher, D. Nirmal, J. Ajayan and L. Arivazhagan, "Analysis of AlGaIn/GaN HEMT using discrete field plate technique for high power and high frequency applications", International Journal of Electronics and Communications (AEU), Vol 99, (2019) Pg 325-330. (Impact Factor:2.853 )
13. Suresh Subramanian, B. Sundarambal and D. Nirmal, "Investigation on Simulation-Based Specific Absorption Rate in Ultra-Wideband Antenna for Breast Cancer Detection", IEEE Sensors Journal, Vol 18 No.24, 20 Dec 2018, (Impact Factor:2.617)
14. D. Gracia, D. Nirmal and D. Jackuline Moni, "Impact of Leakage Current in Germanium Channel based DMDG TFET using Drain-gate underlap technique", International Journal of Electronics and Communications (AEU), Vol 96, (2019) Pg 164-169. (Impact Factor:2.853 )
15. P. Vanitha, T.S. Arun Samuel and D. Nirmal, "A New 2D Mathematical Modeling of Surrounding Gate Triple material Tunnel FET using Halo Engineering for Enhanced Drain Current", International Journal of Electronics and Communications (AEU), Vol 99, (2019) Pg 34-39. (Impact Factor: 2.115)
16. J.Ajayan, T.Ravichandran, P.Mohankumar, P.Prajoon, J.Charles Pravin and D.Nirmal, " Investigation of DC and RF Performance of Novel MOSHEMT on Silicon Substrate for Future Submillimeter Wave Applications" Semiconductors, vol. 52,No.16,(2018) pp 1191-1997 (Impact Factor:0.672).
17. R.Ratheskumar,P.Isaac Nelson, S.Rajesh, T.Ponmudi selvi, A.Mohan , B.Vidhya, D.Nirmal and Arivazhan " Curtailed recombination rate and fast carrier transport in ZnPc/Ga As/ Zn Pc Stacked hybrid structure " Optical Materials, vol. 85,(2018) pp 287-294.(Impact Factor:2.320).
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19. J. Ajayan , D. Nirmal , T.Revichandran, P.Mohankumar, P. Prajoon, L. Arivazhagan , Chandran Kumar Sarkar " InP high electron mobility transistors for submillimeter wave and terahertz frequency applications: A review " International Journal of

- Electronics and Communications (AEÜ), vol.94,(2018) pp 199-214.(Impact Factor:2.115).
20. J. Hengsteler, P. Prajoon, D. Nirmal, " Analysis of High Efficiency InGaN Multiple-Quantum-Well Light-Emitting-Diodes Using InGaN Step-Graded Barriers" Journal of Nanoelectronics and Optoelectronics, vol.13,(2018) pp 939-943.(Impact Factor:1.019).
  21. J. Ajayan , T.Revichandran, P.Mohankumar, P. Prajoon, J. Charles Pravin, D. Nirmal, " Investigation of breakdown performance in  $L_g = 20$  nm novel asymmetric InP HEMTs for future high-speed high-power applications" Journal of Computational Electronics, vol.17,(2018) pp 265-272.(Impact Factor:1.431).
  22. J. Ajayan , T.Revichandran, P.Mohankumar, P. Prajoon, J. Charles Pravin, D. Nirmal, " Investigation of DC-RF and breakdown behaviour in  $L_g = 20$  nm novel asymmetric GaAs MHEMTs for future submillimetre wave applications" International Journal of Electronics and Communications (AEÜ), vol.84,(2018) pp 387-393.(Impact Factor:2.115).
  23. J. charles pravin, p. prajoon, flavia princess nesamania, p. senthil kumar, D. Nirmal , and G.sriresh," Nanoscale High-k Dielectrics for Junctionless Nanowire Transistor for Drain Current Analysis" " Journal of ELECTRONIC MATERIALS " <https://doi.org/10.1007/s11664-018-6075-2> (Impact factor: 1.676)
  24. P. Prajoon , M. Anuja Menokey , J. Charles Pravin , J. Ajayan , S. Rajesh , D. Nirmal, " Investigation of efficiency enhancement in InGaN MQW LED with compositionally step graded GaN/InAlN/GaN multi-layer barrier" "Superlattices and Microstructures DOI:10.1016/j.spmi.2018.02.008 (Impact factor: 2.123)
  25. D. Nirmal, L. Arivazhagan, A.S.Augustine Fletcher, J. Ajayan, P. Prajoon " Current collapse modeling in AlGaIn/GaN HEMT using small signal equivalent circuit for high power application" " Superlattices and Microstructures <https://doi.org/10.1016/j.spmi.2017.12.027> (Impact factor: 2.123)
  26. J. Ajayan , D. Nirmal, P. Prajoon and J. Charles Pravin "Analysis of nanometer-scale InGaAs/InAs/InGaAs composite channel MOSFETs using high-K dielectrics for high speed applications" International Journal of Electronics and Communications (AEÜ), vol.79,(2017)pp 151-157(Impact Factor:1.147).
  27. A.S. Augustine Fletcher, and D.Nirmal, " A survey of Gallium Nitride HEMT for RF and highpower applications" " Superlattices and Microstructures DOI: 10.1016/j.spmi.2017.05.042(Impact factor: 2.123)
  28. P. Murugapandiyan, S.Ravimaran, J.William, J Ajayan and D.Nirmal, " DC and microwave characteristics of 20 nm T-gate InAlN/GaN high electron mobility transistor for high power RF applications" " Superlattices and Microstructures DOI: 10.1016/j.spmi.2017.05.060 (Impact factor: 2.123)
  29. D.Gracia , D.Nirmal and A. Nisha Justeena, " Investigation of Ge based Double Gate Dual Metal Tunnel FET Novel Architecture using Various Hetero dielectric Materials" " Superlattices and Microstructures DOI: 10.1016/j.spmi.2017.04.045 (Impact factor: 2.123)

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36. Charles Pravin J, D.Nirmal , Prajoon P and Anuja Menokey M., "A New Drain Current Model for Dual Metal Junctionless Transistor for Enhanced Digital Circuit Performance" IEEE Trans. Electron Devices, VOL. 63, NO. 9(2016) pp 3782-3789. (Impact Factor – 2.207).
37. Prajoon P, D. Nirmal, AnujaMenokey M, J Charles Pravin "Efficiency Enhancement of InGaN MQW LED Using Compositionally Step Graded InGaN Barrier on SiC Substrate" IEEE J. Display Technology, DOI: 10.1109/JDT.2016.2570814, (2016) 1117 - 1121. (Impact Factor – 1.925).
38. P.Prajoon, D .Nirmal, AnujaMenokey and J.Charlespravin, "A Modified ABC Model in InGaN MQW LED Using Compositionally Step Graded Alternating Barrier for Efficiency Improvement", Superlattices and Microstructures, 96 (2016) 155-163. (Impact factor – 2.097).
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