

## **DC MEMBER-1 (other university or institutions)**

**J Charles Pravin**  
**Associate Professor,**  
**Kalasalingam Academy of Research and Education,**  
**Krishnankoil, Tamil Nadu, India**  
**Mobile:956636811, Email: [charles@klu.ac.in](mailto:charles@klu.ac.in)**

- [1] M. W. Hfo, D. Using, and P. Prajoon, "Impact of AlInN Back-Barrier Over AlGa<sub>N</sub> / GaN Spline Interpolation Technique," *IEEE Trans. Electron Devices*, pp. 1–6, 2020.
- [2] J. Charles Pravin, A. T. S. Lokesh, V. Avinash Reddy, and S. Aman Khan, "Silicon-on-Insulator based MOSFET for Bio sensing Applications," *ICDCS 2020 - 2020 5th Int. Conf. Devices, Circuits Syst.*, pp. 330–332, 2020.
- [3] R. Kalaivani, J. Charles Pravin, S. Ashok Kumar, and R. Sridevi, "Design and Simulation of 22nm FinFET Structure Using TCAD," *ICDCS 2020 - 2020 5th Int. Conf. Devices, Circuits Syst.*, pp. 286–289, 2020.
- [4] J. Charles Pravin, B. Rushi Keshava Reddy, C. Saikumar, and H. Sandeep, "Drain Current Simulation of Molybdenum Disulfide Based Devices," *Proc. 2nd Int. Conf. Smart Syst. Inven. Technol. ICSSIT 2019*, no. Icassit, pp. 1132–1135, 2019.
- [5] S. A. Kumar and J. C. Pravin, "Comparison and simulation study of cylindrical GAA NWMBCFET for sub 5 nm," *Proc. Int. Semicond. Conf. CAS*, vol. 2019-October, pp. 89–92, 2019.
- [6] S. A. Kumar and J. C. Pravin, "Simulation of Rectangular GAA NWMBCFET for sub 35nm using TCAD," *2019 Int. Conf. Clean Energy Energy Effic. Electron. Circuit Sustain. Dev. INCCES 2019*, pp. 2019–2021, 2019.
- [7] J. C. Pravin, K. Kirtika, and V. Sandeep, "Evaluation of Charge Density and Sheet Carrier Concentration in the 2DEG Area of AlGa<sub>N</sub>/Al<sub>N</sub> High Electron Mobility Transistors (HEMTs)," *IEEE Int. Conf. Intell. Tech. Control. Optim. Signal Process.*

*INCOS 2019*, pp. 1–4, 2019.

- [8] J. C. Pravin, S. Nalayira Muthu, F. P. Raja, and V. Srinivas, “Evaluation of Device Performance on AlGa<sub>N</sub>/InGa<sub>N</sub>/Ga<sub>N</sub> High Electron Mobility Transistors (HEMTs) using TCAD Software,” *2019 Int. Conf. Clean Energy Energy Effic. Electron. Circuit Sustain. Dev. INCCEES 2019*, pp. 2019–2021, 2019.
- [9] R. Sridevi and J. C. Pravin, “High Performance Double Gated Molybdenum Disulfide (MoS<sub>2</sub>) Transistor for Low Power Applications,” *2019 Int. Conf. Clean Energy Energy Effic. Electron. Circuit Sustain. Dev. INCCEES 2019*, no. 2, pp. 2019–2021, 2019.
- [10] J. Ajayan, T. Ravichandran, P. Mohankumar, P. Prajoon, J. Charles Pravin, and D. Nirmal, “Investigation of DC-RF and breakdown behaviour in  $L_g = 20$  nm novel asymmetric GaAs MHEMTs for future submillimetre wave applications,” *AEU - Int. J. Electron. Commun.*, vol. 84, pp. 387–393, 2018.
- [11] J. Ajayan, T. Ravichandran, P. Mohankumar, P. Prajoon, J. C. Pravin, and D. Nirmal, “Investigation of DC and RF Performance of Novel MOSHEMT on Silicon Substrate for Future Submillimetre Wave Applications,” *Semiconductors*, vol. 52, no. 16, pp. 1991–1997, 2018.
- [12] J. Ajayan, T. Ravichandran, P. Prajoon, J. C. Pravin, and D. Nirmal, “Investigation of breakdown performance in  $L_g = 20$  nm novel asymmetric InP HEMTs for future high-speed high-power applications,” *J. Comput. Electron.*, vol. 17, no. 1, pp. 265–272, 2018.
- [13] P. Prajoon, M. Anuja Menokey, J. Charles Pravin, J. Ajayan, S. Rajesh, and D. Nirmal, “Investigation of efficiency enhancement in InGa<sub>N</sub> MQW LED with compositionally step graded Ga<sub>N</sub>/InAl<sub>N</sub>/Ga<sub>N</sub> multi-layer barrier,” *Superlattices Microstruct.*, vol. 116, pp. 71–78, 2018.
- [14] J. C. Pravin, P. Prajoon, F. P. Nesamania, G. Sriresh, P. Senthil Kumar, and D. Nirmal, “Nanoscale High-k Dielectrics for Junctionless Nanowire Transistor for Drain Current

- Analysis,” *J. Electron. Mater.*, vol. 47, no. 5, pp. 2679–2686, 2018.
- [15] 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,” *AEU - Int. J. Electron. Commun.*, vol. 79, pp. 151–157, 2017.
- [16] J. Charles Pravin, D. Nirmal, P. Prajoon, N. Mohan Kumar, and J. Ajayan, “Investigation of 6T SRAM memory circuit using high-k dielectrics based nano scale junctionless transistor,” *Superlattices Microstruct.*, vol. 104, pp. 470–476, 2017.
- [17] Altrin Sharma V. J., D. Nirmal, and Charles Pravin J., “Process simulation of Junctionless transistor for low power applications,” pp. 47–52, 2016.
- [18] J. Charles Pravin, D. Nirmal, P. Prajoon, and J. Ajayan, “Implementation of nanoscale circuits using dual metal gate engineered nanowire MOSFET with high-k dielectrics for low power applications,” *Phys. E Low-Dimensional Syst. Nanostructures*, vol. 83, pp. 95–100, 2016.
- [19] J. Charles Pravin, D. Nirmal, P. Prajoon, and M. Anuja Menokey, “A New Drain Current Model for a Dual Metal Junctionless Transistor for Enhanced Digital Circuit Performance,” *IEEE Trans. Electron Devices*, vol. 63, no. 9, pp. 3782–3789, 2016.
- [20] M. A. Menokey, D. Nirmal, P. Prajoon, and J. C. Pravin, “Green InGaN/GaN LEDs with p-GaN interlayer for efficiency droop improvement,” *Proc. 3rd Int. Conf. Devices, Circuits Syst. ICDCS 2016*, pp. 216–219, 2016.
- [21] P. Prajoon, D. Nirmal, M. Anuja Menokey, and J. Charles Pravin, “A modified ABC model in InGaN MQW LED using compositionally step graded Alternating Barrier for efficiency improvement,” *Superlattices Microstruct.*, vol. 96, pp. 155–163, 2016.
- [22] P. Prajoon, D. Nirmal, M. A. Menokey, and J. C. Pravin, “Temperature-dependent efficiency droop analysis of InGaN MQW light-emitting diode with modified ABC model,” *J. Comput. Electron.*, vol. 15, no. 4, pp. 1511–1520, 2016.

- [23] P. Prajoon, D. Nirmal, M. A. Menokey, and J. C. Pravin, "Efficiency enhancement of InGaN MQW LED using compositionally step graded InGaN barrier on SiC substrate," *J. Disp. Technol.*, vol. 12, no. 10, pp. 1117–1121, 2016.
- [24] A. Surya, D. Nirmal, and J. Charles Pravin, "Performance enhancement of the junctionless surrounding gate transistor with high Ion/Ioff ratio," *ICIECS 2015 - 2015 IEEE Int. Conf. Innov. Information, Embed. Commun. Syst.*, pp. 3–6, 2015.