



Dr. D. NIRMAL. M.E., Ph.D., FIETE., SMIEEE., MISTE., C.Eng(I).,
 Professor & Associate Dean Engineering and Technology &
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 Electronics and Communication Engineering,
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ABOUT MYSELF

Serving Humanity through Teaching , Research, Collaboration and Leadership with passion. Has a good record with 15+ years of experience in Electronics and communication Engineering.

RESEARCH INTERESTS

Nanoelectronics, 1D / 2D Materials, Graphene, Carbon nanotubes, GaN Technology, Nanoscale device design and modelling, Device and circuit simulation- GSI, Sensors.

EXPERIENCE

Professor, Electronics and communication Engineering, Karunya Institute of Technology and Sciences, Coimbatore, India , Nov 2020- Till Date

Associate Professor, Electronics and communication Engineering, Karunya Institute of Technology and Sciences, Coimbatore, India , July 2013- October 2020

Assistant Professor, Electronics and communication Engineering, Karunya Institute of Technology and Sciences, Coimbatore, India, June 2009- June 2013

Lecturer, Electronics and communication Engineering, Karunya Institute of Technology and Sciences, Coimbatore, India , June 2007- May 2009

RESEARCH PROFILES

1	Google Scholar Profile	https://scholar.google.co.in/citations?user=IdAzwA8AAAAJ&hl=en
2	Scopus Profile	https://www.scopus.com/authid/detail.uri?authorId=36816416200
3	LinkedIn Profile	https://in.linkedin.com/in/dr-d-nirmal-m-e-ph-d-smieeee-lmiete-miste-558a3963
4	Research Gate Profile	https://www.researchgate.net/profile/Dnirmal_PhD
5	ORCID Profile	https://orcid.org/0000-0002-9751-2816
6	Publons - Web of Science Profile	https://publons.com/researcher/1407130/dnirmal-mephd/
7	Web of Science Profile- Researcher ID	http://www.webofscience.com/wos/author/record/A-8563-2015

PATENTS

1	A Multilayer GATE MOSFET for Reducing Short Channel Effect, Indian Patent Application No:20204109570– Granted.
2	A TRIBOELECTRIC NANOGENERATOR, Indian Patent Application No:202041027095 A– Filed and published in July 2020.
3	Biowaste Derived Carbon Electrode Super Capacitor, Indian Patent Application No: 20204 047605A – Filed and published in November 2020

RESEARCH PROJECTS ONGOING

#	Title of the project	Funding Agency	Amount	Year
1	Design and Fabrication of Cascode Driver Circuit using GaNHEMT on Si for space applications	Indian Space Research Organization, Govt. of India	33.44 lakh	2019-2022
2	Design and Development of GaN HEMT for 18 GHz to 40 GHz	Defense Research and Development Organization, Govt. of India	27.756 Lakh	2022-2025

RESEARCH PROJECTS COMPLETED

#	Title of the project	Funding Agency	Amount	Year
1	Modernization of RF laboratory with MIMO-SDR platform	All India Council for Technical Education	12.43 Lakh	2019-2021
2	Modelling And Simulation of Tunnel FETS for Low Power Applications	Department of Electronics and Information Technology, Govt. of India	25 lakh	2016-2021
3	A compact modelling of GaN Based FP-HEMT Device for High power microwave Applications	Defense Research and Development Organization, Govt. of India	21.98 lakh	2017-2019
4	Development Of Bio-Compatible Cellulosic Printed Circuit Board For Flexible Electronics	Tamil Nadu State Council for Science And Technology	0.1 lakh	2017-2018
5	Growth of GaN Thin Film On Silicon Using PLD Method For High Electron Mobility Transistor	Karunya University	0.25 lakh	2017

SUMMARY OF INTERNATIONAL JOURNAL/ CONFERENCE/ BOOK PUBLICATIONS – (Given in Annexure)

Year	International Journal Publications	International Conference Publications	National Conference Publications	Book/Chapter
2009 - 2022	96	44	5	11

FELLOWSHIPS, AWARDS AND ACADEMIC ACHIEVEMENTS

1	Received IETE Smt. Manorama Rathore memorial award 2022 from IETE.
2	Karunya university Achievers Award 2019-2020 for obtaining funded project from AICTE
3	Karunya university Achievers Award 2018-2019 for obtaining funded project from ISRO
4	Young Achiever Award 2020 from Institution of Engineers, Coimbatore Chapter
5	Certificate of recognition for publishing in IEEE journal from Madras Section 2020
6	Received Best IEEE Volunteer Award 2020 from IEEE Madras Section
7	Received Young Scientist Award 2019 from the Academy of Sciences, Chennai
8	IEI Young Engineers Award- Electronics and Telecommunication Engineering- 2017.
9	Karunya university Achievers Award 2016-2017 for obtaining funded project from DRDO.
10	IEEE Madras Section Professional Achievement in the year 2016.
11	IEEE Electron Device Coimbatore Founding Chapter Chair (2015-2020).
12	Best Researcher Award from Karunya University in the year 2014.
13	Shir.P.K.Das Memorial Best Faculty Award in the Year 2013 by Nehru College of Educational and Charitable Trust.
14	Best Research Paper Award with high impact factor from Karunya University in the year 2012.
15	Received Shiksha Rattan Puraskar Award 2012 from Indian International friend ship Society.
16	Distinction in Master of Engineering (VLSI DESIGN)
17	Best Paper Award from Solid State Electronics Letters on January, 2021.

TEACHING INTERESTS

VLSI Design, CMOS VLSI Technology, Nano electronics, Solid State Device Modeling, Microelectronics, Solid State Electronics, Electron Devices, Microwave and Optical Engineering.

RESEARCH GUIDANCE

Research guidance as supervisor	Completed	Ongoing
Doctor of Philosophy - PhD	10	8

EDUCATION

Ph.D., Faculty of Information and Communication Engineering, Highly Commended.
(Specialization in Nano Device Modelling), Anna University, Chennai- 2012, India

MEng VLSI Design, 2007 [First Class with Distinction] , Karunya University, India

BEng Electrical and Electronics, 2005, **BEng** Electrical and Electronics, Chennai, India

Post Graduate Diploma in Higher Education Indira Gandhi National Open University, 2015,
India

POSITIONS OF RESPONSIBILITY

- **Teaching and Research**, VLSI Laboratory and Centre for research in Semiconductor Devices, Karunya University, Period – July 2007 to Till Date.
- **Co-ordinator Post Graduate programme**, Place- Department of Electrical Technology (EEE,ECE,E&I and Media) Karunya University, June 2016- June 2018.
- **IEEE Student branch counsellor**, Karunya University, June 2016- till date.
- **Department Library In-charge**, Electronics and communication Engineering, Karunya University, June 2007 to 2013.
- **Joint Chief Warden**, Men's Hostel, Karunya University, January 2013- Till Date
- **Warden**, Men's Hostel, Karunya University, June 2007 to December 2010

PROFESSIONAL SOCIETY ACTIVITIES

- Fellow of IETE (The Institution of Electronic and Telecommunication Engineers) M-215257
- Senior Member of IEEE (Institute of Electrical and Electronics Engineering)SM-92838928.
- Life Member of ISTE(Indian Society for Technical Education)LM-56881
- Life Member of SSI(Semiconductor Society of India)
- Member of Institute of Engineers (India)M-1544705.
- Life Member of IAENG(International Association for engineers)

REVIEW ASSIGNMENTS FOR SCIENTIFIC JOURNALS/ SOCIETIES

- IEEE Electron Device Letters.
- International journal of Microelectronics (MJS) Elsevier.
- International Journal of Microelectronics Reliability Elsevier.
- International journal of Superlattices and Microstructures Elsevier.
- All IEEE Young Engineer's Humanitarian Challenge 2016- Jury member.

EDITORIAL MEMBER FOR JOURNAL

- Editor- Microelectronics Journal(Elsevier)
- Editorial Board member – International journal of Electronics and communications (Elsevier)Till- January 2020.
- Guest Editor - IEEE Trans on Nanotechnology.

INTERNATIONAL ADVISORY COMMITTEE:Several.

COLLABORATION:

- ISRO(Indian Space research organization), Government of India- Dr.Manish K Hooda
- DRDO(Defense research and Development Organization), Ministry of Defense- Dr. Subash Chandar.
- Taiwan semiconductor research Institute - Wen-KuanYeh , Director General.
- University of Sharjah, College of Engineering- Anwar Hasan Mohammed Jarndal.
- The University of Texas Rio Grande Valley (UTRGV)- Hasina F Huq PhD

TITLE: (Attached in Annexure)

- International conference resource person: 28
- National conference resource person : 2
- Workshop organized : 5
- International / national resource person: 47

- International courses/seminar attended: 9
- National courses / seminars attended: 27

RESEARCH CONSULTANCY

Consultancy work is carried out for DRDO in Technology Computer aided tool(TCAD) in 2017.

GRANT FETCHED

- Grand-in-aid for organizing **International conference on Devices, Circuits and Systems** from DRDO for the year 2012 with Rs 40,000.
- Grand-in-aid for organizing **National workshop on Electronics system Design and Manufacturing(ESDM)** from DIT for the year 2012 with Rs 30,000.

REFERENCE

Dr Manish Kumar Hooda

डॉमनीषकुमारहुड्डा

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प्रमुख, प्रौद्योगिकीविकासप्रभाग

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BRIEF BIO-SKETCH IN PARAGRAPH FORMAT

Dr. D. Nirmal is a Full Professor and Associate Dean Engineering and Technology, Karunya Institute of Technology and sciences. He specialized in VLSI Design after his Bachelor of Engineering and received his Ph.D in Information and Communication Engineering from Anna University. His research interests includes Nanoelectronics, GaN Technology, Device and Circuit Simulation – GSL, Sensors, HEMT, Beyond 5G, Nanoscale device design and modelling. He is a founding chair of IEEE Electron Device Society Coimbatore chapter and Currently Region 10 IEEE EDS Vice chair and volunteered several committees in IEEE. He has funding project tune of 1.2 Cores from various agencies like DRDO(Defence Research and Development Organization), Ministry of Electronics and Information Technology, ISRO(Indian Space Research Organization) and AICTE(All India Council of Technical Education). He is a recipient of various awards namely IEI-Young Engineer award,IETE Smt. Manorama Rathore memorial award 2022 from IETE and Young Scientist Award 2019 from the Academy of Sciences.

Prof.Nirmal has made more than 150+ peer reviewed research publications and three patents to his credits. He is also a Fellow of IETE and Senior IEEE member. He has delivered many Keynote talks, lectures in National and International Level conferences/Faculty Development programs.

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D. Nirmal

INTERNATIONAL JOURNALS PUBLICATIONS

2023	
96	Jebalin, B.K., IV, Gifita, G., Angen, S., Prajoun, P., Nirmal, D. “Investigation of variable field plate length in GaN HEMT on SiC substrate for MMIC applications”(2023) <i>Microelectronics Journal</i> , 138, art. no. 105866, (Impact Factor : 2.2)
95	Ajayan, J., Mohankumar, P., Mathew, R., Thoutam, L.R., Kaushik, B.K., Nirmal, D. “Organic Electrochemical Transistors (OECTs): Advancements and Exciting Prospects for Future Biosensing Applications” (2023) <i>IEEE Transactions on Electron Devices</i> , pp. 1-12. (Impact Factor : 3.72)
94	Ajayan, J., Mohankumar, P., Nirmal, D. , Tayal, S., Mounika, B. “Ferroelectric Field Effect Transistors (FeFETs): Advancements, challenges and exciting prospects for next generation Non-Volatile Memory (NVM) applications”(2023) <i>Materials Today Communications</i> , 2023, 35, 105591 (Impact Factor : 3.662)
93	Angen Franklin, S., Binola K Jebalin, I.V., Chander, S., ...Ajayan, J., Nirmal, D. “Investigation on Fe-Doped AlGa _N /Ga _N HEMT at 148 GHz Using E-FPL Technology for High-Frequency Communication Systems”(2023) <i>ECS Journal of Solid State Science and Technology</i> , 2023, 12(3), 035006 (Impact Factor : 2.070)
92	Mukherjee, A., Debnath, P., Nirmal, D. , Chanda, M. “A new analytical modelling of 10 nm negative capacitance-double gate TFET with improved cross talk and miller effects in digital circuit applications”(2023) <i>Microelectronics Journal</i> , 2023, 133, 105689 (Impact Factor : 1.992)
2022	
91	Ajayan, J., Nirmal, D. , Jebalin I.V, B.K., Sreejith, S. “Advances in neuromorphic devices for the hardware implementation of neuromorphic computing systems for future artificial intelligence applications: A critical review”(2022) <i>Microelectronics Journal</i> , 130, 105634 (Impact Factor : 1.992)
90	Kumar, T.A., Rajakumar, G., Samuel, T.S.A., Nirmal, D. “An In Situ Design/Analysis Method of Antimicrobial Effect Using Nano TiO ₂ for Disinfecting COVID-Affected Places” (2022), <i>Journal of Testing and Evaluation</i> , 50 (5), DOI: 10.1520/JTE20220009. (Impact Factor : 1.264)
89	Kumar, J.S.R., Nirmal, D. , Hooda, M.K., Singh, S., Ajayan, J., Arivazhagan, L. “Intensive Study of Field-Plated AlGa _N /Ga _N HEMT on Silicon Substrate for High Power RF Applications” (2022) <i>Silicon</i> , 14 (8), pp. 4277-4282. DOI: 10.1007/s12633-021-01199-w. (Impact Factor : 2.941)
88	Mounika, B., Ajayan, J., Bhattacharya, S., Nirmal, D. “Recent developments in materials, architectures and processing of AlGa _N /Ga _N HEMTs for future RF and power electronic applications: A critical review” (2022) <i>Micro and Nanostructures</i> , 168, art. no. 207317, . 1) DOI: 10.1016/j.micrna.2022.207317. (Impact Factor : 3.22)
87	Ravindran, A., Nirmal, D. , Jebalin. I. V, B.K., Pinkymol, K.P., Prajoun, P., Ajayan, J. “ InGaAs based gratings for UV–VIS spectrometer in prospective mRNA vaccine research”(2022) <i>Optical and Quantum Electronics</i> , 54 (9), art. no. 555, .DOI: 10.1007/s11082-022-04002-1. (Impact Factor : 2.794)
86	Husna Hamza, K., Nirmal, D. , Augustine Fletcher, A.S., Ajayan, J., Natarajan, R. “Enhanced drain current and cut off frequency in AlGa _N /Ga _N HEMT with BGaN back barrier” (2022) <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 284, art. no. 115863, DOI: 10.1016/j.mseb.2022.115863 (Impact Factor : 3.407)
85	Ajayan, J., Nirmal, D. , Mohankumar, P., Mounika, B., Bhattacharya, S., Tayal, S., Fletcher, A.S. “A Challenges in material processing and reliability issues in AlGa _N /Ga _N HEMTs on silicon wafers for future RF power electronics & switching applications: A critical review” ,(2022) <i>Materials Science in Semiconductor Processing</i> , DOI: 10.1016/j.mssp.2022.106982, (Impact Factor : 4.64)
84	Kumar, J.S.R., Nirmal, D. , Ajayan, J., Tayal, S. “ Investigation on LG = 50 nm Tapered T-Gated AlGa _N /Ga _N HEMT on Silicon Wafer with a fT/fmax of 264/312 GHz for beyond 5G (B5G)

	Applications” (2022) <i>Silicon</i> . DOI: 10.1007/s12633-022-01860-y(Impact Factor : 2.941)
83	Manikandan, M., Nirmal, D. , Ajayan, J., Arivazhagan, L., Prajoun, P., Dhivyasri, G., Jagadeeswari, M. “Physics based modeling of AlGa _N /BGa _N quantum well based ultra violet light emitting diodes” (2022) <i>Optical and Quantum Electronics</i> , 54 (3), art. no. 168, DOI: 10.1007/s11082-022-03552-8 (Impact Factor : 2.794)
82	Gracia, D., Nirmal, D. , Moni, D.J. “Analysis of nanoscale digital circuits using novel drain-gate underlap DMG hetero-dielectric TFET” (2022) <i>Microelectronics Journal</i> . DOI: 10.1016/j.mejo.2021.105323(Impact Factor : 1.992)
81	Fletcher, A.S.A., Nirmal, D. , Arivazhagan, L., Ajayan, J., Raj, M.G., Hamza, K.H., Murugapandiyam, P., Natarajan, R. “A 28-GHz Low-Loss AlGa _N /Ga _N HEMT for TX/RX Switches in 5G Base Stations”(2022) <i>Journal of Electronic Materials</i> . DOI: 10.1007/s11664-021-09367-9 (Impact Factor : 2.047)
2021	
80	Godfrey, D., Nirmal, D. , Arivazhagan, L., Godwinraj, D., Mohan Kumar, N., Chen, Y., Yeh, W. “Current collapse degradation in Ga _N High Electron Mobility Transistor by virtual gate”(2021) <i>Microelectronics Journal</i> . DOI: 10.1016/j.mejo.2021.105293 (Impact Factor : 1.992)
79	Arivazhagan, L., Nirmal, D. , Jarndal, A., Huq, H.F., Chander, S., Bhagyalakshmi, S., Reddy, P.K., Ajayan, J., Varghese, A. “Applicability of double Channel Technique in AlGa _N /Ga _N HEMT for future biosensing applications”(2021) <i>Superlattices and Microstructures</i> . DOI:10.1016/j.spmi.2021.107086 (Impact Factor : 3.12)
78	Ajayan, J., Ravichandran, T., Mohankumar, P., Prajoun, P., Charles Pravin, J., D. Nirmal “Investigation of RF and DC Performance of E-Mode In _{0.80} Ga _{0.20} As/InAs/In _{0.80} Ga _{0.20} As Channel based DG-HEMTs for Future Submillimetre Wave and THz Applications” (2021) <i>IETE Journal of Research</i> , 67 (3), pp. 366-376. DOI: 10.1080/03772063.2018.1553641 (Impact Factor : 2.33)
77	Fletcher, A.S.A., D. Nirmal , Ajayan, J., Arivazhagan, L., Hamza, K.H., Murugapandiyam, P. “60 GHz Double Deck T-Gate AlN/Ga _N /AlGa _N HEMT for V-Band Satellites” (2021) <i>Silicon</i> , DOI: 10.1007/s12633-021-01367-y(Impact Factor : 2.941)
76	Sathishkumar, M., Samuel, T.S.A., Vimala, P., D. Nirmal . “Performance Analysis of HfO ₂ -SiO ₂ Stacked Oxide Quadruple Gate Tunnel Field Effect Transistor for Improved ON Current” (2021) <i>Silicon</i> , DOI: 10.1007/s12633-021-01394-9(Impact Factor : 2.941)
75	Sam, D.S.S., Moni, D.J., Paul, P.S., D. Nirmal . “A Novel Architecture for 10-bit 40MSPS Low Power Pipelined ADC Using a Simultaneous Capacitor and Op-amp Sharing Technique” (2021) <i>Silicon</i> , DOI: 10.1007/s12633-021-01241-x, (Impact Factor : 2.941)
74	Murugapandiyam, P., Hasan, M.T., Rajya Lakshmi, V., Wasim, M., Ajayan, J., Ramkumar, N., D. Nirmal . “Breakdown voltage enhancement of gate field plate Al _{0.295} Ga _{0.705} N/Ga _N HEMTs” (2021) <i>International Journal of Electronics</i> , 108 (8), pp. 1273-1287, DOI: 10.1080/00207217.2020.1849819 (Impact Factor : 1.457)
73	Murugapandiyam, P., D. Nirmal , Tanvir Hasan, M., Varghese, A., Ajayan, J., Augustine Fletcher, A.S., Ramkumar, N., “Influence of AlN passivation on thermal performance of AlGa _N /Ga _N high-electron mobility transistor on sapphire substrate: A simulation study”(2021) <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 273, DOI: 10.1016/j.mseb.2021.115449, (Impact Factor: 3.407)
72	J. Ajayan D. Nirmal , R. Ramesh, Sandip Bhattacharyya, Shubham Tayala L.M.I., Leo Joseph Laxman. Raju Thoutama D. Ajitha, power “A critical review of AlGa _N /Ga _N -heterostructure based Schottky diode/HEMT hydrogen (H ₂) sensors for aerospace and industrial applications” 2021, <i>Measurements</i> , https://doi.org/10.1016/j.measurement.2021.110100 , (Impact Factor: 5.131)
71	Sridevi, R., Pravin, J.C., Babu, A.R., D. Nirmal “Investigation of Quantum Confinement Effects on Molybdenum Disulfide (MoS ₂) Based Transistor Using Ritz Galerkin Finite Element Technique”(2021) <i>Silicon</i> DOI: 10.1007/s12633-021-01010-w, (Impact Factor: 2.941)
70	Tayal, S., Ajayan, J., Joseph, L.M.I.L., Tarunkumar, J., D. Nirmal , Jena, B., Nandi, A. “A Comprehensive Investigation of Vertically Stacked Silicon Nanosheet Field Effect Transistors: an Analog/RF Perspective” (2021) <i>Silicon</i> , DOI: 10.1007/s12633-021-01128-x (Impact Factor: 2.941)

69	Anvarifard, M.K., D. Nirmal “Creation of Step-Shaped Energy Band in a Novel Double-Gate GNR-FET to Diminish Ambipolar Conduction” (2021), <i>IEEE Transactions on Electron Devices</i> , DOI: 10.1109/TED.2021.3069442, (Impact Factor:3.221)
68	Ajayan, J., D. Nirmal , Tayal, S., Bhattacharya, S., Arivazhagan, L., Fletcher, A.S.A., Murugapandiyam, P., Ajitha, D., “Nanosheet field effect transistors-A next generation device to keep Moore's law alive: An intensive study” (2021), <i>Microelectronics Journal</i> , DOI: 10.1016/j.mejo.2021.105141, (Impact Factor:1.992)
67	Husna Hamza, K., D. Nirmal , Augustine Fletcher, A.S., Arivazhagan, L., Ajayan, J., Natarajan, R., “Highly scaled graded channel GaN HEMT with peak drain current of 2.48 A/mm” (2021) <i>AEU - International Journal of Electronics and Communications</i> , DOI: 10.1016/j.aeue.2021.153774 ((Impact Factor:3.169))
66	Ajayan, J., D. Nirmal , Mathew, R., Arivazhagan, L., Ajitha, D , “A critical review of design and fabrication challenges in InP HEMTs for future terahertz frequency applications” <i>Materials Science in Semiconductor Processing</i> , https://doi.org/10.1016/j.mssp.2021.105753 , 2021, 128, 105753(Impact Factor:4.644)
65	Arivazhagan, L., Jarndal, A., D. Nirmal , “GaN HEMT on Si substrate with diamond heat spreader for high power applications”2021, <i>Journal of Computational Electronics</i> . DOI: 10.1007/s10825-020-01646-8(Impact Factor:1.983)
64	Ravindran, A., D. Nirmal , Prajoun, P., Gracia Nirmala Rani, D , “Optical Grating Techniques for MEMS-Based Spectrometer-A Review”.2021, <i>IEEE Sensors Journal</i> , , 21(5), pp. 5645–5655, 9272803, DoI: 10.1109/JSEN.2020.3041196 (Impact Factor:4.325)
63	Murugapandiyam, P., D. Nirmal , Ajayan, J., Varghese, A., , “Investigation of Influence of SiN and SiO ₂ Passivation in Gate Field Plate Double Heterojunction Al _{0.3} Ga _{0.7} N/GaN/Al _{0.04} Ga _{0.96} N High Electron Mobility Transistors”, 2021 ", <i>Silicon</i> ,DOI: 10.1007/s12633-020-00503-4(2020). (Impact Factor:2.941)
2020	
62	Arivazhagan, L., D. Nirmal , Reddy, P. P. K., Ajayan, J., Godfrey, D., Prajoun, P., & Ray, A. (2020). “A Numerical Investigation of Heat Suppression in HEMT for Power Electronics Application” <i>Silicon</i> . doi:10.1007/s12633-020-00647-3 (Impact Factor:2.941)
61	Manikandan, M., D. Nirmal , Ajayan, J., ...Prajoun, P., Dhivya, G., “Numerical investigation of traps and optical response in III-V nitride quantum LED, Optical and Quantum Electronics”, 2020, 52(12), 513, <i>Optical and Quantum Electronics</i> (IF 1.842) Pub Date : 2020-11-22 , DOI: 10.1007/s11082-020-02633-w, (Impact Factor:2.794).
60	Arivazhagan, L., D. Nirmal , Chander, S., ...Rajkumar, J.S., Bhagya Lakshmi, S., “Variable thermal resistance model of GaN-on-SiC with substrate scalability”, <i>Journal of Computational Electronics</i> , 2020, 19(4), pp. 1546–1554. DoI: https://doi.org/10.1007/s10825-020-01561-y (Impact Factor:1.983).
59	Anwar Jarndal , L. Arivazhagan & D. Nirmal , “On the performance of GaN-on-Silicon, Silicon-Carbide, and Diamond substrates” <i>International Journal of RF and Microwave Computer-Aided Engineering</i> , 2020, 30(6), e22196, https://doi.org/10.1002/mmce.22196 , (Impact Factor:1.987)
58	S. Manikandan ¹ , N. B. Balamurugan ¹ & D. Nirmal , “Analytical Model of Double Gate Stacked Oxide Junctionless Transistor Considering Source/Drain Depletion Effects for CMOS Low Power Applications” <i>Silicon</i> ,DOI: https://doi.org/10.1007/s12633-019-00280-9 (Impact Factor:2.941)
57	D.Godfrey, D.Nirmal ,D. Godwinraj L. Arivazhagan,N.Mohankumar,J.Tzou and W.K.Yeh "Enhancement of DC and Breakdown Performance on Single to Multi-Step Gate FP Using GaN-HEMT for High Power Applications", <i>Silicon</i> ,DOI: 10.1007/s12633-020-00503-4(2020). (Impact Factor:2.941)
56	A.S. Augustine Fletcher, D. Nirmal , L. Arivazhagan and J. Ajayan , "An Intensive Study on Assorted Substrates Suitable for High JFOM AlGaIn/GaN HEMT", <i>Silicon</i> ,DOI: 10.1007/s12633-020-00549-4 (2020). (Impact Factor:2.941)
55	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” <i>Superlattices and Microstructures</i> , https://doi.org/10.1016/j.spmi.2020 .

	106549, (2020) pp 1-53 (Impact Factor:2.658).
54	K.Husna Hamza and D. Nirmal , "A review of GaNHEMT broadband power amplifiers", <i>International Journal of Electronics and Communications (AEU)</i> , Vol 116, (2020) DOI:10.1016/j.aeue.2019.153040 (Impact Factor:3.169)
53	D.Godfrey, D.Nirmal , L. Arivazhagan, R.Ratheskannan, P.Issac Nelson, S.Rajesh, B.Vidhya and N.Mohankumar "A novel ZnPcnanorod derived piezoelectric nanogenerator for energy harvesting " <i>Physica E Low-Dimensional Systems and Nanostructures Vol.118 (2020) (Impact Factor:3.369)</i> .
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17	Aldona Mathew, D. Nirmal ,Prajoon.P, Abin George “Modelling of HEMT for High Power Switching Application using Polarization Engineering Technique” <i>proceedings of IEEE International Conference on Electronics and Communication System ICECS’14</i> ,Karpagam College of Enginnering,Coimbatore,TamilNadu,February 2014 pp 149-152.
2013	
16	Surya, D. Nirmal ,J.Beulah, D.Rubavathy, Daphne and J.David “ CMOS Based Instrumentation Amplifier For Neural Recording System” in <i>First International Conference on Communication , Computation and Control</i> held in Christian College of Engineering and technology from 11th-13th April 2013.
15	Annie, D. Nirmal ,SajithaSoman, Praba , Kingsly “Analysis of Gate Engineered SOIMOSFET FOR VLSI Applications” <i>proceedings of IEEE International Muti Conference on Automation, Computing, Contral, Communication and Compressed sensing , iMac4s-2013</i> , St. Joseph’s College of Engineering and Technology. pp 498 - 501 Palai, Kottayam, March 2013.
14	Praba, D. Nirmal ,SajithaSoman, Annie , Kingsly “Design and Simulation of GaN/AlGaNHEMTs with Low Leakage Current and High ON/OFF Current Ratio” <i>proceedings of IEEE International Muti Conference on Automation, Computing, Contral, Communication and Compressed sensing , iMac4s-2013</i> , St. Joseph’s College of Engineering and Technology. PP 490 - 493 Palai, Kottayam, March 2013.
13	SajithaSoman, D. Nirmal ,Praba, Annie , Kingsly “Analysis of Drain Current in Short Channel Drain ExtentedTripal Gate FinFETs” <i>proceedings of IEEE International Muti Conference on Automation, Computing, Contral, Communication and Compressed sensing , iMac4s-2013</i> , St. Joseph’s College of Engineering and Technology. PP 494 - 497 Palai, Kottayam,March 2013.
12	D. Nirmal ,Vijayakumar, DoreenJoy, Binola k Jebalin, and N.Mohankumar “Nanoscale Tri Gate MOSFET for Ultra Low Power Applications Using High-k Dielectrics ” <i>5th IEEE International Nanoelectronics Conference, IEEE INEC 2013</i> held in Singapore, Page 12-16, on 2nd – 4th January 2013
2012	
11	D. Nirmal ,ShevinBobinVarughese, DoreenJoy, FlaviaPrincess and P.Vijayakumar “ <i>Design and simulation of ALGaN/GaNHFET</i> ” <i>2012 International Conference on Devices, Circuits and Systems (ICDCS) Proceedings</i> , Karunya university Page. 199-201,2012.
10	D. Nirmal ,DoreenJoy, ShevinBobinVarughese, FlaviaPrincess, and P.Vijayakumar “Low power analysis of triple gate MOSFET” <i>2012 International Conference on Devices , Circuits and Systems (ICDCS) Proceedings</i> , Karunya university Page. 126-129,2012.

9	FlaviaPrincess, P.Sindhu,M.Manikandan,V.LaksmiPrabha and D.Nirmal “Mixed mode simulation of SRAM FINFETs” <i>2012 International Conference on Devices , Circuits and Systems (ICDCS) Proceedings</i> ,Karunya university Page. 280-283,2012.
2011	
8	D. Nirmal , P.Vijaya Kumar, Patrick Chella Samuel, Shruti K, Divya Mary Thomas & N. Mohankumar “Analysis Of Dual Gate Mosfets Using High K Dielectrics” <i>2011 3rd IEEE International Conference on Electronics Computer Technology (ICECT 2011)Proceedings</i> , page VI:22-25.
7	D. Nirmal ,P.Vijaya Kumar, Shruti K, Divya Mary Thomas, Patrick Chella Samuel & N. Mohankumar “Analysis Of Single Halo Double Gate Mosfets Using High-K Dielectrics” <i>2011 3rd IEEE International Conference on Electronics Computer Technology (ICECT 2011)Proceedings</i> , page VI:26-30.
6	D. Nirmal ,P.Vijaya Kumar, Divya Mary Thomas, Shruti K, Patrick Chella Samuel & N. Mohankumar “Impact of Gate Engineering on Double Gate MOSFETs using High-k Dielectrics” <i>2011 3rd IEEE International Conference on Electronics Computer Technology (ICECT 2011)Proceedings</i> , page VI:31-34.
5	D. Nirmal ,Divya Mary Thomas, Shruti K, Patrick Chella Samuel, Vijaya Kumar& N. Mohankumar “ Analysis of Dual Material FinFETs using High-k Dielectrics” <i>International Conference on Communication and Signal processing ICCOS 2011 Karunya University, Coimbatore-641 114. 17-18, March 2011</i>
2010	
4	D.Nirmal ,Vijayakumar, Rekha, Soumya “Impact Of High-K Dielectrics On Device Performance Of SOIFinFETS” <i>ISCO (4th international conference on intelligent systems and control)</i> , karpagam college of engineering, India, 4 th and 5 th , Feb 2010.
3	D.Nirmal ,Vijayakumar, Rekha “High-K Dielectrics On FinFETs Device Performance Using TCAD” <i>International Conference on Emerging Trends in Engineering Technologies ICETS</i> , Noorul Islam university,India, 25 & 26, March 2010.
2	D.Nirmal , Vijayakumar, Soumya “Device Design And Optimization Of NanoscaleFinFETs Using TCAD” <i>International Conference on Emerging Trends in Engineering Technologies ICETS</i> , Noorul Islam university, India, 25 & 26, March 2010.
2009	
1	D.Nirmal ,Nalini, Vijayakumar “Nanosized High K Dielectric Material For Finfet” <i>ICE (International conference for Electro ceramics)</i> , Delhi University, India, 13-17, Dec 2009.

NATIONAL CONFERENCE PUBLICATIONS

5	D. Nirmal , Vijayakumaret.al. “ Analysis of analog parameters using Multi Gate FET” <i>3rd National Conference on Signal Processing, Communications and VLSI Design (NCSCV '11)</i> Anna university of Technology coimbatore.6th & 7th May 2011. pp. 35-39.
4	D. Nirmal ,Vijayakumar, Samjebharaj, Christopher, Arockia, Sunil “FinFETs For Future Nano Scale Technology” <i>National Conference on the theme 'Emerging trends in RF and Signal Processing</i> FISAT , Kerala,India, 25-27, March 2010,pp. 161-165.
3	D. Nirmal ,Vijayakumar, Samjebharaj, Christopher, Arockia, Sunil “CMOS logic design with Double Gate Transistors” <i>National Conference on VLSI,Image processing and Wireless communication</i> ARASU Engineering College, India 20th March 2010,pp.1-7.
2	D. Nirmal , Vijay “Implementation of Low Power Circuits Using FinFETs” <i>National Conference on Microwave and Optical Communication</i> , AlagappaChettiar College Of Engineering And Technology, India, 2009.

1	D. Nirmal , Jackuline Moni “Floorplanning Based on Btree* and simulated Annealing” <i>National conference on Modeling, Analysis and Simulation of Computer and Telecommunication systems</i> Government College Of Engineering Salem, India, 2007.
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BOOK PUBLICATION

2	BOOK Title: Semiconductor Devices and Technologies for Future Ultra Low Power Electronics Editors: D. Nirmal, J. Ajayan and Patrick Fay Publisher: CRC Press Taylor & Francis ISBN: 9781032061610
1	BOOK Title: Handbook for III-V High Electron Mobility Transistor Technologies Editors: D. Nirmal and J. Ajayan Publisher: CRC Press Taylor & Francis ISBN: 9781138625273

BOOK CHAPTER PUBLICATION

10	Chapter Title: Impact of Semiconductor Materials and Architecture Design on TFET Device Performance Authors: Saravanan, M., Parthasarathy, E., Ajayan, J., Nirmal, D. Publication Title: Emerging Low-Power Semiconductor Devices: Applications for Future Technology Nodes, Publisher: CRC Press ISBN: 978-100064018-2
9	Chapter Title: Negative Capacitance Field Effect Transistors for Future Low Power Electronics Authors: D. Nirmal and J. Ajayan Publication Title: Low-Dimensional Nanoelectronic Devices Theoretical Analysis and Cutting-Edge Research Publisher: CRC Press ISBN: 9781774638668
8	Chapter Title: Phosphorene based Intelligent Nanosensor for Wearable Electronics Applications Authors: R.Ramesh, Arkaprava Bhattacharyya, Adhithan Pon, D. Nirmal, J. Ajayan Publication Title: Handbook of Nanomaterials for Sensing Applications Publisher: Elsevier ISBN: 9780128207833
7	Chapter Title: III-V Nanoscale Quantum Well Field Effect Transistors for Future High Performance and Low Power Logic Applications Authors: D. Nirmal and J. Ajayan Publication Title: Nanoscale VLSI Devices, Circuits and Applications Publisher: Springer ISBN: 978-981-15-7936-3.
6	Chapter Title: III-V Compound Semiconductor Transistors-From Planar to Nanowire Structures Authors: D. Nirmal and J. Ajayan Publication Title: VLSI and Post-CMOS Devices, Circuits and Modelling Publisher: IET Digital Library ISBN: 1785618199, 9781785618192.
5	Chapter Title: Impact of Semiconductor Materials and Architecture Design on TFET Device Performance Authors: M. Saravanan, Eswaran Parthasarathy, J. Ajayan, D. Nirmal Publication Title: Emerging Low-Power Semiconductor Devices Publisher: CRC ISBN: 9781032147291
4	Chapter Title: Performance Analysis of Dual Metal Double Gate Tunnel-FETs for Ultralow Power Applications Authors: D. Gracia and D. Nirmal Publication Title: Nanoelectronic Materials and Devices. Publisher: Springer ISBN: 978-981-10-7190-4
3	Chapter Title: InP-Based High-Electron-Mobility Transistors for High-

	<p>Frequency Applications Authors: D. Nirmal and J. Ajayan Publication Title: Nanoelectronics Devices, Circuits and Systems Publisher: Elsevier ISBN: 9780128133538</p>
2	<p>Chapter Title: Modeling of Double gate MOSFETs Authors: D. Nirmal and J. Ajayan Publication Title: Nanoscale Devices Physics Modeling and their Application Publisher: CRC Press Taylor & Francis ISBN: 9781138060340</p>
1	<p>Chapter Title: A Fundamental Overview of High Electron Mobility Transistor and its Applications Authors: D. Nirmal and J. Ajayan Publication Title: Nanoscale Devices Physics Modeling and their Application Publisher: CRC Press Taylor & Francis ISBN: 9781138060340</p>

INTERNATIONAL CONFERENCE RESOURCE PERSON

28	Technical Reviewer for the manuscripts submitted for the IEEE Madras Section International Conference 2021 (MASCON2021) held at Hotel Le-Royal Meridien, Chennai, Tamil Nadu, India during 27th-28th August 2021.
27	Session Chair in the “ 2nd International conference on VLSI Devices, Circuits and Systems ” held in Meghnad saha Institute of Technology Kolkata, India 18 th and 19 th July 2020
26	Sharing in the “ Virtual Conference Organizers’ Panel ” held in IEEE Bangladesh Section, Bangladesh 1 st and 2 nd , July 2020
25	Session Chair in the “ IEEE Sponsored 4th International conference on Communication and Electronic systems ” held in PPG Institute of Technology, India 17 th , July 2019
24	Session Chair in the 2019 International Conference on Computer Communication and Informatics (ICCCI 2019) Organized by Sri Shakthi Institute of Engineering and Technology – Coimbatore India on 23 th -25 th January 2019.
23	Session Chair in the “ 3rd IEEE International conference on Communication and Electronic systems ” held in PPG Institute of Technology India 15 th and 16 th October 2018.
22	Session Chair in the 2018 International Conference on Computer Communication and Informatics (ICCCI 2017) Organized by Sri Shakthi Institute of Engineering and Technology – Coimbatore, India on 5 th January 2018.
21	Session Chair in the “ IEEE Sponsored 2nd International conference on Communication and Electronic systems ” held in PPG Institute of Technology, India 19 th October 2017.
20	Session Chair in the “ IEEE Sponsored International conference on Signal processing and communication ” held in Karunya University, India 28 th July 2017.
19	Session Chair in the “ IEEE Sponsored International conference on Innovations in Electrical Electronics Instrumentation and Media Technology ” held in Karunya University, India 4 th February 2017.
18	Session Chair in the IEEE Sponsored International conference on Inventive systems and Control Organized by JCT College of Engineering and technology, India on 19 th January 2017.
17	Session Chair in the 2017 International Conference on Computer Communication and Informatics (ICCCI 2017) Organized by SreeShakthi Institute of Engineering and Technology - Coimbatore India on 7 th January 2017.
16	Session Chair in the IEEE International Conference on Communication and Electronics Systems (ICCES 2016) Organized by PPG Institute of Technology – Coimbatore, India on 21 st October 2016.
15	Session Chair in the IEEE International Conference on Inventive Computation Technologies (ICICT 2016) Organized by RVS Technical Campus- Coimbatore, India on 26 th to 27 th August 2016.

14	Session Chair in the IEEE EDS and IETE sponsored 3rd International Conference on Devices, Circuits and Systems Organized by Karunya University, India on 3 rd to 5 th March 2016.
13	Session Chair in the IEEE sponsored International conference on Electronics and Communication Systems Organized by Karpagam College of Engineering, India on 25 th February 2016.
12	Session Chair in the International conference on Systems Science Control Communication Engineering and Technology Organized by Karpagam Institute of Technology, India on 10 th August 2015.
11	Session Chair in the International conference on Networks Electronics Communication and Control Organized by Cape Institute of Technology, India on 5 th and 6 th March 2015.
10	Session Chair in the IEEE 9th International conference on Intelligent Systems and Control Organized by Karpagam college of Engineering, India on 9 th and 10 th January 2015.
9	Session Chair in the IEEE SSCS Sponsored Conference On “Solid State Circuits” Organized by Saint Gits college of Engineering, India on 29 th August 2014.
8	I have served as a organizing secretary of 2nd International conference on Devices, Circuits and Systems sponsored by IEEE EDS INDIA and IETE INDIA March 6 th to 8 th 2014.
7	Session Chair in the International Conference Innovations in Information Embedded and Communication systems Organized by Karpagam college of Engineering, India on 13 th and 14 th of March 2014.
6	Session Chair in the International Conference on Devices circuits and systems Organized by Karunya University, India on 6 th to 8 th March 2014.
5	Session Chair in the International Conference on Electronics and Communication Systems Organized by Karpagam college of Engineering, India on 13 th and 14 th of February 2014.
4	I have served as a organizing secretary of International conference on Devices Circuits and Systems sponsored by IEEE EDS INDIA and IETE INDIA March 15 th and 16 th 2012.
3	Session Chair in the International Conference on Innovations in Intelligent Instrumentation Optimization and Signal Organized by Karunya University India on 1 st March 2013.
2	Session Chair in the IEEE International Multi Automation Computing Control Communication and Compressed Sensing Organized by St. Joseph’s College of Engineering and Technology, India on 22 th and 23 th March 2013.
1	Session Chair in the 2013 IEEE International Conference on Emerging Trends in Computing , India on 25 th and 26 th March 2013 Communication and Nanotechnology Organized by Infant Jesus College of Engineering

NATIONAL CONFERENCE RESOURCE PERSON

2	Session Chair in the National Conference on Innovations in future communication Technologies , (NCIFCT’17) Organized by Karunya university, India on 30 th March 2017
1	Session Chair in the Fourth National Conference on Communication, Computation, Control and Automation , CCA 2014 Organized by Sri Ramakrishna Institute of Technology, India on 28 th and 29 th March 2014.

WORKSHOP ORGANIZED

5	Organized One day workshop on “ 2nd National Workshop on Semiconductor device modeling and applications ” in Karunya University 11 th January 2017.
4	Organized One day IEEE ED Coimbatore Chapter sponsored workshop “ National Workshop on Semiconductor device modeling and applications ” in Karunya University 9 th October 2015.
3	Organized One day IEEE ED Coimbatore Chapter sponsored workshop “ National Workshop on semiconductor memories ” in 18 th September 2015. Karunya

	University
2	Organized two day workshop on “ National Workshop on circuit simulation on TANNER EDA Tool ” in Karunya 25 th and 26 th March 2011. University
1	Organized one day DIT sponsored workshop on “ Electronic System Design Manufacturing ” in Karunya University 14 th October 2012.

INTERNATIONAL / NATIONAL RESOURCE PERSON

67	Resource Person for DRDO sponsored Nation seminar on ‘ 3D Monolithic, Microwave Integrated Circuits Design Fabrication and Applications , conducted on November 09, 2022 at Dhanalakshmi Srinivasan College of Enginneirng, Coimbatore.
66	Resource Person for IEEE Day seminar on ‘ Electronic materials, devices and Systems for Beyond 5G systems ’ conducted on September 19,2022 at Karpagam College of Engineering , Coimbatore.
65	Resource Person on ‘ Workshop on Manuscript Preparation and Submisison ’ conducted on September 13,2022 at Avinashilingam Institute for Home Sciences and Higher Education for women , Coimbatore
64	Resource Person for the Guest lecture on ‘ Werable sensor devices ’ conducted on September 10,2022 at Karpagam Institute of Technology , Coimbatore
63	Resource Person for the Anna University sponsored FDP on ‘ Electronics Packing and Testing , conducted on August 08,2022 at KPR Institute of Engineering and Technology , Coimbatore
62	Resource Person for the lecture on ‘ Memory Core and Memory Peripheral Security, in the FDP ’ conducted on January19,2022 at PSNA College of Technology, Dindigul
61	Resource Person for the lecture on ‘ Electronics System Design and Manufacturing in Technology Node Perspective and Blended Research Outputs Metrics ’,conducted on January20,2022 at United Institute of Technology, Coimbatore.
60	Exceptional contribution as Primary Evaluator in the Toycathon 2021 conducted by Ministry of Education Innovation Cell.
59	Resource Person for the workshop on ‘ NanoMaterials & Devices: Physics and Applications ’,conducted on March 11th and 12th at VIT Chennai.
58	Keynote talk on “ Sustainable Electronic system in current trends ” at the 6thInternational Conference on Inventive Computation Technologies(ICICT-2021) organized by RVS Technical Campus, Coimbatore, Tamilnadu, India, on 21.01.2021.
57	Resource Person in the 2 Day Online Faculty Development Program on Future Perspective of Semiconductor Devices organized by Kalasalingam Academy of Research and Education on 22-24 June 2021
56	Keynote talk in the 2nd International Conference on Electronics and Sustainable Communication Systems held at Hindustan Institute of Technology and Sciences, Coimbatore, India on 04 August 2021
55	Resource Person in the 2 Day National Level workshop on Modeling of semiconductor Quantum Devices for a Sustainable Energy System using TCAD ” organized by Kalasalingam Academy of Research and Education on 08 January 2021
54	Keynote address on “ Sustainable Electronic System in Current Trends ” in6 th International conference on Inventive Computation Technologies (ICICT-2021) held RVS Technical Campus, India 21 January 2021.
53	Resource person in the Faculty Development Program on “ Innovative Research Approach for Cutting Edge Program ” in Bethlehem Institute of Engineering, Indiaon 19 November 2020
52	Delivered a talk in Faculty Development program on “ Smart materials and sensors:

	Current updates and future perspective ” organized by Stella mary’s college of Engineering and Technology, India on 11 th July 2020
51	Keynote address on “Electronic Devices to Circuits systems” inInternational conference on Electronic and Sustainable communication systems held Hindusthan Institute of Technology and sciences, India 2 nd , July 2020.
50	Delivered a talk in webinar on “Nanoelectronics and its trending applications” organized by Galgotias University, Delhi on 22th June 2020
49	Delivered a talk in webinar on “Current Trending Devices for 5G Communication” organized by Department of ECE, Kumaraguru College of Technology, Coimbatore on 28 th June 2020
48	Resource person in the National level Three Day Online Faculty Development Program “VLSI technology and hardware for AI and ML” in GMR Institute of Technology, Rajam during 25th to 27th May 2020
47	Delivered a talk in Faculty orientation program on “ Future perspective in Research Mobilization” on 13 th , January 2020 in KPR Institute of Engineering and Technology
46	Resource person in the Guest lecture on “ VLSI and its Applications ” on 09 th ,January 2020 in Avinashilingam Institute for Home Science and Higher Education for Women.
45	Resource person in AICTE sponsored Short Term training programm and delivered a lecture on “Recent GaN power process for 5G applications” on 20 st August 2019 in PSNA College of engineering and Technology.
44	Keynote address on “Silicon based Energy harvesting devices” inInternational conference on communication and electronic systems held PPG institute of Technology, India 17 th , July 2019.
43	Delivered a talk in Faculty development program on “Bio medical solutions: Integrating new chips, Packages & Modules ” held in Jyothi Engineering college, Kerala, India on 10 th July 2019.
42	Resource person in AICTE Sponsored Two week faculty development program and delivered a talk on “Wearable and implantable Technologies” held in VimalJyothi Engineering college, Kerala, India on 25 th May 2019.
41	Keynote address on “Nanogenerators for energy harvesting applications” in International conference on Intelligent computing and control systems held Vaigai College of Engineering, India 15 th , May 2018.
40	Delivered a technical talk on “Semiconductor Devices and its recent trends” in IEEE Madras section symposium held in Sri Ramakrishna Engineering College, Coimbatore on 25 th January 2018
39	Keynote address on “Semiconductor devices and its applications” in 3 rd IEEE International conference on Inventive systems and control held in JCT College of Engineering and Technology, India 11 th , January 2018.
38	Guest Speaker on “ Current Trends in Semiconductor Devices ” in Francis Xavier Engineering College, Tirunelveli on 10 th January 2018
37	Keynote address on “Electronic system design and its reliability issues” in “ 3 rd IEEE International conference on Communication and Electronic systems held in PPG Institute of Technology, India 15 th and 16 th , October 2018.
36	Delivered Guest Lecture on “ Technology node beyond 14nm in VLSI Systems” in Vellor Institute of Technology, Vellore on 19 th September 2018.
35	Keynote address on “InP based HEMT and its frequency applications” in IEEE Sponsored International conference on Inventive research in computing applications Organized by RVS technical campus coimbatore, India on 2 nd July 2018.
34	Guest Lecture on “ Emerging semiconductor devices and its applications” in ShaheedRajguru college of applied sciences for women, University of Delhi , Delhi on 4 th April 2018.
33	Speech Delivered on “ Flexible electronics and future systems” in Institution of Engineers(India), Coimbatore chapter , Coimbatore on 12 th February 2018.

32	Keynote address on “ Flexible semiconductor devices and its applications in future ” in IEEE Sponsored 2 nd International conference on Inventive systems and control held in JCT College of Engineering and Technology, India 19 th , January 2018.
31	Guest Lecture on “ Recent Advancements in Electronics and Research opportunities in semiconductor devices ” in Kumarguru college of Technology , Coimbatore on 22 nd November 2017.
30	Keynote address on “ Impact of High Electron Mobility Transistor in MMIC Systems ” in IEEE Sponsored 2 nd International conference on Communication and Electronic systems held in PPG Institute of Technology, India 19 th , October 2017
29	Resource person in the CSIR sponsored National seminar and delivered a lecture on “ Analysis of Carbon Nanotube and GrapheneNanoribbon Field Effect Transistors ” on 21 st August 2017 in Karpagam college of engineering.
28	Keynote address on “ Current Trends in Junctionless Transistors for Ultra Low power Applications ” in IEEE Sponsored International conference on Inventive systems and Control Organized by JCT College of Engineering and technology, India on 19 th January 2017.
27	Delivered a Talk on “ Semiconductor Devices and Applications ” in One day IEEE ED Coimbatore Chapter sponsored workshop “ 2ndNational Workshop on Semiconductor device modeling and applications ” in Karunya University, 11 th January 2017.
26	Guest Lecture on “ NPN and PNP Junctions ” in FDTP ON Electron Devices organized by Karpagam Institute of Technology , Coimbatore on 23 th December 2016.
25	Invited talk on “ Semiconductor Nano Electronic Devices and its applications for Future Electronics ” in National seminar on MEMS and Nano Electronic Devices held on 19 th and 20 th December 2016 in Bharathiar University, India
24	Delivered a Keynote address on “ NanoscaleJunctionless Transistor Design and Its Applications ” in the IEEE International Conference on Communication and Electronics Systems(ICCES 2016) Organized by PPG Institute of Technology - Coimbatore, India on 21 st October 2016.
23	Resource person in the TEQIP-II sponsored faculty development program on “ Multiscale modelling and simulation of Nanoelectronic Devices- A research Perspective ” on 28 th July 2016 in PSG college of Technology.
22	Delivered a Keynote address on “ GaN based High Electron Mobility Transistor (HEMT): Trends and applications ” in the IEEE sponsored International conference on Electronics and Communication Systems Organized by Karpagam College of Engineering, India on 25 th February 2016.
21	Resource person for a seminar on “ Research paper writing: Methodology & Aspect ” held on 17 th February, organized by Department of Electronics and communication Engg ECHO association, Karunya University.
20	Delivered a Keynote address on “ Emerging trends in Nanotechnology and Integrated circuits ” in National Level Workshop on Recent trends of Nanotechnology in Electronics held at Arasu Engineering College, India on 8 th February 2016.
19	Delivered a Technical Talk on “ Introduction to High Power & Low Power Devices in Nanotechnology ” in Alva’s Institute of Engineering and Technology, India on 06 th November 2015.
18	Resource person for IEEE EDS Coimbatore chapter sponsored workshop on “ National Semiconductor device modeling and applications ” in Karunya University, 9 th October 2015.
17	Delivered a lecture on “ VLSI Technologies and research Trends ” in Royal college of Engineering and technology, India on 14 th August 2015.
16	Keynote address in the “ International conference on Systems, Science, Control, Communication, Engineering and Technology ” on Next Generation Electronics and its Applications Organized by Karpagam Institute of Technology, India on 10 th August

	2015.
15	Keynote address in the “ International conference on Networks, Electronics, Communication and Control ” on Heterostructure based MOSFETs in Nano electronic Regime Organized by Cape Institute of Technology, India on 5 th and 6 th March 2015.
14	Keynote address in the “ IEEE 9th International conference on Intelligent Systems and Control ” On Advanced high power semiconductor devices and its application Organized by Karpagam college of Engineering, India on 9 th and 10 th January 2015.
13	Delivered a plenary talk in the IEEESSCS Sponsored Conference On “Solid State Circuits” Organized by SaintGits college of Engineering, India on 29 th August 2014.
12	Resource person for IEEE India EDS chapter sponsored workshop on “ Nano Electronics Device Modelling ” in Mahendra Engineering College on 14 th July 2014.
11	Delivered a Talk on “ Nano electronics in recent trends ” in RevaITM, Bangalore India on 24 th March 2014.
10	Delivered a Special Guest lecture on “ VLSI Design ” in Pavai College of Technology, India on 28 th January 2014.
9	Delivered a Guest lecture in IETE Student forum inauguration on “ Nano electronics in Communication systems ” in Karpagam college of Engineering, India on 30 th September 2013.
8	Delivered a special lecture in One day seminar on “ Advanced Research Methodologies in VLSI System ” in Cape Institute of Technology, India on 12 th August 2013.
7	Delivered a Keynote Talk in 2013 IEEE International Conference on Emerging Trends in Computing, Communication and Nanotechnology Organized by Infant Jesus College of Engineering, India on 25 th and 26 th March 2013.
6	Resource person in “ Workshop for Writing Journal Papers ” at Karunya University, Coimbatore on 6 th March 2013.
5	Guest Lecture on “ Emerging Trends in Nano Electronics for VLSI Applications ” in Paavai College Of Engineering, Namakkal on 12 th February 2013.
4	Technical Talk On “ Emerging Engineering Technologies Using FinFET with High-K Dielectrics ” in the IEEE INDIA EDS chapter workshop on FinFET Circuit Design-An Alternate for CMOS Design conducted in Muthayammal Engineering College, Rasipuram, India 2012.
3	Guest lecture in National workshop on “ Low power VLSI methodologies ” organized by Hindustan Institute of Technology, Coimbatore conducted on 24 th April 2010.
2	Resource person for National Workshop “ Find your way with Wonder Chip: VLSI ” organized by Karunya University conducted from 19 th of September 2009 to 21 st of September 2009.
1	Delivered an Invited lecture on the topic “ INTRODUCTION TO SYNOPSIS ” in Karunya University.

INTERNATIONAL COURSES / SEMINARS ATTENDED

16	Participated in the Webinar on “Pedagogy of Online Teaching and Assessment”, 10 th August, 2020 organized by the Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore in association with The Institution of Engineers (India), Coimbatore local center.
15	Attended online FDP on Patent Law for Engineers and Researchers conducted by AICTE ATAL from 26-30 July 2020 at Prathyusha Engineering College
14	Attended online FDP on Sensors Technology conducted by AICTE ATAL from 21-25 September 2020 at Dr. Ambedkar Institute of Technology,
13	Attended online FDP on Internet of Things conducted by AICTE ATAL from 07-11 December 2020 at Indian Institute of Information Technology, Kottayam.

12	Attended online FDP on Photonics conducted by AICTE ATAL from 01-05 February 2021 at National Institute of Technology
11	Participated in Indian Technology Congress – 2019 on 4 th & 5 th September 2019 at NIMHANS Convention Centre, Bengaluru.
10	Attended Five day International Faculty development programme on “Exploring the Nuances of Deep learning for research applications- A Deeper Experience” held on 13 th to 17 th July 2020 Karunya Institute of Technology and sciences, India.
9	Participated in IEEE EDS Distinguished Lecture on “Transparent and flexible large area electronics” Organized by IEEE EDS Delhi chapter in association with University of Delhi South Campus on 16 th May 2020 .
8	Participated in IEEE EDS Distinguished Lecture on “Theory of Nano- Electron- Fluidic Logic(NFL): A New Digital Electronics concept ” Organized by IEEE EDS Coimbatore chapter in association with ECE, Karunya institute of technology and sciences on 5 th December 2017 .
7	Participated in the workshop on “Nanolithography and Nanofabrication” Organized by Raith India and Raith GmbH Germany, held in Indian Institute of Science , Bangalore on 16 th May 2017 .
6	Participated in “ IEEE Sponsored International conference on Innovations in Electrical ,Electronics, Instrumentation and Media Technology” held in Karunya University, India on 3 rd and 4 th , February 2017.
5	Completed the course on “Crosscheck for conferences- Plagiarism Detection Tool” from IEEE on September 1 st 2016.
4	Participated in the IEEE Volunteer Leadership Training programme (VOLT) Program Graduate 2015.
3	Participated in pre-conference workshop in “International Conference on signal processing, Image processing and pattern Recognition” on Lab View held on 6 th February 2013 at Karunya University.
2	Attended the International workshop and IEEE EDS Mini-colloquia on “The past & future of Integrated Circuits Technologies” held during November 4-5, 2009 at S.K.P Engineering college, Tiruvannamalai.
1	Advanced International Workshop on “NANOSCIENCE AND TECHNOLOGY” Organized by Anna University Chennai on 2009.

NATIONAL COURSES / SEMINARS ATTENDED

29	Participated in the online IP awareness and Training program conducted by Intellectual Property India on 12 February 2022
28	Attended a Webinar on “Quantum dot cellular automata: Emerging Technology for Nano architecture” held on 20 th July 2020 in Sri Eshwar college of Engineering India.
27	Attended a Webinar on “Intellectual Property Rights and Patent Filing” held on 22 nd May 2020 Aurora’s Degree & PG College, Chikkadpally, Hyderabad, India.
26	Attended a Leadership talk by MHRD Innovation Cell held on 16 th May 2020 in Government Of India.
25	Attended a Webinar on “Selection of appropriate Statistical Tools: A critical way for successful Research ” held on 12 th May 2020 in St Mary’s College, Thoothukudi, India.
24	Attended a Webinar on “Research Methodology and its tools” held on 12 th May 2020 in Crescent Institute of Technology and sciences India.
23	Attended a Webinar on “Machine learning algorithms, applications and trends” held on 10 th May 2020 in Shri Shankarlal Sundarbai Shasun Jain college for women association with Computer society of India.
22	Participated in a Training programme on “ Question paper setting” held on 30 th May to 1 st

	June 2018 in Karunya Institute of technology and sciences conducted by National Institute of Technical Teachers Training and research (MHRD, Gov Of India).
21	Attended “One day Joint workshop on Patent Filing Procedure” on 7 th June 2018 Organized by Rajiv Gandhi National Institute of Intellectual Property Management, Nagpur and Karunya Institute of technology and sciences.
20	Participated a One day workshop on “ Intellectual property Rights Regime in India- IPRP17” held on 18 th September 2017 in Karunya University, India.
19	Participated in National workshop on “ Applications of Graph theory in Engineering” held on 28 th April 2016 in Karunya University, India.
18	Participated in “ National seminar on MEMS and Nano Electronic Devices 2016” held on 19 th and 20 th December 2016 in Bharathiar University, India.
17	Attended faculty development workshop on “Effective teaching Learning Methodology for Engineers” Organized by Department of Electrical Technology, Karunya University on 23 th Jun 2016
16	Attended one day National level conclave on IOT for smart city on 16 th April 2016 in karunya university.
15	Participated in “Virtual Labs Workshops” conducted at Karunya University on 20 th February 2016.
14	Attended one day workshop on “Intellectual Property Rights” on 15 th September, 2016 in Karunya University.
13	Attended a faculty development program on “Team building and Leadership skill” Organized by Dept. of ECE Karunya University on 6 th September 2014.
12	Attended a workshop on “COMSOL Multiphysics Modeling” organized by Electronics and Instrumentation Engineering Department, Karunya University on February 14, 2014.
11	Attended the one day “Workshop on Project Proposal Writing” in Karunya University, Coimbatore, February 13 th 2013.
10	Attended the one day National Workshop on “Recent trends in RF Design” in Anna University of Technology Coimbatore, 09 th October 2010.
9	Underwent the one day training program in center for VLSI & Nanotechnology in S.K.P Engineering College, Tiruvannamalai, 24 September 2010.
8	Attended the 3 rd INUP (Indian Nano electronics User Program) training program on Nanofabrication Technologies, IISC, Bangalore, 15-16 April 2010.
7	Attended the One day Hands-on-training program on “VLSI Back-end tools” organized by Kumaraguru college of Technology on 20 th February 2010.
6	Attended the workshop on “ASIC Design using SYNOPSIS” Organized by Karunya University collaboration with D’gipro Design Automation and Marketing Pvt.Ltd., on 2009.
5	Attended a “Research Workshop on Nanochemistry” Organized by Karunya University under KRWG scheme on January 28 & 29, 2009.
4	Work shop cum seminar on “RESEND TRENDS IN VLSI DESIGN & VERIFICATION-AN INDUSTRY PERSPECTIVE” at Manipal Centre for Information Science, Manipal University in 2008
3	Attended the one week “PEDAGOGIC TRAINING” in Karunya University in 2007.
2	AICTE sponsored National seminar on “EMERGING TRENDS IN VLSI DEVICES USING EMBEDDED SYSTEMS” conducted by NICE Kumaracoil in 2007
1	Underwent one week in-plant training in “Madurai Power Corporation Pvt.Ltd” in 2003.