

PROFORMA FOR BIO-DATA (to be uploaded)

1. Name and full correspondence address : Dr. Shubhankar Majumdar
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+91-7550197054
3. Institution National Institute of Technology, Meghalaya
4. Date of Birth 01/11/1987
5. Gender (M/F/T) Male
6. Category Gen/SC/ST/OBC General
7. Whether differently abled (Yes/No) No

8. Academic Qualification (Undergraduate Onwards)

	Degree	Year	Subject	University/Institution	% of marks
1.	BE	2010	Electronics & Communication	University Institute of Technology, Bhopal, India.	75.78
2.	Mtech	2012	Microelectronics & VLSI Design	Shri Govindram Seksaria Institute of Technology and Science (SGSITS), Indore,	8.60/10
3.	PhD	2016	Micro-Electronics	Indian Institute of Technology Kharagpur, Kharagpur,	
4.					

9. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award.

Thesis Topic : TCAD based simulation, growth and characterization of Nitride-Based HEMT on Silicon for RF Switch Application. Advisor : Prof. Dhruves Biswas Indian Institute of Technology Kharagpur, Kharagpur, West Bengal Thesis Awarded : 24th November 2016)

10. Work experience (in chronological order).

S.No.	Positions held	Name of the Institute	From	To	Pay Scale
1	Assistant Professor (Level 12)	National Institute of Technology, Meghalaya.	19/12/2023	Present	
2	Assistant Professor (Level 11)	National Institute of Technology, Meghalaya.	25/09/2019	18/12/2023	
3	Assistant Professor (Level 10)	National Institute of Technology, Meghalaya.	13/12/2017	24/09/2019	
4	Faculty	Indian Institute of Information Technology, Kurnool.	18/07/2017	12/12/2017	
5	Guest Faculty	NIT Raipur	09/03/2016	27/06/2017	

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No	Name of Award	Awarding Agency	Year
1	Visvesvaraya Young Faculty Research Fellowship (YFRF)	Digital India Corporation, Ministry of Electronics and Information Technology (MEITY)	2025
2	Awarded best researcher	National Institute of Technology Meghalaya	2026
3	Awarded best researcher	National Institute of Technology Meghalaya	2025
4	Awarded best researcher	National Institute of Technology Meghalaya	2024
5	2nd Runner Up	IEEE DataPort Climate Change Dataset Upload Contest	2023
6	Enlisted in Golden List of Reviewers	IEEE Transaction of Electron Devices	2022
7	Enlisted in Golden List of Reviewers	IEEE Transaction of Electron Devices	2021
8	Enlisted in Golden List of Reviewers	IEEE Transaction of Electron Devices	2020
9	Received Marie Sklodowska-Curie Actions Seal	European Commission	2018
10	Semifinalist	Cisco Global Problem Solver Challenge	2018
11	National Postdoctoral (NPDF) Fellowship		2017
12	Italian Fellowship for Postdoctoral		2017
13	II IICDC 2016		
14	International Travel Grant for EMRS Fall Meeting, 2015, Warsaw Poland	Ministry of Human Resource and Development (MHRD) India	2015
15	IIT KGP Institute Scholarship for pursuing PhD	MHRD, Government of India	2012
16	GATE Scholarship for pursuing M.Tech	MHRD, Government of India	2010

12. Publications (*List of papers published in SCI Journals, in year wise descending order*).

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	S. Majumdar	Single Transistor Leakage Control for Low Power CMOS Circuits in Bio-Implantable RF Receivers	Circuits, Systems & Signal Processing	Volume 45	153-172	2026
2	A. Paul, H. Kumari, J. Borah, S. Majumdar	Surrogate-Assisted Framework for Log-Periodic Feedlines based Filter Optimization	IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems	Accepted		
3	H. Kumari, A. Paul, Kai Da-Xu, S. Majumdar,	ML-SDR Framework for Selective & Rapid Detection of Volatile Organic Compounds	IEEE Sensors Journal	Vol. 26 no. 10	15271-15278	2026
4	S. Majumdar, S. Paul, G. Srivastava,	Seamless Human-Machine Interaction in Augmented Reality Gaming: A Low-Cost Webcam Approach	IEEE Sensors Journal	vol. 26, no. 6	9262-9269	2026
5	Ma Seenivasan, S. Majumdar, P. Saha, G. Srivastava	Design of Synaptic Interconnection of a Sensory LIF Neuron in CMOS for High-Speed In-sensor Neuromorphic Systems	IEEE Sensors Journal	Accepted		
6	Ma Seenivasan, Rekib, S. Majumdar, P. Saha	Synaptic Plasticity Dynamics of a Bio-logical Neuron from a Model of Excitatory and Inhibitory Neurotransmitter Releases Towards Hardware Implementation of STDP in CMOS,	Neurocomputing	Accepted		
7	B.Sahoo, A. K. Biswas, P. Saha, S.	A Highly Decoupled SOI Configured Photonic Hybrid	Results in Engineering	Accepted		

	Majumdar, S. S. Pattanayak	Plasmonic Nano MIMO Antenna for Terahertz Communications				
8	D. Pyngrope, S. Majumdar	Maximizing power efficiency in GaN HEMTs: The role of ScAlN integration through n2DEG analytical modeling and 3D simulations	Micro and Nanostructures (Elsevier)	Vol. 215	208674	2026
9	I. Karmakar, A. Chauhan, K. Singh, S. Majumdar, P. Kundu	A Distinctive Parallel RC Matching Technique for Nonlinearity Reduction in GaN MMIC PA for FMCW RADAR Applications	International Journal of Numerical Modelling : Electronic Networks, Devices and Fields	vol 39, no. 2	e7016	2026
10	Rekib, P. Saha, S.Majumdar, G.Crupi	Look-Up Table Framework for p-Channel Double-Gate MOSFETs : Silicon vs. Germanium Evaluation	International Journal of Numerical Modelling : Electronic Networks, Devices and Fields	Accepted		
11	A. Paul, H. Kumari, S. Das, S. Majumdar	Low Cost Microwave System Development for Analysis of Classification and Adulteration of Honey	IEEE Transactions on Agri- Food Electronics	vol. 4, no. 1	375- 382	2026
12	J. Borah, Md. Shahrul Md. Nadzir, M. Cayetano, and S. Majumdar	FedEI: Fault Detection and Ensemble Iterative Inference for Low-Cost Air Quality Sensor Data	IEEE Sensor (IEEE), in IEEE Sensors Journal	vol. 26, no. 1	665- 672	2026
13	M. Biswas, S. Majumdar	Impact of Thermal, Optical, and Trap Effects on β -Ga2O3/ZnO Heterojunction for RF applications	Semiconductor Science and Technology, IoP Publisher	Accepted		
14	Ma Seenivasan, S. Majumdar, P. Saha,	Mathematical Model and Its Realization of Subthreshold Internal Membrane Dynamics and Implementation in CMOS Neuromorphic Systems	International Journal of Numerical Modelling : Electronic Networks, Devices and Fields, Wiley Publisher	Accepted		
15	Mandira Biswas, Lalit Katariya, Franco Mayanglambam, Shubhankar Majumdar, Ankush Bag	β - Ga2O3/p-Si (100) based vertical diode deposited using RF sputtering for rectifier design	Micro and Nanostructures (Elsevier), 208495	Accepted		
16	Hemant Kumari, Amartya Paul, Shubhankar Majumdar, Giovanni Crupi, Jialin Cai	A compact dual-band power amplifier using spoof surface plasmon polaritons for broad- band RF applications	AEUE - International Journal of Electronics and Communications Elsevier	Volume 204		2026
17	Hemant Kumari, Amartya Paul, Wamchi Sangma, Shubhankar Majumdar	Design and Optimization of an SSPP-Matched GaN HEMT Power Amplifier Using Bayesian Optimization	International Journal of Numerical Modelling : Electronic Networks, Devices and Fields,	Accepted		
18	A. Paul, H. Kumari, S. Majumdar	Dual-Band Microwave Spectroscopy and Machine Learning for Rapid Milk Adulteration Detection”	IEEE Transactions on Agri Food Electronics	Accepted		
19	A. Paul, D. Adak, S. Dutta, S. Majumdar	Non-Invasive RCC Beam Assessment via SDR-Integrated Microstrip Filter	IEEE Sensors Letters	vol. 9, no. 10	1-4	2025
20	A. Paul, R. Snaitang, P.K. Gautam, S. Majumdar	EconoScan: Affordable Microwave Imaging for Non- Destructive Strength Testing of	IEEE Sensors Letters	vol. 9, no. 12,	1-4	2025

		Bituminous Materials				
21	T. Maity, A. Mondal, J.Samanta, P. Saha, S. Majumdar and G. Srivastava,	RealTime Soil Hydration Assessment and Monitoring Model for Smart Agriculture with IoT Integration	IEEE Sensor Journal	Accepted		
22	S. Das, T. Maity, A. Mondal, J.Samanta, P. Saha, S. Majumdar and G. Srivastava	Next Generation Intelligent Prediction Model for Real-Time Soil Nutrients Monitoring in Sustainable Farming	IEEE Sensor Journal	Accepted		
23	H. Kumari, A. Paul, G. Bhargava, and S.Majumdar	APD-SSPP: Enhancing Linearization of Power Amplifier Using Spoof Surface Plasmon Polariton Propagation	Microwave and Optical Technology Letters (Wiley)	Vol 67 (10)		2025
24	R. Das, A. Acharyya, S. Majumdar	Influences of Human Presence on the Indoor Air Quality of Educational Institutions: Concurrent Multi-Pollutant Sensing Approach	IEEE Open Journal of Instrumentation & Measurement IEEE	vol. 4	1-8	2025
25	J. Borah, Md. Shahrul Md. Nadzir, M. Cayetano, S. Majumdar, H. Ghayvat, and G. Srivastava	Timezone-Aware Auto-Regressive Long Short-Term Memory Model for Multi-Pollutant Prediction	Transactions on Systems, Man and Cybernetics : Systems, (IEEE)	vol. 55, no. 1	344-352	2025
26	Jintu Borah, Tanujit Chakraborty, Md. Shahrul Md. Nadzir, Mylene G. Cayetano, Francesco Benedetto, Shubhankar Majumdar	A Novel Hybrid Approach For Efficiently Forecasting Air Quality Data	IEEE	vol. 9, no. 1	1-4	2025
27	Hemant Dewangan, Amartya Paul, Wamchi Sangma, Shubhankar Majumdar	Exhibiting the Superiority of Metal-Filled SSPP in Advanced Output Matching Networks for High-Performance Power Amplifier	AEUE - International Journal of Electronics and Communications Elsevier	Volume 201		2025
28	Hemant Dewangan, Amartya Paul, Jintu Borah, Shubhankar Majumdar	Machine Learning Based Design of Ultra-Wideband GaN HEMT Power Amplifiers for Next-Generation 6G Systems	Microsystem Technologies Springer	Accepted		
29	M. Nadzir, U. Rabuan, S. Md Ali, J. Borah, S. Majumdar, M.S. Rohmad	Drone-based Air Quality Monitoring: Development and Evaluation of Low-Cost PM2. 5 Sensor for Remote Environmental Assessment	Sensors and Materials	Vol. 37 (6)	2153-2171	2025
30	K.Naresh, P.Sai, C. Ganesh, S.Majumdar	Design of Logic Level Pruning Approximate Arithmetic Circuits using TIGFET	Circuits, Systems, and Signal Processing (Springer)	Accepted		
31	T. Maity, A. N. Bhawani, J. Samanta, P. Saha, S. Majumdar and G. Srivastava	MLSFDD: Machine Learning-Based Smart Fire Detection Device for Precision Agriculture	IEEE Sensors Journal	vol. 25, no. 5	8921-8928	2025
32	M. Roy, S. Basu, B. Neogi, S. Majumdar, P.Saha	Development and performance analysis of a human respiratory system using state-space model-based system identification technique	Microsyst Technol (2025)	Accepted		
33	A. Paul, G. Bhargava, D. Adak, S. Dutta, S. Majumdar	Design and validation of a microstrip log-periodic feedline based filter for microwave imaging of rebar	IEEE Transactions on Instrumentation & Measurement , (IEEE)	vol. 73	1-8	2024

34	Sharailin Gidon, Jintu Borah, Smrutirekha Sahoo, Shubhankar Majumdar	Neural Network Approaches for Enhanced Landslide Prediction: A Comparative Study for Mawiongirim, Meghalaya, India	Natural Hazards	Accepted		
35	V. M. Tammineni, S. Beura, M.V.H B. MURTHY , P. Saha, S. Majumdar,	Optimized Recursive Approximate Multipliers for Edge Detection and Image Smoothing Application	Microsystem Technologies	Accepted		
36	A. Paul, G. Bhargava, S. Majumdar	Development and Characterization of Log Periodic Feedline Based Filter for Water Leakage Detection in Size Invariant PVC Pipes	Flow Measurement and Instrumentation, (Elsevier)	Volume 98		2024
37	A. Paul, G. Bhargava, P.K. Gautam, S. Majumdar	Non-Destructive Evaluation of Strength and Porosity of Bituminous Mixes Using Log Periodic feedlines-based Ring Filter	IEEE Transactions on Instrumentation and Measurement,	vol. 73		2024
38	A. Paul, H. Kumari, R. Snaitang, P. K. Gautam, S. Majumdar,	Microwave Imaging and Non-Destructive Testing of Bituminous Mix Binder-Aggregate Behavior Utilizing Log-Periodic Feedline-Based Microstrip Filter	MDPI NDT, 2024	Invited Paper 2024		
39	D. Pyngrope,N. Chaturvedi, S. Dasgupta, A. hospodko, S. Majumdar	Comprehensive empirical modeling of ScAlN/AlGaIn/GaN ferroelectric HEMT	Semiconductor Science and Technology, Semiconductor Science Technology, IoP Publisher	vol. 39		2024
40	G. Bhargava, V. Vadala, S. Majumdar, and G. Crupi	Physics-Informed Neural Network Assisted Automated Design of Power Amplifier by User Defined Specifications	Int J Numer Model	Volume37, Issue3		2024
41	J. Borah, Md. Shahrul Md. Nadzir, M. Cayetano, S. Majumdar, H. Ghayvat, and G. Srivastava	AiCareAir: Hybrid-Ensemble Internet of Things Sensing Unit Model for Air Pollutant Control	IEEE Sensor Journal	vol. 24, no. 13	21558-21565	2024
42	G. Bhargava, S. Majumdar, F. Medjdoub	Importing experimental results via S2D model in ADS tool for Power Amplifier Design	IETE Journal of Research Taylor and Francis	vol. 70(8)	6932 – 6939	2024
43	M. Shahrul, et.al.	Utilizing a Low-Cost Air Quality Sensor: Assessing Air Pollutant Concentrations and Risks Using Low-Cost Sensors in Selangor, Malaysia	Water, Air, & Soil Pollution (Springer)			2024
44	D. Pyngrope, M. Biswas, Shiv, S. Majumdar, A. Bag	RF magnetron sputtering of Ga ₂ O ₃ thin films: Analysis of thermal annealing induced tuning of structural, optical characteristics, and energy band alignments	Materials Science in Semiconductor Processing (Elsevier)	Volume 174		2024
45	D. Pyngrope, S. Majumdar, G. Crupi	Fractional order capacitance behavior due to hysteresis effect of ferroelectric material on GaN HEMT devices	Int J Numer Model.			2024
46	J. Borah, S. Kumar, N. Kumar, M.S.M.Nadzir, M. G. Cayetano, H.	AiCareBreath: IoT Enabled Location Invariant Novel Unified	IEEE Internet of Things Journal	Vol. 11, no. 8	14625-14633	2024

	Ghayvat, S. Majumdar, and N. Kumar	Model for Predicting Air Pollutants to Avoid Related Respiratory Disease				
47	S. Gidon, J. Borah, S. Sahoo, S. Majumdar, M. Fujita	Bi-Directional LSTM Model for Accurate and Real-Time Landslide Detection: A Case Study in Mawiongirim, Meghalaya, India	IEEE Internet of Things Journal	vol. 11, no. 3	3792-3800	2024
48	M. Biswas, D. Pyngrope, Shiv, S. Majumdar, A. Bag	RF magnetron sputtering of Ga ₂ O ₃ thin films: Analysis of oxygen flow rate impact on stoichiometry, structural, optical characteristics, and energy band alignments	Materials Science in Semiconductor Processing (Elsevier)	Vol. 169		2024
49	A. Paul, G. Bhargava, and S. Majumdar	Impact of holes in an interdigital parallel folded coupled line-based wideband bandpass filter for X-band applications.	Microwave and Optical Technology Letters (Wiley)	Volume 66, Issue 1		2024
50	G. Bhargava, S. Majumdar, G. Gugliandolo, G. Campobello, N. Donato and G. Crupi,	Design and Validation of a Low-Cost Antenna-Based Solution for Microwave Imaging of RCC Structure	IEEE Sensors Letters (IEEE)	VOL. 7, NO. 4		2023
51	U.Rabuan, et. al	Evaluations of low cost Air Quality Sensors for Particulate Matters (PM 2.5) in Indoor and Outdoor conditions	Sensors and Materials Myu Scientific Publishing	Vol. 35, No. 8,	2881-2895	2023
52	G. Bhargava, V. Vadala, S. Majumdar, and G. Crupi.	Auto-encoder based hybrid machine learning model for microwave scaled GaAs pHEMT devices	International Journal of RF and Microwave Computer Aided Engineering (Wiley)	Vol. 32(11)		2022
53	N. Kattokola , S. Majumdar	A novel design of N-bit approximate comparator for image processing applications,	Circuit World (Emerald Publishers)	Vol. 50, no. 2/3	257-266	2024
54	C. Patel, et.al	DBGC: Dimension Based Generic Convolution Block for Object Recognition	Sensors (MDPI Publisher)	vol 22(5)		
55	N. Kattokola , A. Jawale , P. K. Nath , S. Majumdar	Efficient partial product reduction for image processing application using approximate 4:2 compressor	Circuit World (Emerald Publishers)	Vol. 50 no. 2/3	240-246	2024
56	Mohd Nadzir, et.al	Risk Assessment and Air Quality Study during Different Phases of COVID-19 Lockdown in an 13 (MDPI Publisher) Urban Area of Klang Valley, Malaysia	Sustainability	vol. 21		
57	H. Ghayvat, M. Awais, P. Gope, S. Pandya, S. Majumdar	Recognizing Suspect and Predicting the Spread of Contagion Based on Mobile Phone Location Data (COUNTERACT): A System of identifying COVID-19 infectious and hazardous sites, detecting disease outbreaks based on the internet of things, edge computing, and artificial intelligence	Sustainable Cities and Society (Elsevier)	vol. 69	102798	2021
58	S. Das, S. Dutta, D.	On the crack characterization of	Structures (Elsevier)	vol. 30	134-	2021

	Adak, S. Majumdar	reinforced concrete structures: Experimental and data-driven numerical study			135	
59	D. S. Saini, A. Ghosh, S. Tripathy, A. Kumar, S. K. Sharma, N. Kumar, S. Majumdar, D. Bhattacharya	A Promising Proton Conducting Electrolyte BaZr _{1-x} HoxO _{3-δ} (0.05 ≤ x ≤ 0.20) Ceramics for Intermediate Temperature Solid Oxide Fuel Cells	Scientific Reports (Nature Publishing Group)	vol. 10, no. 1	1-12	2020
60	S. Das, S. Dutta, C. Putcha, S. Majumdar, D. Adak	A data-driven physics informed method for prognosis of infrastructure systems: Theory and application to crack prediction	ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A : Civil Engineering (American Society of Civil Engineers (ASCE))	vol. 6, no. 2		2020
61	S. Moulik, and S. Majumdar	FallSense: An automatic fall detection and alarm generation system in IoT-enabled environment	IEEE Sensor Journal (IEEE)	Vol. 19, no. 19,		2019
62	A. Bag, S. Majumdar, S. Das, and D. Biswas	Probing InGaN immiscibility at algan/ingan heterointerface on silicon (111) through two-step capacitance-voltage and conductance-voltage profiles	Materials & Design (Elsevier)			2017
63	S. Majumdar and D. Biswas	Evaluating substrate's effect on RF switch performance via Verilog-A GaN HEMT model	Microelectronics Journal (Elsevier)	vol. 62	43-48	2017
64	S. Majumdar, A. Bag and D. Biswas	Comparative analysis of parameter extraction techniques for AlGaIn/GaN HEMT on silicon/sapphire substrate	Microelectronics Reliability (Elsevier)	vol. 78	389-395	2017
65	S. M. Dinara, S. Ghosh, S. K. Jana, S. Majumdar, D. Biswas, and S. Bhattacharya	Analysis of strain induced carrier confinement with varying passivation thickness of the Al _{0.3} Ga _{0.7} N/GaN heterostructure with graded Al _x Ga _{1-x} N buffer on Si (111) substrate	Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics : Materials, Processing, Measurement, and Phenomena (American Vacuum Society)	vol. 35, no. 5		2017
66	S. Das, S. Majumdar, R. Kumar, S. Ghosh, and D. Biswas	Thermodynamic analysis of acetone sensing in pd/algan/gan heterostructure schottky diodes at low temperatures	Scripta Materialia (Elsevier)	vol. 113	39-42	2016
67	A. K. Patra, S. Gautam, S. Majumdar, and P. Kumar	Prediction of particulate matter concentration profile in an opencast copper mine in india using an artificial neural network model	Air Quality, Atmosphere & Health (Springer)	vol. 9, no. 6	697-711	2016
68	A. Bag, P. Das, R. Kumar, P. Mukhopadhyay, S. Majumdar, S. Kabi, and D. Biswas	2deg modulation in double quantum well enhancement mode nitride HEMT	Physica E : Low-dimensional Systems and Nanostructures (Elsevier)	Vol. 74	59-64	2015
69	S. Majumdar, A. Bag, and D. Biswas	Implementation of VerilogA GaN HEMT model to design RF switch	Microwave and Optical Technology Letters (Wiley)	vol. 57, no. 7	1765-1768	2015
70	S. Majumdar and D. Biswas	Performance variability projection of InGaN/AlGaIn/GaN E-mode HEMT for RF switch	ECS Solid State Letters (Electrochemical Society - IoP Publication)	vol. 4, no. 10	P72-P74	2015

		application			
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13. Detail of patents.

S.No	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/Country	Status
1	A Low-Cost Design Twig : Enhance RF Power Generation	G. Bhargava, H.K. Dewangan, P. Saha, S. Majumdar	578397			Granted
2	HYDROPOD : LOW-COST, SCALABLE, AND CLOUD-ASSISTED HYDROPONICS SYSTEM	by D. Adak, P. Singh, S. Majumdar	(Application No. 2021102647)	June 2021	Australian Innovation Patent	Granted
3	Automatic Refilling Soil Tensiometer And Tip Rinsing Mechanism Through Fluid Whirls	Shubhankar Majumdar, Shyam Akashe, Aaditya Chaudhary, Ashish Verma	443413	2019	Indian Patent, (Application No. 201931005912)	Granted
4	An Implanted medical device	A. Malakar, M. Roy, A. Ganguly, N. Chatterjee, S. Majumdar, B. Neogi, P. Saha	Application No. 202431050042			Filled
5	Design of Multi Bit Decoder with Gate Diffusion Technique using Cadence Virtuoso Tool	A.C. Nawalagatti, H. Vishalakshi, M.H.S,Merolin, P.K. Saham N. Devi, Veeresh, S. Majumdar, V.M Tammineni, S.K. Suman	Application No. 202441102032			Filled

14. Books/Reports/Chapters/General articles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
1	Signals and Systems: An Introduction for Communication Engineering	Prabir Saha, Shubhankar Majumdar, Vishnu Murty Tammineni	Eliva Press, ISBN: 999934108X	
2	Sustainable 6G communication: Design of power amplifier for wireless power transfer applications	Gaurav Bhargava, and Shubhankar Majumdar	Chapter 18 - 6G Communication Network: Architecture, Security, and Applications," published by CRC Press, Taylor & Francis Group	Feb 2024
3	Pre-Distortion: An Effective Solution for Power Amplifier Linearization.	Gaurav Bhargava, and Shubhankar Majumdar	RF Circuits for 5G Applications : Desi- gn- ing with mmWave Circuitry :Wiley Press, Chapter- 12, pp.no. - 223-239.	2023
4	VLSI and Hardware Implementations using Modern Machine Learning Methods	K. Naresh and S. Majumdar	CRC Press, Chapter- 11, pp.no. - 197-234.	2021
5	A Vision-Based Data-Analytics Tool for Crack Characterization in Reinforced Concrete Structures Advances in Structural Mechanics and Applications: Proceedings of ASMA- 2021	S. Das, S. Dutta, D. Adak, S. Majumdar	Springer Press, Chapter- 16, pp.no. - 210–218.	2022
6	Data Intelligence and Cognitive Informatics	S. Vodnala, S. Majumdar, P. Nath,	Springer, Singapore Publication, Pages : 243-259 Year	2021
7	Emerging Trends in Electrical, Communications, and Information Technologies	Ananya Bhattacharya, Shubhankar Majumdar	Springer, Singapore Publication) Pages : 247-258	2020
8	Information and Communication Technology for Intelligent Systems	Muhammad Khalid, Shubhankar Majumdar, Mohammad Ja- waid Siddiqui	Springer, Singapore Publication Pages : 697-710	2019
9	FPGA Implementation of Low-Complexity Hybrid ML-Based DPD Model for Power Amplifier	S. Das, H. Kumari, A. H. Sarkar, P.Saha and S. Majumdar	33rd IEEE Computer Society Annual Symposium on VLSI (ISVLSI) 2026	2026
10	A Feedback Inverter Loop Assisted PMOS LDO with Improved Load Transients Accepted	V. K. Giri, V. K. Singh, V. P. Yadav, S. Nath, S. Majumdar, A. J. Mondal and A. Majumder	33rd IEEE Computer Society Annual Symposium on VLSI (ISVLSI) 2026	2026
11	A Model-Driven Approach to Variable-Frequency Clock Synthesis for PSN-Resilient IC Wake-Up	V. K. Singh, V. P. Yadav, V. Alimisis, P.P. Sotiriadis, S.Majumdar, A. Majumder	29th International Symposium on Design and Diagnostics of Electronic Circuits and Systems, Bratislava, Slovakia	2026
12	Analytical Modeling of Polarization- Coupled Gate Leakage Transport in ScAlN based Fe-HEMT	D. Pyngrope, T. Garg, A. Dasgupta and S. Majumdar	2026 10th IEEE Electron Devices Technology & Manufacturing Conference (EDTM), Penang, Malaysia, 2026,	2026
13	Simulation Study of Ohmic Contact Enhancement on Sn-doped β -Ga ₂ O ₃ Using Al-Doped ZnO(AZO) Interlayers	Mandira Biswas, Sonu Srikant, and Shubhankar Majumdar	MNDCS-2026	2026
14	A High-Efficiency Diplexer-Based Compact and Wideband	H. Kumari, A. Paul, S. Majumdar	6th International Conference on Electric Power and Renewable	2026

	Power Amplifier for 5G/6G Front-Ends		Energy (EPREC-2026)	
15	Reconfigurable Triple-Path Matching Network for Wide-Band and High-Efficiency Power Amplifier	H.Kumari, A. Paul, S. Majumdar	2025 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Kochi, India, 2025	2025
16	A Novel Silicon-Duroid Microwave Sensor for Classification of Volatile Organic Compounds	A.Paul, M. Biswas, H. Kumari, S. Majumdar	2025 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Kochi, India, 2025	2025
17	Microwave Testing of n-Ga2O3/p-Si Diodes via RF Sputtering for High-Frequency Applications	M. Biswas, A.Paul, H. Kumari, S.Majumdar	2025 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Kochi, India, 2025	2025
18	Design of High-Throughput MMIC Parallel-Combined Power Amplifier for 5G Applications	I. Karmakar, A.Chauhan, K. Singh, S. Majumdar, P. Kundu	2025 IEEE Micro-waves, Antennas, and Propagation Conference (MAPCON), Kochi, India, 2025	2025
19	A Testbed on Xilinx RF-SoC for Data-Driven RF Power Amplifier AI/ML-Model Development	H. Weerasooriya, K. S. Karunanayake , B. Gayanath, A. Madanayake, S. Majumdar	2025 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Kochi, India, 2025	2025
20	A Case for Agentic Transceivers in Physical AI-RF Circuits and Systems	A. Madanayake, K. S. Karunanayake, R. Hacker, C.U. S. Edussooriya, S. Majumdar,L. Belostotski, R. Rodrigo	2025 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Kochi, India, 2025.	2025
21	Enhancing Image Processing Applications with Rounding in Recursive Approximate Multipliers	V. Tammineni, S.Majumdar, P. Saha, S.K. Beura, M. V. H. B. Murthy	13th International Conference on Computing, Communication and Sensor Network. CCSN2024 (Best Paper Award)	2024
22	Data-Driven BiLSTM Prediction Model for Dual-Band RF Power Amplifier	H.Kumari, A. Paul, J. Borah, S. Majumdar	2024 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Hyderabad, India, 2024	2024
23	Assessment of Binder Aggregate Behavior of Bituminous Mixes Using Log-Periodic Feedlines Based Microstrip Filter	A. Paul, R. Snaitang, P.K.Gautam, S. Majumdar,	2024 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Hyderabad, India, 2024	2024
24	Digital Predistortion Behavioral Modeling of Power Amplifiers : A Neural Network-Based Approach to Nonlinearity Compensation	H. Kumari, A. Paul and S. Majumdar	2024 IEEE International Conference of Electron Devices Society Kolkata Chapter (EDKCON), Kolkata, India, 2024	2024
25	Advanced Design Strategies for Ultra wideband Power Amplifiers Utilizing Multi-Branch Matching Networks	H. K. Dewangan, G. Bhargava, S. Majumdar	IEEE SPACE 2024	2024
26	Data-Driven Ensemble Prediction Models for Design of Microwave Filter for Sensing Applications,	A. Paul, H. Kumari, J. Borah and S. Majumdar	2024 IEEE 21st India Council International Conference (INDICON), Kharagpur, India, 2024	2024
27	Data-Driven Model-Based Design Approach for Class EFJ Power Amplifier With Analog Predistortion Circuit	H. K. Dewangan, G. Bhargava, J. Borah, S. Majumdar	IEEE MAPCON 2023	2023
28	Radar Communication via	S. Warjri, A. Surong, S.	2023 5th International Conference on	2023

	Asymmetric and Wideband Chaotic Signal	Majumdar, M. M. Langstieh, M. Marbaniang and P. P.Singh	Energy, Power and Environment : Towards Flexible Green Energy Technologies (ICEPE), Shillong, India, 2023	
29	GaN-based Class-F Power Amplifier for 5G Applications	Gaurav Bhargava, Pinak Kumar Rath, and Shubhankar Majumdar	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	2022
30	Design of 8-bit Dadda Multiplier using Gate Level Approximate 4 :2 Compressor	K. Naresh, Y. P. Sai and S. Majumdar	2022 35th International Conference on VLSI Design and 2022 21st International Conference on Embedded Systems (VLSID), 2022	2022
31	Assessment of Filter Design for 5G Applications	G. Bhargava and S. Majumdar	IEEE VLSI Device Circuit and System (VLSI DCS), 2022	2022
32	Design of Novel Rat-Race Coupler Based Analog Pre-Distortion Circuit for 5G Applications	G. Bhargav and S. Majumdar	International Conference for Advancement in Technology (ICONAT) during 21st - 22nd January 2022	2022
33	Efficient Design of Artificial Neural Networks using Approximate Compressors and Multipliers presented	K.Naresh, P. Sai, Rohith, S. Majumdar	7th IEEE Symposium on Smart Electronic Systems (iSES 2021), 18-19 December 2021	2021
34	Highly Linearized GaN HEMT Based Class E/F3 Power Amplifier	G. Bhargav and S. Majumdar	IEEE Devices for Integrated Circuit (DevIC) 2021, 19-20 May 2021	2021
35	Temperature dependent gas sensor model for Schottky diode based on InAlN/GaN heterostructure	B. Roy, S. Majumdar and S. Das	AIP Conference Proceedings 2352, 020051 (2021)	2021
36	Real-Time Threshold-based Landslide Prediction System for Hilly Region using Wireless Sensor Networks	K. Das, S. Majumdar, S. Moulik, M. Fujita	IEEE International Conference on Consumer Electronics - Taiwan (ICCE-TW) 2020, 28 -30 Sept 2020	2020
37	Water Leakage Detection in Hilly Region PVC Pipes using Wireless Sensors and Machine Learning	S. Moulik, S. Majumdar, V. Pal, Yogita	IEEE International Conference on Consumer Electronics - Taiwan (ICCE-TW) 2020, 28 -30 Sept 2020	2020
38	Design of Telescopic OTA based 6th order Butterworth Low Pass Filter using 0.18 nm CMOS Technology	G. Bhargav, S. Majumdar	IEEE VLSI -DCS, 18- 19 July, Kolkata	2020
39	Back Gate Tunable Thin Film α -Si Nanowire BioFET for pH Detection by Compatible CMOS Fabrication Process	N. Shafi, J. S.Parmaar, A. Porwal, A. M. Bhat, C. Sahu, C. Periasamy, S. Majumdar,	IEEE Electron Device Technology and Manufacturing 11 (EDTM) Conference, Penang, Malaysia, March 15-18, 2020	2020
40	Development of Approximate Compressor Based Hybrid Dadda Multiplier for Image De-noising Applications	J.A. Arjun, S. Majumdar	16th IEEE India Council International Conference (INDICON), (2019)	2019
41	RF parameter extraction and S-parameter analysis of junctionless silicon nanowire transistor	Kavita, C. Sahu, S. Majumdar	IEEE IESC, pp. 7-12, (2019)	2019
42	Acetone Adsorption Characteristics of Pd/AlGaIn/GaN Heterostructure Grown by PAMBE : A Kinetic Interpretation at Low Temperature	S. Das ; S. Majumdar ; S. Ghosh ; et al.	EEE SENSORS Conference, Pages : 1-4, 28-31 (2018)	2018
43	Non-Invasive Piezoelectric Sensor for Detection of Lung	D. Bhattacharya ; P. K. Rathore ; S. Majumdar	3rd International Conference on Communication and Electronics	2018

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44	Fabrication of E-mode InGaN/AlGaIn/GaN HEMT using FIB based Lithography	S.Majumdar, C. Sahu, D.Biswas	Electron Devices Technology and Manufacturing Conference EDTM 2017 at Toyama, Japan (2017)	2017
45	Artificial neural network modelling of ADS designed Double Pole Double Throw switch	S.Majumdar, M.Zuhair, D.Biswas	18th International Symposium on VLSI Design and Test (2014)	2014
46	Barrier layer engineering : Performance evaluation of E-mode InGaN/AlGaIn/GaN HEMT	S. Majumdar, S. Das, D. Biswas	4th National Conference on Advanced Materials and Radiation Physics, Longowal, India, (2015)	2015
47	Simplified gas sensor model based on AlGaIn/GaN heterostructure Schottky diode	S. Das, S. Majumdar, R. Kumar, A. Chakraborty, A. Bag, D. Biswas	4th National Conference on Advanced Materials and Radiation Physics, Longowal, India, (2015)	2015
48	Cap layer Engineering : Performance Evaluation of E-Mode InGaN/AlGaIn/GaN HEMT	S. Majumdar, P. Das, D. Biswas	1st National Conference on Device and Circuits, NIST Behrampur, (2015)	2015
49	Hardwired BIST Architecture of SRAM	S. Majumdar, P. Bansod	11th Indicon (2014)	2014
50	Comprehensive modeling of gas sensor based on Si ₃ N ₄ passivated AlGaIn/GaN Schottky diode	S.Das, S.Majumdar, R. Kumar, M. K. Mahata, S. M. Dinara, D. Biswas	ICEE, (2014)	2014
51	Designing of Control Logic Circuit for SRAM Memory Cell	S. Majumdar, D.Malviya, M. Mishra , P.P. Bansod	International Conference on Information, Communication and Embedded System vol-1, pp. 375-381 (2012)	2012
52	Design of SRAM Cell In 0.18 mm Technology	M. Mishra, S. Majumdar, D. Malviya, P.P. Bansod	International Conference on Information, Communication and Embedded System vol-1, pp. 457-463 (2012)	2012
53	Comparative Study on Implementation of Various Decoder Architecture	D. Malviya, S. Majumdar, M. Mishra and P.P. Bansod	International Conference on Information, Communication and Embedded System vol. 2, pp. 68-74 (2012)	2012
54	Utilization of Support Vector Machine in determining the optimum operating temperature of ternary III-Arsenide alloys grown by MBE	S. Majumdar, R. Kumar, S.Das, M. Mahata, D. Biswas	European Material Research Society Fall Meeting, Warsaw, Poland, 2015.	2015
55	Acetone sensing in AlGaIn/GaN heterostructure on Si (111) : A Schottky diode sensor	S.Das, R.Kumar ,S. Majumdar, M.Mahata, S.Ghosh, D.Biswas	European Material Research Society Fall Meeting, Warsaw, Poland, 2015	2015
56	Temperature dependent etching of Gallium Nitride layers grown by PA – MBE	S. Majumdar, S. Shaik, S. Das, R. Kumar, A. Bag, A. Chakraborty, M. Mahata S. Ghosh, D. Biswas	International Conference on Microwave and Photonics (ICMAP-2015) at ISM Dhanbad	2015
57	Determination of Polarity and Defect Density via Molten KOH Etching of MBE Grown AlN Layer	S. Majumdar, S. Sheikh, S. Ghosh, D. Biswas	International Workshop on the Physics of Semiconductor Devices (IWPSD) at IISc Bangalore,2015)	2015
58	Trapping Characteristics Comparison between AlGaIn/InGaIn/GaN and AlGaIn/GaN Heterostructure by Conductance Measurement	A.Chakraborty, P. Mukhopadhyay, S. Ghosh, S. Dinara, A. Bag, M. K Mahata, R. Kumar, S. Das, S.	International Workshop on the Physics of Semiconductor Devices (IWPSD) at IISc Bangalore, 22 (2015)	2015

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59	Electrical Degradation Mechanism of GaN High Electron Mobility Transistors on Silicon and Sapphire under OFF-state Stress	S. Ghosh, S. Das, P. Mukhopadhyay, A. Bag, S. Majumdar, Dhrubes Biswas	MRS Fall Meeting 2015, Boston, Massachusetts RR (2015)	2015
60	Role of Bulk Traps on Intermodulation Distortion of AlGaIn/GaN HEMT	A. Bag, P. Mukhopadhyay, S. Majumdar, D. Biswas	MRS Fall Meeting 2015, Boston, Massachusetts RR (2015)	2015
61	Trapping Effect Analysis of AlGaIn/InGaIn/GaN Heterostructure by Conductance-Frequency Measurement y	A. Chakraborty, S. Ghosh, P. Mukhopadhyay, S. M. Dinara, A. Bag, M.K. Mahata, R. Kumar, S. Das, S. K. Jana, S. Majumdar, D. Biswas	MRS Fall Meeting 2015, Boston, Massachusetts RR (2015)	2015
62	Slotted CSMA/CA Simulation in Verilog	A. Chakradhari, S. Tamrakar, R. Basant, M. Vaidya, S. Majumdar, A. Naugarhiya, B. Acharya, S. Majumder and S. Verma	International Workshop on Internet of Things and TV White Spaces (WIOT 2017)	2017
63	Remote Temperature & Humidity sensing through ASK Modulation Technique	J. Rusia, S. Majumdar, A. Naugarhiya, B. Acharya, S. Majumder, S. Verma	International Conference on ICTBIG 2016 at Indore	2016
64	RF Based Wireless Data Transmission between Two FPGAs	J. Rusia, S. Majumdar, A. Naugarhiya, B. Acharya, S. Majumder, S. Verma	International Conference on ICT in Business Industry Government (ICTBIG 2016) at Indore	2016
65	Design and Simulation of Physical Layer Blocks of ZigBee Transmitter	A. Chaudhary, J. Rusia, K. Gourav, P. Tripathi, J. Pandey, S. Majumdar, A. Naugarhiya, B. Acharya, S. Majumder, S. Verma,	International conference on IoT in Social, Mobile, Analytics and Cloud (I-SMAC), 2017	2017
66	VERILOG based simulation of ASK, FSK, PSK, QPSK digital modulation techniques	A. Sharma, S. Majumdar, A. Naugarhiya, B. Acharya, S. Majumder, S. Verma	International conference on IoT in Social, Mobile, Analytics and Cloud (I-SMAC), 2017	2017

15. Any other Information (maximum 500 words)