

Yericharla Mary Asha Latha

PERSONAL INFORMATION



Assistant Professor
Department of Electronics Engineering,
Indian Institute of Technology (Indian School of Mines) Dhanbad,
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AREAS OF RESEARCH

RF Power Amplifier Design: Broadband, High Efficiency, Switched mode PAs, Harmonic Manipulation, Harmonic Injection, Load Modulation, Doherty PAs

Chip Design: GaN MMIC based RF Power Amplifier Design

WORK EXPERIENCE

Aug.2025 – Till Date: **Assistant Professor Grade I**, Department of Electronics Engineering, IIT (ISM) Dhanbad, India.

Oct.2024 – Aug.2025: **Assistant Professor Grade II**, Department of Electronics Engineering, IIT (ISM) Dhanbad, India.

Aug.2023 – Aug.2024: **Postdoctoral Research Associate**, Department of Electronic & Electrical Engineering, The University of Sheffield, United Kingdom.

Nov.2021 – Mar.2023: **Postdoctoral Researcher**, Instituto de Telecomunicações, University of Aveiro, Aveiro, Portugal.

EDUCATIONAL DETAILS

Dec.2015 - Jul.2021: **Doctor of Philosophy (Ph.D.)** in Electronics and Communication Engineering, Indian Institute of Technology (IIT), Roorkee, Uttarakhand.

Thesis Title: "Waveform Engineering Inspired Power Amplifiers for Wideband Applications"

Thesis Defended: 20 July 2021

Advisor: Prof. Karun Rawat

Jul.2013 - Aug.2015: **Master of Technology (M.Tech.)** in VLSI Design Automation and Techniques, Dept. of ECE, NIT Hamirpur, Himachal Pradesh.

Dissertation Title: "An Improved Comb Structured Battery-less Intraocular Pressure Sensor for Glaucoma Diagnosis"

CGPA: 9.18/10 (Gold Medal)

Advisor: Prof. Gargi Khanna

Oct.2008- May.2012: **Bachelor of Technology (B.Tech.)** in Electronics and Communication Engineering, Jawaharlal Nehru Technological University, Kakinada, Andhra Pradesh, India.

Percentage: 80.11% (First Class with Distinction)

PRODUCTS COMMERCIALIZED

1. Developed an ultra-wideband 0.55-3.5 GHz Extended Continuous Class B/J PA, now sold as "LAMP-PAMOCBJ-10W" by *Linearized Amplifier Technologies and Services Private Limited*.
Link: <https://linear-amptech.com/products/rf-power-amplifiers>
2. Developed an ultra-wideband 0.49-2.9 GHz Extended Continuous Class E PA, now sold as "LAMP-PAMOCCE-10W" by *Linearized Amplifier Technologies and Services Private Limited*.
Link: <https://linear-amptech.com/products/rf-amplifier/lamp-PAMOCCE>

BOOK CHAPTERS

1. **Y. M. Asha Latha**, "RF Power Amplifier Circuits for Wireless Communications," In book: Advanced Wireless Communication Technologies, Taylor & Francis, CRC Press, 2025. (Accepted)

PATENTS & PUBLICATIONS

TRANSFER OF PATENT

1. K. Rawat, **Y. M. Asha Latha**, "Multi-octave Modes for Switching Power Amplifiers," Patent No. 509990 (Granted), transferred to *Linearized Amplifier Technologies and Services Private Limited*. on 19/02/2024.
Link: <https://ipr.iitr.ac.in/technologies-basket/>

PATENT

1. K. Rawat, **Y. M. Asha Latha**, "Multi-octave Modes for Switching Power Amplifiers," Indian Patent No. 509990, Feb. 2024 (Granted).

REFEREED JOURNALS

6. **Y. M. Asha Latha**, L. C. Nunes, F. M. Barradas and J. C. Pedro, "Theory and Design of Doherty Power Amplifier with Active Harmonic Injection" in *IEEE Access*, vol. 12, pp. 41631-41642, Mar. 2024. DOI: 10.1109/ACCESS.2024.3377901.

Link: <https://ieeexplore.ieee.org/document/10473060>

5. **Y. M. Asha Latha**, and K. Rawat, "Continuous Class F⁻¹ Ku Band GaN MMIC Power Amplifier with an Effect of Nonlinear Output Capacitance" in *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 70, no. 10, pp. 3887-3891, Oct. 2023. DOI: 10.1109/TCSII.2023.3289841. Link: <https://ieeexplore.ieee.org/document/10164628>
4. **Y. M. Asha Latha**, and K. Rawat, "Extending the Design Space of Class E Mode to Design a Multi-Octave Power Amplifier" in *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 69, no. 12, pp. 4829-4833, Dec. 2022. DOI: 10.1109/TCSII. 2022.3195730. Link: <https://ieeexplore.ieee.org/document/9847373>
3. **Y. M. Asha Latha**, and K. Rawat, "Design of Ultra-Wideband Power Amplifier Based on Extended Resistive Continuous Class B/J Mode," in *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 69, no. 2, pp. 419-423, Feb. 2022. DOI: 10.1109/TCSII.2021.3095379. Link: <https://ieeexplore.ieee.org/document/9475979>
2. **Y. M. Asha Latha**, K. Rawat and P. Roblin, "Nonlinear Embedding Model-Based Continuous Class E/F Power Amplifier," in *IEEE Microwave and Wireless Components Letters*, vol. 29, no. 11, pp. 714-717, Nov. 2019. DOI: 10.1109/LMWC.2019.2941919 Link: <https://ieeexplore.ieee.org/abstract/document/8855081>
1. **Y. M. Asha Latha**, K. Rawat, M. Helaoui and F. M. Ghannouchi, "Broadband continuous mode power amplifier with on-board harmonic injection," in *IET Microwaves, Antennas & Propagation*, vol. 13, no. 9, pp. 1402-1407, July 2019. DOI: 10.1049/iet-map.2018.5885 Link: <https://digital-library.theiet.org/content/journals/10.1049/iet-map.2018.5885>

CONFERENCES

15. B. Sharath Naik, A. Ranjan, **Y. M. Asha Latha**, "Design of RF Matching Networks Using Retrieval-Augmented Deep Learning for Power Amplifiers," 2025 IEEE India Council International Conference (**INDICON 2025**), Bangalore, India, Dec. 18-20, 2025. Link: <https://ieeexplore.ieee.org/abstract/document/11392842>
14. **Y. M. Asha Latha**, "An X Band GaN MMIC Power Amplifier Harnessing the Effect of Nonlinear Output Capacitance in CCE Mode," 2025 IEEE International Conference on Microelectronics (**ICM 2025**), Cairo, Egypt, Dec. 14-17, 2025. Link: <https://ieeexplore.ieee.org/document/11322508>
13. **Y. M. Asha Latha**, "The Effect of Nonlinear Output Capacitance of GaN HEMTs in Continuous Mode Power Amplifiers," 2025 IEEE National Conference on Communications (**ICEE 2025**), Bangalore, India, Dec. 13-16, 2025.
12. S. Verma, **Y. M. Asha Latha**, J. Mukherjee, "Generalized Class-X Power Amplifier Operating under Inverse Class-E Harmonic Constraints," 2025 IEEE International Conference on Modelling, Simulation, and Intelligent Computing (**MoSICom 2025**), Dubai, UAE, Dec. 10-12, 2025.

Link: <https://ieeexplore.ieee.org/abstract/document/11398322>

11. **Y. M. Asha Latha**, "Continuous Class E Power Amplifier Mode in the Presence of Nonlinear Output Capacitance," 2025 IEEE National Conference on Communications (NCC 2025), New Delhi, India, Mar. 6-9, 2025.
Link: <https://ieeexplore.ieee.org/document/10983337>
10. A. Moores, **Y. M. Asha Latha**, and M. M. De Souza, "Model Extraction of GaN HEMT for Design of a High-Performance Class B_{JF}⁻¹ Power Amplifier," Fourth IEEE UK&I YP Postgrad STEM Research Symposium, Newcastle, United Kingdom, Nov 18, 2023.
9. **Y. M. Asha Latha**, and K. Rawat, "Methodology to Design a CCF⁻¹ Ku Band GaN MMIC PA with Nonlinear Output Capacitance," 2023 IEEE MTT-S and AP-S Microwave, Antennas, and Propagation Conference (MAPCON 2023), Ahmedabad, India, Dec 10-14, 2023. Link: <https://ieeexplore.ieee.org/document/10463868>
8. **Y. M. Asha Latha**, and K. Rawat, "Continuous Class F⁻¹ Ku Band GaN MMIC Power Amplifier with an Effect of Nonlinear Output Capacitance," 2023 IEEE International Symposium on Integrated Circuits and Systems (ISICAS 2023), Jeju, Korea, Oct 24-25, 2023. DOI: 10.1109/TCSII.2023.3289841.
Link: <https://ieeexplore.ieee.org/document/10164628>
7. **Y. M. Asha Latha**, L. C. Nunes, F. M. Barradas and J. C. Pedro, "The Role of Nonlinear C_{out} in Continuous Class F PAs," 2023 IEEE MTT-S International Microwave Symposium (IMS 2023), San Deigo, California, United States, Jun 11-14, 2023. DOI: 10.1109/IMS37964.2023.10188019. **(Early Career Paper Competition Finalist)**
Link: <https://ieeexplore.ieee.org/document/10188019>
6. **Y. M. Asha Latha**, M. Shariatifar and K. Rawat, "Performance Estimation of Continuous Class F⁻¹ PA with Non-Ideal Harmonic Terminations," 2022 IEEE MTT-S and AP-S Microwave, Antennas, and Propagation Conference (MAPCON 2022), Bangalore, India, Dec 12-16, 2022, DOI: 10.1109/MAPCON56011.2022.10047381.
Link: <https://ieeexplore.ieee.org/abstract/document/10047381>
5. **Y. M. Asha Latha** and K. Rawat, "Methodology to Design Multi-Octave Power Amplifier Using Extended Class B to Class J Continuous Mode," 2021 IEEE MTT-S International Microwave and RF Conference (IMARC 2021), Kanpur, India, 2021, pp. 1-4. DOI: 10.1109/IMaRC49196.2021.9714641.
Link: <https://ieeexplore.ieee.org/document/9714641>
4. **Y. M. Asha Latha** and K. Rawat, "Methodology to Realize Wideband High Efficiency Power Amplifier Using Active Harmonic Injection," 2019 IEEE MTT-S International Microwave and RF Conference (IMARC 2019), Mumbai, India, 2019, pp. 1-4. DOI: 10.1109/IMaRC45935.2019.9118719 **(Received Best student paper award second prize)**. Link: <https://ieeexplore.ieee.org/abstract/document/9118719>

3. **Y. M. Asha Latha** and G. Khanna, "Design and Simulative Analysis of a Batteryless Teflon Coated Capacitive Pressure Sensor for Glaucoma Diagnosis," IEEE 19th International Conference on VLSI Design and Test (**VDAT 2015**), Jun 26-29, 2015. DOI: 10.1109/ISV DAT.2015.7208118
Link: <https://ieeexplore.ieee.org/abstract/document/7208118>
2. **Y. M. Asha Latha** and G. Khanna, "A Diaphragm Capacitive Sensor with Improved Sensitivity for Intraocular Pressure Measurement," *International Conference on Science, Management, Engineering and Technology (ICSMET 2015)*, Dubai, pp. 12-16, Mar 18-19, 2015. **(Received Best paper award)**
1. **Y. M. Asha Latha**, G. Khanna and N. Dhingra, "Bio MEMS Diagnostic Sensors for Glaucoma Disease in Eye," *2014 NIT-MTMI International Conference on Emerging Paradigms and Practices in Global Technology, Management & Business Issues*, NIT Hamirpur, pp. 93-98, Dec 22-24, 2014.

INVITED TALKS

2. Delivered a guest lecture on **"RF Power Amplifiers for 5G/6G Technologies"** at the School of Electronics Engineering (SENSE), *VIT-AP University* on 19 December 2025.
1. Delivered an invited talk titled **"The Effect of Nonlinear Output Capacitance of GaN HEMTs in Continuous Mode Power Amplifiers"** at the *7th IEEE International Conference on Emerging Electronics (ICEE 2025)*, held in Bengaluru from 13–16 December 2025.

AWARDS AND RECOGNITION

1. Awarded **"Gold Medal"** from National Institute of Technology, Hamirpur for academic excellence in M. Tech.
2. Awarded **"Best Student Paper (1st runner-up)"** in IEEE MTT-S IMaRC 2019.
3. Recipient of **"Visvesvaraya Ph.D. Fellowship"** from Ministry of Electronics and Information Technology (MietY), Government of India.
4. Finalist in **"Early Career Paper Competition"** in IEEE MTT-S IMS 2023.

PROJECTS

S. No	Project No	Title	Role	Duration	Cost	Funding Agency	Status
1.	MISC 0123	Special Grant to Establish Advanced Lab	PI	1 year	30 Lakhs	IIT(ISM) Dhanbad	Ongoing

2.	FRS MISC 0124	Design and Development of a Doherty Power Amplifier with Active Harmonic Injection to Improve Linearity for 5G/6G Communication Systems	PI	2 years	20 Lakhs	IIT(ISM) Dhanbad	Ongoing
3	ANRF/ ECRG/ 2024/ 004304/ ENS	Harnessing the Harmonics in Sequential Load Modulated Balanced Amplifiers for Efficiency and Linearity Enhancement for 5G/6G Applications	PI	3 years	69.23 Lakhs	ANRF PM-ECRG	Approved

PH.Ds SUPERVISED

S. No	Title of Project	Name of Student	Registration Year	Status
1.	Design of a Doherty Power Amplifier with Active Harmonic Injection to Improve Linearity for 5G/6G Communication Systems	Wanchi Dora M. Sangma	2025	Ongoing

PROJECTS AND THESIS SUPERVISED

S. No	Title of Project	Name of Student	Course	Status
1.	Deep Learning Enabled RF Power Amplifier Design	Bhukya Sharath Naik	M.Tech.	Ongoing
2.	Deep Learning Based Design of RF Matching Networks	Anurag Ranjan	B.Tech.	Completed

COURSES TAUGHT

- B.Tech Courses**

- *NECC202* *Signals and Networks*
- *NECC204* *Signals and Networks Lab*

- M.Tech Courses**

- *NECC510* *Microwave Transmission Lines and Matching Networks*
- *NECC535* *Microwave Circuits and Networks*
- *NECC538* *RF Circuits and Networks Simulation Lab*

PROFESSIONAL AFFILIATIONS

- IEEE Member (94143106)
- Member IEEE MTT society, IEEE CAS society, IEEE Young Professionals

PROFESSIONAL ACTIVITIES

- **Reviewer** of
 - *IEEE Transactions on Microwave Theory and Techniques*
 - *IEEE Transactions on Circuits and Systems I: Regular Papers*
 - *IEEE Transactions on Circuits and Systems II: Express Briefs*
 - *IEEE Microwave Wireless Technology Letters*
 - *IEEE Access*
 - *IET Circuits, Devices and Systems*
 - *Defence Science Journal*
 - *Elsevier Journal of Computers & Electrical Engineering*
 - *IEEE Conferences*

**Date:** 13 March 2026**Yericharla Mary Asha Latha**