

Pulimi Mahesh

Assistant Professor

Adress: Avadi, Chennai, 600079

Ph: 7799408821

Email: maheshkumarpulimi@gmail.com

Objective

Dedicated and knowledgeable academic professional with a passion for teaching and a commitment to fostering student learning. Seeking the position of Assistant Professor to contribute my expertise in electronics and photonics to an esteemed institution, facilitating student growth and advancing research in the field.

Teaching Experience

Assistant Professor

Department of Electronics and communication engineering

PBR Visvodaya institute of technology and science, Kavali, Andhrapradesh

December 2016- December 2020-(4 years)

Subjects taught:

1. Digital communication systems
2. Analog communication systems
3. Digital system design
4. Digital image processing
5. Electronic measurements and Instrumentation
6. Radar systems

Education

Doctor of Philosophy (Ph.D.) in photonics (Synopsis completed)

SRM institute of science and technology, Chennai, Tamil nadu

Thesis title: "Investigation on the design of terahertz absorbers using Graphene-embedded photonic crystals"

Master of Technology (M.Tech.) in Digital systems and computer electronics

PBR Visvodaya institute of technology and science, Kavali, Andhrapradesh

December, 2016

Grade: 73% (Distinction)

Bachelor of Technology (B.Tech.) in Electronics and communication engineering
Visvodaya engineering college, Kavali, Andhrapradesh
April, 2014
Grade: 77% (Distinction)

Research Interests

- Photonics, 2-D materials, Machine learning for photonics, Terahertz devices, and sensing.

Publications

➤ **SCI Journals: 08**

1. P. Mahesh and C. Nayak, "Multimode absorption in single-layer graphene: Disordered photonics and magneto-optic effect," **Optical Materials**, vol. 126, no. February, p. 112172, 2022, doi: 10.1016/j.optmat.2022.112172. **IF :3.9(SCI)**
2. P. Mahesh, D. Panigrahy, A. Rashidi, and C. Nayak, "A complete numerical analysis of the impact of disorder and defect cavities on achieving complete optical absorption in monolayer graphene with supporting random structures," **Optical and Quantum Electronics**, vol. 55, no. 2, p. 110, 2022, doi: 10.1007/s11082-022-04289-0. **IF :3 (SCI)**
3. P. Mahesh, D. Panigrahy, and C. Nayak, "A comprehensive study of tunable properties of broadband terahertz absorber based on graphene-embedded random photonic crystals," **Physica B: Condensed Matter**, vol. 650, p. 414581, 2023, doi: <https://doi.org/10.1016/j.physb.2022.414581>. **IF :2.8 (SCI)**
4. P. Mahesh, C. Nayak, and D. Panigrahy, "Impact of truncation on absorption spectra in a graphene-based random photonic crystal," **Emerging Materials Research**, vol. 12, no. 2, pp. 154–162, 2023, doi: 10.1680/jemmr.22.00087. **IF: 2.2 (SCI)**
5. P. Mahesh, D. Panigrahy, and C. Nayak, "Super-broadband terahertz absorber: an optimized and magnetized graphene-embedded 1D disordered photonic system," **Journal of Optical Society of America B**, vol. 40, no. 8, pp. 2153–2161, Aug. 2023, doi: 10.1364/JOSAB.493019. **IF: 1.9 (SCI)**

6. Mahesh, Pulimi, Damodar Panigrahy, Chittaranjan Nayak, Amit Kumar Goyal, and Yehia Massoud. "Enhancement of graphene absorption: a numerical formula to design a suitable Fabry-Perot cavity in a terahertz spectral window." **Optics Continuum** 2, no. 11 (2023): 2363-2373. **IF: 1.6 (ESCI)**
7. Mahesh, Pulimi, Damodar Panigrahy, and Chittaranjan Nayak. "Completely switchable multi-mode narrowband terahertz absorber: Monolayer graphene, coupled topological interface states, and Rabi splitting." **Journal of Applied Physics** 134, no. 16 (2023). **IF: 3.2 (SCI)**.
8. Mahesh, Pulimi, Damodar Panigrahy, and Chittaranjan Nayak. "Single-layer graphene-based electrically-magnetically tunable multi-mode and broadband terahertz absorber: A comprehensive study." **Optical Materials** 149 (2024): 115045. **IF: 3.9 (SCI)**
9. Investigation on the various forms of defects for achieving multi-mode narrowband absorption in a graphene-based fabry-perot structures. **(Manuscript Preparation)**

➤ **International Conferences: 02**

1. P. Mahesh, D. Panigrahy, and C. Nayak, "An enhancement of absorption in monolayer graphene-based random photonic crystal by using a differential evolution optimization algorithm," in 2022 **IEEE North Karnataka Subsection Flagship International Conference (NKCon)**, 2022, pp. 1–5. doi: 10.1109/NKCon56289.2022.10126622.
2. P. Mahesh, D. Panigrahy, and C. Nayak, "A Broadband Absorption of Graphene-Based Random-Layered Photonic Crystals for Terahertz Applications," in **2022 IEEE 2nd International Conference on Mobile Networks and Wireless Communications (ICMNWC)**, 2022, pp. 1-4. doi:10.1109/ICMNWC56175.2022.10031711.

Professional Activities

- Worked as a reviewer for the international conference "NEleX-2023", organized by the School of Electronics Engineering, Vellore Institute of Technology, Vellore.

Skills

- Strong knowledge in Photonics, Electronics, and Communication systems
- Good experience in design of terahertz absorbers using photonic structures
- Proficiency in Python, pandas, tensorflow, keras, matplotlib, Matlab
- Student mentoring and advisement
- Proficiency in research article writing using Latex
- Research design, data analysis, and publication
- Effective communication and interpersonal skills

References

Available upon request.