Faculty Profile

Dr. A. Elakkiya M.E., Ph.D

HIGHLIGHTS:

- Number of Journal Publications: 15
- H-Index: 5
- Project Funding Received:
- Patents Published:
- Patents Granted:

PROFESSIONAL LINKS:

- Scopus ID: 57825784200
- Scopus Link:
- Google Scholar ID:
- Anna University Faculty ID: 290396
- AICTE Faculty ID: 1-7966993553
- Anna University Supervisor ID:
- LinkedIn:

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 4
- Industrial Experience: NIL

INTERNATIONAL EXPOSURE: -

AREA OF SPECIALIZATION:

- ✓ Terahertz
- ✓ Laser Micromachining
- ✓ Metamaterial Absorbers
- ✓ Electromagnetics

Ph.Ds AWARDED WITH DETAILS:

S:No	Name of Scholar	Title of Thesis	Year of Completion	Full Time/Part Time
1.	ELAKKIAY A	Design, Fabrication and Characterization of Metamaterial absorber for Terahertz Applications	2022	Full Time

Ph.Ds GUIDING:

- **Full Time Scholars:**
- **Part Time Scholars :**

SPONSORED RESEARCH / FUNDING APPLIED / CONSULTANCY:

PATENTS PUBLISHED/GRANTED:

COURSES CERTIFIED:

1. Completed the Cloud Computing course from NPTEL-AICTE.
2. Completed the Accreditation and Outcome Based Learning course from NPTEL-AICTE.
3. Karthigeyan, K.A., **Elakkiya, A.,** Manikandan, E., Indhu, R. (2022). Micromachined Terahertz Metamaterials. In: Das, S., Nella, A., Patel, S.K. (eds) Terahertz Devices, Circuitsand Systems. Springer, Singapore. https://doi.org/10.1007/978-981-19-4105-4_14
4. 1. Received reviewer appreciation certificate from VICFCNT-2021, December 10-11, 2021,VIT Chennai for reviewing the conference paper.

ACHIEVEMENTS AND AWARDS: -

SPECIAL SESSIONS DELIVERED: -

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

Published Journals - Annexture-1, SCI (16)

1. Abishek, Ebenezer, **Elakkiya Azhagar**, Manikandan Esakkimuthu, and Karthigeyan Arumugam. "Design and evaluation of ultra-broadband metamaterial absorber for energy harvesting applications." Applied Computational Electromagnetics Society Journal (ACES) (2023): 416-423.
2. **A.Elakkiya**, Srigitha S.Nath, M.Vanitha," Design, Fabrication and Characterization of Terahertz Five Band Metamaterial Absorber," Pramana-Journal of Physics,97, 112 (2023).
3. **A. Elakkiya**, C. T. Kalaivani, Refractive index sensor based on terahertz metamaterial absorber, Journal of Optoelectronics and Advanced Materials Vol. 25, Iss. 5-6, pp. 213-220 (2023).
4. Srigitha Surendranath, Varalakshmi Subramanian, Arthi Devarani Paulretnam, **Elakkiya** Azhagar," A SINGLE-LAYER FSS FOR S-, C-, X-, KU- AND K-BAND APPLICATIONS", Vol. 57 No. 1 (2023): Materials and Technology
5. **A.Elakkiya**, S. Radha, B. S. Sreeja, E.Manikandan, "Ultrathin Microwave Metamaterial Absorber for X, C, Ku band applications", Journal of Electronic Materials, 50, 7275–7282 (2021), IF-1.938.
6. **A.Elakkiya**," Terahertz metamaterial absorber based on single pattern pentagon shaped resonator for high Q sensing," Journal of Optoelectronics and Advanced Materials, vol.24, iss.5-6, 2022, IF-0.631.
7. **A. Elakkiya,** K. A. Karthigeyan, E. Manikandan, S. Radha, Terahertz seventeen-band metamaterial absorber based on sunflower-typed structure, Journal of Optoelectronics and Advanced Materials Vol. 24, Iss. 9-10, pp. 426-432 (2022).
8. **A.Elakkiya**, S. Radha, B. S. Sreeja, E.Manikandan, "Optically Transparent Terahertz Triple- band and Dual-band Metamaterial Absorber", Circuit World,48,126-131, 2022,IF-1.395.
9. **A.Elakkiya**, S. Radha, B. S. Sreeja, E.Manikandan, "Terahertz Metamaterial Absorber for Single-/Dual-/Multi-band applications",Pramana-Journal of Physics, 95:163,2021, IF-1.688.
10. **A.Elakkiya**, S.Radha, B.S.Sreeja, E.Manikandan, "Design of a five-band polarization-insensitiveterahertz metamaterial absorber", Journal of Optoelectronics and Advanced Materials, Vol. 21, No. 7-8, July – August 2019, p. 450 - 454,IF-0.588.
11. **A.Elakkiya**, S.Radha, B.S.Sreeja, E.Manikandan, "Optically transparent efficient terahertz patch antenna for space applications", Journal of Optoelectronics and Advanced Materials,Vol. 20, Iss. 9-10, 2018, pp 474-478, IF- 0.39.
12. **A.Elakkiya**, S.Radha, B.S.Sreeja, E.Manikandan, "Modified I-shaped Hexa-band near perfectTerahertz Metamaterial Absorber", Springer, Circuit World, IF-1.395, Vol. 46, No. 4, pp. 281-284.
13. **A.Elakkiya**, S.Radha, B.S.Sreeja, E.Manikandan, "Terahertz Broadband Metamaterial Absorber Enabled by SiO2, Polyimide and PET Dielectric Substrate", Pramana-Journal of Physics, 94, 130(2020), Springer, IF-1.688.
14. **Elakkiya, A**., Radha, S., Sreeja, B.S. et al. "Terahertz dual-band/broadband metamaterial absorber enabled by SiO2: polyimide and PET dielectric substrates with absorption characteristics", Bull Mater Sci 43, 201 (2020). Springer, IF-1.392.
15. **A.Elakkiya**, S.Radha, B.S.Sreeja, "Seven-band Ultra-thin Terahertz Metamaterial Absorber at 0.3-0.5THz frequency", Springer, Circuit World, IF-1.395.
16. **A.Elakkiya**, S.Radha, B.S.Sreeja, "Terahertz Metamaterial Absorber with Sensing Capabilities", Journal of Optoelectronics and Advanced Materials, vol.22, iss.7-8, 2020, IF- 0.631.

Published Journals - Scopus (4)

17. **A. Elakkiya**, K. J. Surya, K. Venkatesh and S. Aakash, "Implementation of Speech to Text Conversion Using Hidden Markov Model," 2022 6th International Conference on Electronics, Communication and Aerospace Technology, Coimbatore, India, 2022, pp. 359-363.
18. **A. Elakkiya**, Yogeshwaran M; Tharun Kumar J; Nanda Kishore I, "Design and Simulation of Near Perfect Quad Band Terahertz Metamaterial Absorber," 2023 Third International Conference on Advances in Electrical, Computing, Communication and Sustainable Technologies (ICAECT), Bhilai, India, 2023, pp. 1-5.
19. **A. Elakkiya**, Anand Mohanan, M. Aran Thomas, R. Syed Rayaan Ahmedh,"6 Bands microwave metamaterial absorber for S, C, X, and Ku band applications", Materials Today: Proceedings,2023, ISSN 2214-7853.
20. **A.Elakkiya**," Triple band Terahertz Metamaterial Absorber within (0.4-0.46) Thz Frequency range, Journal of Physics-conference series, 2484 012020, 2023.

Accepted Journals - SCOPUS (3)

1. **A.Elakkiya**, M Vanitha, A Hema Malini and T Archana" Six/Eight/Ten-Band Terahertz Metamaterial Absorber Enabled by Star-shaped Resonator with Arbitrary Polarization," AIPPublishing.
2. **A.Elakkiya**," Terahertz Polarization Insensitive and Controllable Metamaterial Absorber," AIP Publishing.
3. **A. Elakkiya**," Coin Based EV Charging Station" AIP Publishing.

Journals Under Review (2)

1. High Q-Factor And FOM-Based Planar Polarization-Dependent Metamaterial Sensor For Terahertz Applications, Optical and Quantum Electronics.
2. A.Elakkiya "Microwave Metamaterial Absorber Design and Fabrication for Ku, X and C Band Applications", Bulletin of Materials Science.

Webinar/Guest Lecture Conducted

1. Conducted a webinar on Tera Devices for Communication at Saveetha Engineering College. Resource Person: Dr. E.Manikandan, VIT Chennai.
2. Conducted a guest lecture on Deployment of 5G in India at Saveetha Engineering College. Resource Person: Mr. R.Kalyanasundaram, Technical lead, ACL Digital Bengaluru, Karnataka
3. Conducted a guest lecture on Applications of Embedded Technology at Saveetha Engineering College. Resource Person: Dr.E.Manikandan, VIT Chennai.
4. Conducted a one-day workshop on Computer Vision at Saveetha Engineering College. Resource Person: Mr. Muhammed Ilyas, CEO, IT Expert Training.

Book Chapter

Karthigeyan, K.A., **Elakkiya, A.,** Manikandan, E., Indhu, R. (2022). Micromachined Terahertz Metamaterials. In: Das, S., Nella, A., Patel, S.K. (eds) Terahertz Devices, Circuitsand Systems. Springer, Singapore. https://doi.org/10.1007/978-981-19-4105-4_14

Online Courses

5. Completed the Cloud Computing course from NPTEL-AICTE.
6. Completed the Accreditation and Outcome Based Learning course from NPTEL-AICTE.

Conferences

1. **A.Elakkiya,** S.Radha, B.S.Sreeja, Manikandan, "Design and Numerical Analysis of Tri-band Terahertz Metamaterial", IEEE TENCON 2019, October 17-20, 2019, cochin, Kerala. (Accepted).
2. **A.Elakkiya**, S.Radha, B.S.Sreeja, E.Manikandan, "Optically Transparent efficient Terahertz Patch antenna for space applications", Proceedings of 2nd International conference on Frontiers in Engineering Applied sciences and Technology (FEAST 2018), April 27-28, 2018, National Institute of Technology, Trichy.
3. **A.Elakkiya**, E.Manikandan, B.S.Sreeja, "Ambient Infrared Energy Absorbing Device using Planar Microstructure", IEEE International conference on Devices for Integrated Circuits(DevIC2017),March23-24,2017,Kalyani Government Engineering College, Kolkata, India.
4. E.Manikandan, B.S.Sreeja, **A.Elakkiya**, S.Radha, "Fabrication of Quad band Terahertz planar Antenna by LASER ablation "The 18th International Symposium on Laser Precision Micro fabrication (LPM 2017), June 5-8,2017, Toyama, Japan.
5. **A.Elakkiya**, Tharun Kumar, Nanda Kishore, Yogeshwaran, "Design and Simulation of Near Perfect Quad Band Terahertz Metamaterial Absorber" in the 2023 IEEE Sponsored Third International Conference on Advances in Electrical, Computing, Communications and Sustainable Technologies (ICAECT 2023) held at the Department of Electrical and Electronics Engineering, Shri Shankaracharya Technical Campus (SSTC), Bhilai, Chhattisgarh, India during 05 - 06, January 2023.
6. **A.Elakkiya**, 'Triple Band Terahertz Metamaterial Absorber Within (0.4-0.46THz) Frequency range' International Conference on Materials Science, Mechanics and Technology, held online during December 23-24, 2023.
7. **A.Elakkiya**,"Analysis of Local Area Network Timing Variabilit in a given time duration and determination of time gaps" ViTECoN-23, Organized by School of Electronics Engineering (SENSE), VIT, Vellore, TN, India. Association with Prince Sultan University - Saudi Arabia, IETE, IEEE ComSoc VIT Student Chapter.

Webinars/FDP/Guest Lectures Attended

1. Attended a 3 days online FDP on " Citation Management In Scholarly Writing-Tools And Techniques" in association with Mendeley and IEEE from 24th Sep, 2021 - 26th Sep 2021 in Department of ECE, Saveetha Engineering College.
2. Attended a webinar on Advanced Antenna's Design for 5G MIMO with CST Studio Suite 2022 & Antenna Magus organized by IEEE Antennas and Propagation Society of IEEE Student Branch-STB29741 in association with the Department of ECE of Kongu Engineering College, Perundurai.
3. Attended a webinar on Solutions to Real Time Chemical Engineering Problems using ANN & Primavera P6 Department of Chemical Engineering, Saveetha Engineering College, March 11, 2022.
4. Participated in a Webinar entitled "Nano-photonics Based Antenna and Sensor Development", organized by the department of ECE, SSN 26.02.2022.
5. Participated in a Webinar entitled "Frequency Selective Surfaces-A Researchers Perspective", organized by the department of ECE, SSN 12.03.2022.
6. participated in the "Global Event - Startups in India: Dreams, Myths and Reality" held on March 11, 2022, organized by the NDLI Club of Saveetha Engineering College.
7. Attended a 5-day FDP on "Emerging Applications in Image Processing" organized by the department of ECE & Centre for Image Processing, Rajalakshmi Institute of Technology, 01.03.2022-05.03.2022, Chennai.

8. Attended a 5-day FDP on “Contemporary Trends in IOT and Blockchain” organized by the department of ECE, Saveetha Engineering College, March 15-19, 2022.
9. Attended a Faculty Development Program on "AI and Machine Learning for IoT/EDA" organized by Electronics and ICT Academy at MNIT Jaipur and NIT Patna which was held from 07th to 17th March 2022.
10. Attended a Faculty Development Program on “Applications of Cognitive Radio Networks”, by Kings Engineering College, 01-06 April 2022.
11. Attended a one-week FDP on “Low Power VLSI and its Industry Trends” organized by the department of ECE, Sanskirithi College of Engineering, April 18-23, 2022.
12. Attended the Webinar and live demonstration of “Electrochemical Bio Sensors for Food and agriculture” organized by the department of ECE, SSN in association with Zimmer and Peacock and Technologies LLP (New Delhi, India), 27.04.2022.
13. Attended a workshop on " Scientific Communications" held Online during March 25-26, 2022 organized by CSIR-National Physical Laboratory under CSIR- Integrated Skill Initiative.
14. Attended a one-week FDP on,” Artificial Intelligence and its Applications”, organized by the department of ECE, J.N.N Institute of Engineering, 25-30 April 2022.
15. Attended a six-day FDP on,” Advanced Communication Networking and Signal Processing”, SRM Institute of Science & Technology, Ramapuram Campus, Chennai during 16 May 2022 - 21 May 2022.
16. Attended a six-day FDP on,” Advanced Materials and Process for Next Generation Next Electronic Devices: Challenges and Opportunities”, SRM Institute of Science & Technology, Ramapuram Campus, Chennai from 27 June 2022 – 4th July 2022.
17. Attended a Three days FDP on,” Printed and Flexible Electronics” organized by the School ofElectronics Engineering,27-29 June 2022, VIT Chennai.
18. One-week online FDP on " Recent Trends in 5G Communication, Design & Technologies” Raja Lakshmi Engineering College, 5-9/07/2022
19. One-day online course on,” Fundamentals of Bioelectromagnetic”, held on September 24, 2022, organized by SSN College of Engineering.
20. Attended a Three days FDP on,” Recent Trends in MEMS and Nano Electronics”,03-05 August 2022, VIT Chennai.
21. Received an FDP certificate for completing the Accreditation and Outcome Based Learning Course from NPTEL-AICTE.
22. Online FDP on "Two Week FDP on Multidisciplinary Research” PACE Institute of Technology and Sciences, 1-11/11/2022.
23. Has Participated in the DST-SERB sponsored Two Weeks Online Evening Workshop on “Introduction to Cryptography”,2-13th January 2023, NIT, Trichy.
24. Has Participated in one week FDP on “Bio Medical Sensors and Signal Processing”, from 9-13th 2023, Loyola Institute of Technology, Chennai.

PROFESSIONAL MEMBERSHIPS: -

OTHER DETAILS (If any):

- ✓ Mentor for the 2021-2025 batch students-ECE
- ✓ NPTEL online courses tracking member for II & I year ECE students
- ✓ Website Design Coordinator-ECE
- ✓ Optical and Microwave Lab in charge-ECE
- ✓ Course Coordinator for EMF and ECA subject
- ✓ ECE Department Newsletter, Magazine Coordinator
- ✓ Overall Mentoring File in charge for 2021-2025 batch students
- ✓ NBA File Work