

Dr. Avik Banerjee

Dr. Avik Banerjee, Assistant Professor

B.Tech (Electronics and Communication Engineering),

Educational Qualification M.E (Information and Communication Engineering).

Ph.D (Wireless Communication)

Experience Teaching: 4.5 Years.

Area of Interest Digital Communication, Wireless Communication, Cognitive Radio Networks, RIS, Energy Harvesting, Electromagnetics

Email ID avikbanerjee@rvce.edu.in

Date of Joining at RVCE: 16th January, 2023

Publications:

A. International Journals: 14

1. **A. Banerjee**, S. P. Maity and V. Goutham, "Residual Energy Maximization in RIS aided Cooperative Spectrum Sensing with PUEA: Relative Performance in PS and TS mode" *IEEE Access* vol. 13, pp. 27081-27097, 2025.
2. **A. Banerjee**, S. P. Maity, "Jamming in Eavesdropping on Throughput Maximization in Green Cognitive Radio Networks," *IEEE Transactions on Mobile Computing*, vol. 22, no. 1, pp. 299-310, Jan. 2023, doi: 10.1109/TMC.2021.3068797
3. **A. Banerjee**, S. P. Maity, "On residual energy maximization in DF cognitive radio networks with multiple eavesdroppers," *IEEE Transactions on Cognitive Communications and Networking*, vol. 6, no. 2, pp. 718-727, 2020
4. A. Paul, **A. Banerjee** and S. P. Maity, "Residual energy maximization in cognitive radio networks with Q-routing," *IEEE Systems Journal*, vol. 14, no. 3, pp. 3791-3800, September 2020.
5. **A. Banerjee**, S. P. Maity, "On residual energy maximization in cooperative spectrum sensing with PUEA," *IEEE Wireless Communications Letters*, vol. 8, no. 6, pp. 1563-1566, December 2019.

6. A. Paul, P. Kunarapu, **A. Banerjee**, S. P. Maity, "Spectrum sensing in cognitive vehicular networks for uniform mobility model," *IET Communications*, vol. 13, no. 19, pp. 3127-3134, 2019.
7. A. Paul, **A. Banerjee** and S. P. Maity, "Throughput maximization in cognitive radio networks with residual bandwidth," in *IET Communications*, vol. 13, no. 10, pp. 1327-1335, 2019.
8. **A. Banerjee**, S. P. Maity, R. K. Das, "On throughput maximization in cooperative cognitive radio networks with eavesdropping," *IEEE Communications Letters*, vol. 23, no. 1, pp. 120-123, January 2019.
9. **A. Banerjee**, S. P. Maity, "On residual energy maximization in cognitive relay networks with eavesdropping," *IEEE Systems Journal*, vol. 13, no. 4, pp. 3836-3846, December 2019.
10. **A. Banerjee**, S. P. Maity, "On outage minimization in relay assisted cognitive radio networks with energy harvesting," *Ad Hoc Networks*, vol. 82, pp. 46-55, 2019.
11. **A. Banerjee**, S. P. Maity, "Joint cooperative spectrum sensing and primary user emulation attack detection in cognitive radio networks using fuzzy conditional entropy maximization," *Transactions on Emerging Telecommunications Technologies*, Wiley, vol. 30(5), 2019.
12. **A. Banerjee**, S. P. Maity, S. Roy, "On outage secrecy minimization in an energy harvesting relay assisted cognitive radio networks," *IET Communications*, vol. 12, Issue 18, pp. 2253-2265, 2018.
13. **A. Banerjee**, A. Paul, S. P. Maity, "Joint power allocation and route selection for outage minimization in multihop cognitive radio networks with energy harvesting," *IEEE Transactions on Cognitive Communications and Networking*, vol. 4, no. 1, pp. 82-92, 2018.
14. **A. Banerjee**, S. P. Maity, "On optimal sample checkpoint for energy efficient cooperative spectrum sensing," *Digital Signal Processing, Elsevier*, vol. 74, pp. 56-71, 2018.

B. International Conferences: 10

1. **A Banerjee**, P. Nagaradjane, S. P. Maity, V. Goutham, "RIS Aided Residual Energy: PS and TS Mode Harvesting in Cooperative Spectrum Sensing", in Proc. *Asian Conference on Communication and Networks (ASIANComNet)*, Bangkok, Thailand, pp. 1-7, 2024.

2. **A. Banerjee** and S. P. Maity, "Jamming on Throughput Improvement in Cognitive Radio Networks", in Proc. **IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)**, IIIT Delhi, India, pp. 1- 6, December 14-17, 2020 (Presented).
3. **A. Banerjee** and S. P. Maity, "PUEA impact on sensing and throughput in RF powered cognitive radio networks," in Proc. **5th International Congress on Information and Communication Technology**, London, UK, pp. 346-354, February 20-21, 2020.
4. **A. Banerjee** and S. P. Maity, "Cognitive radio networks with energy harvesting and eavesdropping-emulation resilience," in Proc. **12th International Conference on Communication Systems & Networks, (COMSNETS)**, Bangalore, India, pp. 873-875, January 7-11, 2020 (Presented).
5. **A. Banerjee**, R. K. Das and S. P. Maity, "On outage secrecy minimization using jammer selection in energy harvesting cognitive radio," in Proc. **International Conference on Signal Processing and Communications (SPCOM)**, IISC Bangalore, India, pp. 85-89, July 16-19, 2018.
6. **A. Banerjee**, S. P. Maity, "Residual energy maximization in cooperative spectrum sensing with energy harvesting," in Proc. **National Conference on Communication (NCC)**, IIT Madras, India, pp. 1-6, March 2-4, 2017.
7. **A. Banerjee**, S. P. Maity and S. Roy, "On residual energy maximization in energy harvesting cognitive radio network," in Proc. **IEEE Wireless Communications and Networking Conference (WCNC)**, San Francisco, CA, pp. 1-6, March 19- 22, 2017.
8. **A. Banerjee**, S. P. Maity, "On energy minimization in cooperative spectrum sensing using LRT in presence of emulation attack," in Proc. **10th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)**, Bangalore, India, pp. 1-6, November 6-9, 2016.
9. **A. Banerjee**, S. P. Maity, "Energy detection based cooperative spectrum sensing using fuzzy conditional entropy maximization," in Proc. **8th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)**, New Delhi, India, pp. 1-6, December 14-17, 2014.
10. S. Chatterjee, **A. Banerjee**, S. P. Maity, "Fuzzy C-Means Clustering in Energy Detection for Cooperative Spectrum Sensing in Cognitive Radio System", in Proc. **7th International Workshop on Multiple Access Communications (MACOM)**, Halmstad, Sweden, pp. 84-95, August 27-28, 2014.

Reviewer of Peer-Reviewed Journals:

Acted as a reviewer in *IEEE Transactions on Vehicular Technology*, *IEEE Communications Letters*, *IEEE Systems Journal*, *IEEE Internet of Things Journal*, *IET Communications*, *Electronics Letters*, *Transactions on Emerging Telecommunications Technologies (Wiley)*, *Microsystem Technologies (Springer)*

Awards and Recognitions:

1. Qualified for the **GATE-2013 (ECE) Examination (Gate Score: 483)**
2. Conferred with **MHRD GATE Scholarship** from Govt. of India for pursuing M.E. in Information and Communication Engineering, Department of Information Technology, Indian Institute of Engineering Science and Technology, Shibpur, Howrah, (2013 - 2015)
3. Awarded with the **Visvesvaraya Fellowship from the Ministry of Electronics and Information Technology, Govt. of India** for pursuing Ph.D. under Department of Information Technology, Indian Institute of Engineering Science and Technology, Shibpur, Howrah (2015 - 2020)