# Curriculum Vitae

## Sanjay Dhar Roy


CONTACT

ECE Department, NIT Durgapur,
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RESEARCH INTERESTS

Wireless Communications

- D2D Communication.
- Physical Layer Security.
- Cognitive Radio Networks.
- Radio Resource Management.
- Handoff and mobility management for Heterogeneous Network.

EDUCATION

**NIT Durgapur**, Burdwan, WB, India

**Ph.D.**, Wireless Communication, July 2011.

- Thesis: *Cognitive Radio CDMA Networking with Efficient Radio Resource Management.*
- Supervisor: Dr. Sumit Kundu, Prof., ECE, NIT Durgapur.

**M. Tech.**, Telecommunication Engineering, July 2008.

- Thesis: *Analysis of Handoff Algorithms for Mobile Communication Systems.*
- Supervisor: Dr. S. K. Datta, Prof., ECE, NIT Durgapur.

**Jadavpur University**, Kolkata, WB, India

**B.E.**, Electronics and Telecommunication Engineering, June 1997.

EXPERIENCE

**Associate Professor** *October 2018 to present*
Electronics & Communication Engineering,
National Institute of Technology,
M G Avenue, Durgapur 713209, Burdwan, WB, India.

**Assistant Professor** *November 2000 to 2018*
Electronics & Communication Engineering,
National Institute of Technology,
M G Avenue, Durgapur 713209, Burdwan, WB, India.

**Visiting Researcher** *on July 2009*
Department of Information Engineering,
University of Parma,
Parma, Italy.

**Lecturer** *August 2000 to October 2000*
Electronics & Communication Engineering,
Birbhum Institute of Engineering and Technology. Suri, Birbhum, WB, India.

**Engineer** *July 1997 to January 2000*
Operation & Maintenance,
Usha Fone. Bhubaneswar,Orissa, India.

## Awards

**Scholarships**

- Graduate Aptitude Test in Engineering (GATE) scholarship in 2000 from MHRD, Govt. of India, to pursue Master degree in Engineering.
  All India Rank 202.
  Percentile Score: 97.67%.
- Stood second in higher secondary examination in my district in 1992. Got national merit scholarship from MHRD, Govt. of India for higher secondary result. Secured 79th position in W.B.J.E.E 1993.

## Skills

**Languages**

- English.
- Hindi .
- Bengali.

**Programming**

- MATLAB, LaTeX, C, DOS.

## Services

**Invited Talks**

- *D2D Communication in 5G* , Recent Advancement of System Design Towards 5G Communication (RASDT5C 2021),11 - 13 January, 2021, Haldia Institute of Technology, WB, India.
- *Role of Skill Development on Sustainable Employment* , Science City auditorium, Kolkata organized by CET(I), 2014.
- *Introduction to Opportunistic Mobile Networks and Its Applications (IOMNA)* , CSE department, NIT Durgapur, 2014.
- *Co-operative Communication and Cognitive Radio Networks* , PSG Tech, Coimbatore, 2013.
- *Cooperative Spectrum Sensing in Cognitive Radio Network* , ETSET, BUIE, Bankura, 2013.
- *Cooperative Spectrum Sensing in Cognitive Radio Network* , RTMWCS, BCET, Durgapur, 2012.
- *Computer Design*, Winter School, VLSI Systems Design, Durgapur, 2009.

**Session Chair**

- *IEEE ICSPCC -2012*, The Hong Kong Polytechnique Univ., Hong Kong, 2012.
- *International conference ICICA 2014*, NIT Durgapur , W.B., India, 2014.
- *IEEE Microcom 2016*, NIT Durgapur , W.B., India, 2016.

**Reviewer**

IEEE TVT, IEEE TAES, IEEE Systems Journal, IEEE Transactions on Cognitive Communications and Networking, IEEE CL, IEEE NL, IEEE SPL, IEEE Access, IET Communications, Electronics Letters, IETE Juornal of Re-

search, Digital Communications and Networks, Elsevier, International Journal of Communication Systems (Wiley), International Journal of Distributed Sensor Networks (InderScience), Advances in Electrical Engineering (Hindawi), International Journal of Electronics (Taylor and Francis), Cognitive Computation and Systems, PIER, Computers in Biology and Medicine, Elsevier, SUSCOM, Elsevier, Computers and Electrical Engineering, Elsevier, International Journal of Distributed Sensor Networks, Advances in Electrical Engineering, Hindawi, IEEE CONNECT 2022, IEEE SPCOM 2022, IEEE ICC, IEEE VTC, IEEE WCNC, IEEE GlobeCom, IEEE PIMRC, IEEE WiMob, NCC 2016, McGrawhill, PHI, Oxford University Press, Cengage Learning, Cambridge University Press, Pearson Education, etc.

**Membership of Professional Bodies**
IEEE (US), IAENG.

**Organizational Activities**

- *Associate Editor*, International Journal of Wireless Communication, Bioinfo Publications, ISSN: 2231-3559
- *Co-ordinator*, Workshop, LabView and USRP, ECE Department, NIT Durgapur, 2015.
- *Co-ordinator*, Seminar, Information Theoretic Approach to Wireless Communication (as part of EAP), Durgapur, 2014.
- *Co-ordinator*, Seminar, Recent Advances in Information Theory & Its Applications (as part of ITRA project activity), Durgapur, 2014.
- *Co-ordinator*, Workshop, Advanced Wireless Communication and Networking (AWCN), NIT Durgapur, 2013.
- *Co-ordinator*, Seminar, Internet of Things (as part of I-I-I), NIT Durgapur, 2013.
- *Member*, Seminar, WCN, Durgapur, 2008.
- *Member*, TPC: IEEE Cybernetics 2022, IEEE PIMRC 2021,NCC 2018, ICAC314, EICE 2014, ICAECC 2014, CASoN 2014, WICT 2014, 2013 IEEE Symposium on Wireless Technology and Applications (ISWTA), KiSE'13 (International Symposium on Knowledge-intensive Software Engineering, SPIN 2014 (Noida), WICT 2013, WICT 2012, WICT 2011, CSNT 2013 (Gwalior), SocProS 2011, CICN 2012 (Mathura), CICN 2011, ACNCN 2012, CSNT 2012 (Rajkot), NCCCS 2012 (BCREC, Durgapur).

## Teaching

**Courses Taught: Graduate Level**

- Error Control Coding (Spring 2012, 2014)
- Information and Coding Theory(Spring 2013)
- Probability and Random Processes (Fall 2013, 2014, 2017, 2018,2019, 2020, 2021)

**Courses Taught: Undergraduate Level**

- Computer Architecture and Organization (Spring 2006 - 14)
- Analog Communication (Fall 2012 - 22)
- Probability Theory for Engineering Applications (2021)
- Wireless Communication (Fall 2010-11)
- Analog Electronic Circuits (Spring 2000)
- Optical Communication (Fall 2000-2009)
- Pulse and Digital Circuits (Spring 2000-11)

**Laboratories Attached With**

- Design & Simulation Lab
- Basic Electronics Lab
- Analog Communication Lab
- Digital Electronics Lab

**Supervision: Ph.D. Thesis**

- Srinivas Nallagonda, Performance of Cooperative Spectrum sensing based Cognitive Radio Network in Fading Channels, Awarded.
- B. Prasad, Cognitive Relay Networks with Energy Harvesting, Awarded.
- A. Bhowmick, Cognitive Radio Networks with Spectrum Sensing and Energy Harvesting, Awarded.
- S. Biswas, Enhancing energy efficiency of 802.15.4 networks using relays, Awarded.
- K. Yadav, Efficient Spectrum Utilization for Cognitive Radio Network (CRN) with Distributed Detection in Spectrum Sensing, Awarded.
- P. Maji, Uncoordinated Cooperative Communication Schemes with Security Enhanced Energy Efficient Relays, Awarded.
- S. Reddy Vamshidhar Reddy, Studies on Vertical Handoff Algorithms in Next Generation Wireless Networks.
- S. Mondal, Studies on Energy Harvesting Multihop Cognitive Relay Networks, Awarded.
- S. Ghosh, D2D Communication with Efficient Radio Resource Management.
- A. Baranwal, Performance of Cellular IoT Systems.
- P . Sahu, Structural Health Monitoring using WSNs.
- D. Nayak, Handoff Issues in NextG Networks.

**Supervision: Master's Thesis**

- Samyat Sahoo, , 2022.
- Ranjeet Kishore Bal, , 2022.
- P. SaiGowthami, *Methodology For Safety Verification on AMS Designs* , 2021.
- V. Shaw, *Studies on Handoff and Coding Performance in 5G Networks*, 2020.
- S. Dey, *Throughput Performance Analysis of Cognitive M2M Communication*, 2018.
- B. Sharma, *D2D Communication with Radio Resource Management for Disaster Relief and Machine Type Communication* , 2018.
- V. Patil, *Spectrum Sensing in Cognitive Radio Network*, 2017.
- C. Thakur, *Throughput Performance of Cognitive Device to Device Communication Undelaying Cellular Networks*, 2017.
- R. Samanta, *Performance Analysis of Cooperative Underlay Cognitive Radio Energy Harvesting Relay Network*,2017.
- A. Kumar, *Secure Bidirectional Communication via Energy Harvesting Untrusted AF Relays*, 2017.
- V. Panjwani, *Outage and Throughput Analysis of Cognitive Radio Femto Cell Networks*, 2016.
- K. Chandra, *Outage Performance of a Secondary User in an Underlay Cognitive Cooperative Energy Harvesting Relay Network*, 2016.
- S. Ghosh, *Studies on Cooperative Spectrum Sensing with Clustering and Relaying*, 2016.

- M. Das, *Some Studies on Cyclostationary based Spectrum Sensing in CR Network*, 2016.
- D. Goswami, *Energy Modelling for Relay Assited 802.15.4 WSN*, 2015.
- S. Gupta, *Performance of Double Threshold based Cooperative Spectrum Sensing*, 2015.
- J. Biswas, *Studies on Handoff Algorithms in LTE Networks*, 2014.
- S Reddy. Vamshidhar Reddy, *Vertical Handoff Algorithms for Integrated Heterogeneous Networks*, 2013.
- Sravan Kumar Bhandari, *Performance of Cooperative Spectrum Sensing*, 2013.
- A. Chakravarthi M, *Studies on Outage and Capacity Analysis in CR MIMO Networks*, 2012.
- A. Sadhukhan, *Performance of Handoff Algorithms for Future Generation Cellular Networks*, 2012.
- S. K. Balam, *Studies on Cognitive Radio Network with Beacon*, 2012.
- S. Mondal, *Studies on Admission and Power Control in CDMA based Cognitive Radio Network*, 2010.
- S. Nallagonda, *Studies on Forward Link Data Services in Cellular CDMA*, 2009.

**Supervision: Undergraduate Projects**

- K. Karmakar and K. Sai Charan, *Simulation of Improved Road Safetly using CV2-X model in Python 3*, 2022.
- Y. Bishoi, *i*, 2022.
- B. R. Kumar Reddy et. al., *LTE-NR Integration using DC Technology*, 2021
- Patapanchala Naveen Kumar, *An Overview of D2D Communication and its Offloading Mechanism in LTE Neworks*, 2020
- Sonali Sweta Padma and Anirban Banik, *Resource Allocation in D2D Communication*, 2020
- Amitava Das, *Application of Reinforcement Learning in Improving Efficiency of D2D and NB-IoT Networks*, 2020
- U. Ghosh et. al., *Resource Matching in a Two Tier Heterogeneous Cellular Network*, 2019
- A. Bakshi et. al., *Simulation of Fractional Frequency Reuse Using Python*, 2019.
- A. Pradhan et. al., *Implementation of Relay Hopper Model for Reliable Communication of IoT Devices in LTE Environment through D2D link*, 2018.
- S. Sarkar Mitra et. al.,*Resource Allocation and Power Control for Device to Device Communication with IoT integration*, 2017.
- M. Agarwal et. al., *Analysis on Device to Device Communication Under Power Control Schemes*, 2017
- A. K. Tripathi et. al., *Spectrum sensing techniques in cognitive radio networks*, 2017.
- P. Kumar et. al., *Interference Mitigation using Uplink Power Control for Two-Tier Femtocell Networks*, 2016.
- A. Mohanto et. al., *Functionality Analysis of Centralized CR Network with Integrated Femtocell*, 2016.
- S. Bhattacharjee et. al., *Applications of Game Theory in Cognitive Radio Networks* , 2016.
- N. Sambit Suman et. al., *Survey of Telemedicine using Cognitve Radio*

*Network*, 2014.

- A. Agarwal et. al., *Interference Based Call Admission Control in CDMA Based Cognitive Radio Network*, 2011.
- P. Parida, *Studies on Rateless Codes and their Performance in CDMA based Multimedia Broadcast Network*, 2010.

**PhD Thesis Examination**

- Anna University, Chennai, 2019, 2021, 2022.
- Charotar University, Gujrat, 2022.

**External Paper Setter**

- Optical Communication, Integral University 2021.
- Information Theory & Coding, Integral University 2015.
- Digital Electronics (IEC-305) Integral University, Lucknow, India 2014.
- Information Theory & Coding, Integral University 2014.
- Fiber Optics Communication, Mizoram University 2010.

**Administrative Duties**

- Warden, Hall 4, 2016 to 2019.
- Member, TEQIP (Equity action plan), 2010 to till now .
- UG Coordinator, ECE Department, NIT Durgapur, 2011 to 2016.
- Member, Central Class Routine Committee, 2014 to 2016.
- Convenor, Committee for Continuing Education including short term courses, workshops, seminar, conferences, 2014 to 2016.

BOOKS

B7. S. Sharma, **S. Dhar Roy**, S. Kundu. *Physical Layer Security in Two-Way Wireless Communication System in the book Enabling Technologies for Next Generation Wireless Communications, CRC Press* December 2020.

B6. Abhijit Bhowmick, Kuldeep Yadav, **Sanjay Dhar Roy**, Sumit Kundu. *Cooperative Spectrum Sensing under Double Threshold with Censoring and Hybrid Spectrum Access Schemes in Cognitive Radio Networks, accepted in Sensing Techniques for Next Generation Cognitive Radio Networks.* August 2018, IGI Global

B5. Kuldeep Yadav, Abhijit Bhowmick, **Sanjay Dhar Roy**, Sumit Kundu. *Spectrum Sensing in Cognitive Radio Networks under Security threats and Hybrid Spectrum Access in EAI/Springer Innovations in Communications and Computing book serie)*, Oct. 2017

B4. **S. Dhar Roy**. *Cognitive Radio CDMA Networking with Radio Resource Management: Performance of CR-CDMA Networks with Efficient Radio Resource Management Schemes.* LAP Lambert Academic Publishing, Germany, August 2011, pages: 216. (ISBN: 978-3845429670)

B3. **S. Dhar Roy**. *Analysis and Design of Handoff Algorithms.* LAP Lambert Academic Publishing, Germany, September 2011, pages: 260. (ISBN: 978-3846506509)

B2. S. Nallgonda, **S. Dhar Roy**, S. Kundu, G. Ferrari, and R. Raheli. *Cooperative spectrum sensing with censoring of cognitive radios and MRC based fusion in fading and shadowing channels, chapter contribution in Software-Defined and Cognitive Radio Technologies for Dynamic Spectrum Access and Management* edited by N. Kaabouch and W. Chen Hu, IGI Global, October, 2014.

B1. S. Nallgonda, **S. Dhar Roy**, S. Kundu, G. Ferrari, and R. Raheli. *Cooperative spectrum sensing with censoring of cognitive radios in fading channels, chapter contribution in Cognitive Communications and Cooperative HetNet Coexistence* edited by F. Bader and M. G. Di Benedetto, Springer, February, 2014.

## Selected Journal Papers

J46. Bhowmick Abhijit, Dhar Roy Sanjay, Kundu Sumit. Throughput Maximization of a NOMA-based Energy-Harvesting UAV Assisted CR Network. *IEEE Transactions on Vehicular Technology*, 2021.

J45. Mondal Soumen, Dhar Roy Sanjay, Kundu S. Performance of a Hybrid Dual-hop and Multi-hop Network based on NOMA. *International Journal of Electronics. Taylor & Francis*, 2022.

J44. Ghosh Sayanti, Bhowmick Abhijit, Chandra Aniruddha, Dhar Roy Sanjay, Kundu Sumit. Performance of a cognitive devicetodevice network in disaster situation under a collision constraint. *International Journal of Communication Systems. Wiley*, 2022.

J43 Baranwal Alok, Sharma Shashibhushan, Dhar Roy Sanjay, Kundu Sumit. Outage Performance of Uplink (UL) NOMA Network. *Wireless Personal Communications. Springer*, 2022.

42. Yadav Kuldeep, Dhar Roy Sanjay, Kundu Sumit. Performance Analysis of a Cognitive Radio Network Under Energy Harvesting from Primary User Emulation Attacker. *Wireless Personal Communications. 121. 1-18*, 2021.

J41. Mondal Soumen, Dhar Roy Sanjay, Kundu Sumit. Partial Relay Selection in Energy Harvesting Based NOMA Network with Imperfect CSI. *Wireless Personal Communications*, 2021.

J40. Reddy S., Dhar Roy Sanjay. SBT (Sense Before Transmit) Based LTE Licensed Assisted Access for 5 GHz Unlicensed Spectrum. *Wireless Personal Communications. 119. 1-13*, 2021 10.1007/s11277-021-08318-1.

J39. S Ghosh, S Mondal, S Dhar Roy, S Kundu. D2D Communication with Energy Harvesting Relays for Disaster Management, *International Journal of Electronics*, 2020.

J38. S. Reddy Vamshidhar Reddy, Sanjay Dhar Roy. Inter Radio Access Technology [IRAT] Handover Algorithms for Heterogeneous Wireless Networks. *WPC, Springer*, Oct. 2020.

J37. S. Biswas, S.D. Roy, A. Chandra, Cross-Layer Energy Model for Non-Beacon-Enabled IEEE 802.15.4 Networks. *IEEE Wireless Communication Letters 9(7):1084-1088.* July 2020.

J36. Pranabesh Maji, Binod Prasad, Sanjay Dhar Roy, Sumit Kundu. Secrecy Analysis of a Cognitive Radio Network with an Adaptive Path Selection based Transmission Scheme and JTAPS Relay. *AEU - International Journal of Electronics and Communications 123:153258*, June 2020.

J35. Pranabesh Maji, Kuldeep Yadav, Sanjay Dhar Roy and Sumit Kundu. Secrecy and throughput performance of an energy harvesting hybrid cognitive radio network with spectrum sensing. *Wireless Networks, Springer*, 2019.

J34. Soumi Basu, Anish Pradhan and Sanjay Dhar Roy. Radial Sub-band Allocation with Downlink Interference Mitigation in MacroFemto Environment. *WPC, Springer*, 2019.

J33. S. Sharma, S. D. Roy and S. Kundu. Secrecy Outage of a multi-relay Cooperative Communication Network with Accumulation of Harvesting Energy at Relays.*IET Communication*, 2019.

J32. S. Sharma, S. D. Roy and S. Kundu. Secrecy Performance of a Multi-Antenna Multiple-Relay Network with Energy Harvesting. *IET Communication*, 2019.

J31. S. Biswas, S.D. Roy, A. Chandra. Single CCA for IEEE 802.15.4 networks: A cross layer energy model. *IET Networks*, 2018.

J30. Pranabesh Maji, Sanjay Dhar Roy and Sumit Kundu. PHY Layer Security in Cognitive Radio Network with Energy Harvesting relay and Jamming in the Presence of Direct Link. *IET Communication*, 2018.

J29. S. Sharma, S. D. Roy and S. Kundu. Secrecy Performance of a Two-way communication Network with Two Half-Duplex DF Relays. *IET Communication*, 2018.

J28. S. Sharma, S. D. Roy and S. Kundu. Secrecy Outage in a Two-hop Decode and Forward Relay Network with Accumulated Harvested Energy. *Physical Communication, Elsevier*

J27. Soumen Mandal, **S. Dhar Roy**,, Sumit Kundu. Closed-Form Outage Probability Expressions for Multihop Cognitive Radio Network with Best Path Selection Schemes in RF Energy Harvesting Environment. *WPC, Springer*, 2018

J26. Soumen Mandal, **S. Dhar Roy**,, Sumit Kundu. Primary behaviour based Energy Harvesting Multihop Cognitive Radio Network. *IET Communications*, 2017

J25. Srinivas Nallagonda, Sanjay Dhar Roy, Sumit Kundu, Gianluigi Ferrari and Riccardo Raheli. Censoring-based Cooperative Spectrum Sensing with Improved Energy Detectors and Multiple Antennas in Fading Channels. *IEEE Transactions on Aerospace and Electronic Systems*, 2017

J24. Abhijt Bhowmick, Kuldeep Yadav, Sanjay Dhar Roy and Sumit Kundu. Throughput of an Energy Harvesting Cognitive Radio Network based on Prediction of Primary User. *IEEE Transactions on Vehicular Technology*, 2017

J23. Abhijt Bhowmick, Kuldeep Yadav, Sanjay Dhar Roy and Sumit Kundu. Multi slot-throughput tradeoff in an improved energy detector based faded cognitive radio network. *Wireless Networks, Springer*, 2017

J22. Abhijit Bhowmick, Sanjay Dhar Roy, Sumit Kundu. Multi-slot Based Spectrum Sensing with Improved Energy Detector for Cognitive Radio Network in Presence of Rayleigh Fading. *International Journal of Computers and Electrical Engineering, Elsevier*, 2016

J21. Srinivas nallagonda, Aniruddha Chandra, Sanjay Dhar Roy and Sumit Kundu. Analytical performance of soft data fusion aided spectrum sensing in hybrid terrestrial-satellite networks, *International Journal of Satellite Communications and Networking, Wiley*, 2016

J20. Nallagonda, S., Chandra, A., Roy, S. D., Kundu, S., Kukolev, P., Prokes. Detection performance of cooperative spectrum sensing with hard decision fusion in fading channels. *International Journal of Electronics, Taylor Francis*, 2016

J19. Abhijit Bhowmick, **S. Dhar Roy**, Sumit Kundu. Sensing Throughput Trade-off for an Energy Efficient Cognitive Radio Network under Faded Sensing and Reporting Channel. *IJCS Wiley*, 2015.

J18. Abhijit Bhowmick, **S. Dhar Roy**, Sumit Kundu. Throughput of a Cognitive Radio Network with Energy-Harvesting based on Primary User Signal. *IEEE Wireless Communications Letters*, 2015.

J17. Abhijit Bhowmick, A. Chandra, **S. Dhar Roy**, Sumit Kundu. Double threshold based cooperative spectrum sensing for a cognitive radio network with improved energy detectors. *IET Communications*, 9(18): 2216-2226 2015.

J16. Joydev Ghosh, **S. Dhar Roy**, Sumit Kundu. Qualitative analysis for coverage probability and energy efficiency in cognitive-femtocell networks under macrocell infrastructure *Electronics Letters (IET/ IEEE)*, 2015.

J15. Srinivas Nallagonda, Shravan Kumar Bandari, **S. Dhar Roy**, Sumit Kundu. Performance of Weighted Fusion Based Spectrum Sensing Schemes in Fading Channels. *Journal of Computational Engineering (Hindawi)*, 2013: 2013.

J14. S Reddy Vamshidhar Reddy, **S. Dhar Roy**. Optimum Required Overlapping Ratio of Adjacent Radio Cells of WLAN. *Int. J. of Wireless and Mobile Computing (Inder Science)*, 7: 599-607 2014.

J13. Abhijit Bhowmick, Srinivas Nallagonda, **S. Dhar Roy**, Sumit Kundu. Cooperative Spectrum Sensing with Double Threshold and Censoring in Rayleigh Faded Cognitive Radio Network. *Wireless Personal Coummunication, Springer (US)*, 2015.

J12. Srinivas Nallagonda, Aniruddha Chandra, **S. Dhar Roy**, Sumit Kundu. Detection Performance of Coopera-tive Spectrum Sensing with Hard Decision Fusion in Fading Channels. *International Journal of Electronics* (Taylor & Francis), 2015.

J11. Aniruddha Chandra, Anirban Chattopadhyay, Kalyan Sharma, Sanjay Dhar Roy, **S. Dhar Roy**, Sumit Kundu. Bit Error Rate of RS Coded BFSK in Broadband Powerline Channels with Background Nakagami and Impulsive Noise. *Physical Communication, Elsevier*, 14: 14-23 2015.

J10. Srinivas Nallagonda, **S. Dhar Roy**, Sumit Kundu. Cooperative Spectrum Sensing with Censoring of Improved Energy Detector based Cognitive Radios in Rayleigh Faded channel. *International Journal of Wireless Information Networks (IJWI), Springer*, 20(1): 74-88 2014.

J9. **S. Dhar Roy**, S Reddy Vamshidhar Reddy. Signal Strength Ratio Based Vertical Handoff Decision Algorithms in Integrated Heterogeneous Networks. *Wireless Personal Coummunication, Springer (US)*, 77(4): 2565-2585 2014.

J8. Srinivas Nallagonda, Aniruddha Chandra, **S. Dhar Roy**, Sumit Kundu. Performance of improved energy detector based cooperative spectrum sensing over Hoyt and Rician faded channels. *IEICE Communication Express*, 2(7): 319–324 July 2013.

J7. **S. Dhar Roy**, Sumit Kundu, Gianluigi Ferrari, and Riccardo Raheli. On Spectrum Sensing in Cognitive Radio CDMA Networks with Beamforming. *Physical Communication* (Elsevier), Vol. 9:73-87 2013.

J6. **S. Dhar Roy**, Sumit Kundu, Gianluigi Ferrari, and Riccardo Raheli. Cognitive Radio CDMA Networking with Spectrum Sensing. *International Journal of Communication Systems* (Wiley), 2(7): 319–324 July 2013.

J5. Srinivas Nallagonda, **S. Dhar Roy**, Sumit Kundu. Performance Evaluation of Cooperative Spectrum Sensing Scheme with Censoring of Cognitive Radios in Rayleigh Fading Channel. *Wireless Personal Communications* (Springer), 1–16, Jun. 2012.

J4. **S. Dhar Roy**, P. Parida, Sumit Kundu. Multimedia Broadcast and Multicast Services in WCDMA Network with LDPC Code and Raptor Code. *International Journal of Electronics* (Taylor & Francis), Accepted December 2012.

J3. **S. Dhar Roy**, Sumit Kundu. Performance of Data Services in Cellular CDMA in Presence of Soft handoff and Packet Combining. *Radio Engineering Journal* (Brno University of Technology, Czech Republic), 19(10): 17–22 April 2010.

J2. **S. Dhar Roy**, Sumit Kundu. Forward link data services with beamforming and soft handoff in Cellular CDMA. *Engineering Letters* (US), 17(2): 63–72 June 2009.

J1. **S. Dhar Roy**, Sumit Kundu. Performance analysis of Cellular CDMA in presence of beam forming and soft handoff. *Journal on Progress in Electromagnetic Research* (PIER), 88(x): 73–89 2008.

## Selected Papers in Conference

C 48. Ghosh Sayanti, Dhar Roy Sanjay, Kundu Sumit. A T-BS and UAV based IoT enabled D2D network for Disaster Management. *IEEE Indicon*, 10.1109/INDICON52576.2021.9691736, 2022

C 47. Reddy S, Dhar Roy Sanjay. Dual Connectivity Handoff Analysis for ENDC C/U-Plane Split NSA NR5G Networks. 10.1007/978-3-030-96305-73, 2022.

C 46. S. Sharma, S. D. Roy and S. Kundu, Secrecy Performance of Uplink-Downlink NOMA Network at Physical Layer, *IEEE Conference International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)*,2021.

C 45. Sayanti Ghosh, Abhijit Bhowmick, Sanjay Dhar Roy, Sumit Kundu. A UAV-based Multi-hop D2D Network for Disaster Management, *IEEE INFOCOM WORKSHOP*, 2021.

C 44. S. Mondal, S. Dhar Roy, and S. Kundu Adaptive Energy Harvestig with Relay Selectin Schemes in an Ordered NOMA Network, *National Conference on Communications, IEEE*, IIT Kharagpur, Feb. 2020.

C 43. S. Sharma, S. D. Roy and S. Kundu, Physical Layer Security under Accumulated Harvested Energy from RF Source, *2019 URSI Asia-Pacific Radio Science Conference (AP-RASC)*, New Delhi, India, pp. 1-4, 2019.

C 42. N. Mishra, S. Mondal, S.D.Roy and S.Kundu, Cognitive Machine to Machine Communication with Energy Harvesting in IoT networks. *In 2019 11th International Conference on Communication Systems Networks (COMSNETS)*, (pp. 672-677), 2019.

C 41. Anish Pradhan, Soumi Basu, Sreetama Sarkar, Saptarshi Mitra, Sanjay Dhar Roy, Implementation of relay hopper model for reliable communication of IoT devices in LTE environment through D2D link. *IEEE COMSNETS*, 569-572, 2018.

C 40. S. Sharma, S. D. Roy and S. Kundu, Secrecy Performance of Two-Way Communication in CRN with Half-Duplex AF Relay under Eavesdropper Attacking," 2018 IEEE 13th International Conference on Industrial and Information Systems (ICIIS), Rupnagar, India, 2018, pp. 263-268. (International Conference), **Awarded as Best Poster**.

C 39. Patil Vinay, Yadav Kuldeep, Dhar Roy Sanjay and Kundu Sumit, Hybrid Cooperative Spectrum Sensing with Cyclostationary Detector and Improved Energy Detector for Cognitive Radio Networks, *International Conference on Wireless Communications Signal Processing and Networking (WiSPNET)*, March. 2017.

C 38. P Benedict Felix, Maji Pranabesh, Dhar Roy Sanjay and Kundu Sumit, Secrecy Analysis of a Cognitive Radio Network with an Energy Harvesting AF Relay, *International Conference on Wireless Communications Signal Processing and Networking (WiSPNET)*, March. 2017.

C 37. Cherukuri Gowthamkrishnan, Sharma Shashibhushan, Nallagonda Srinivas and Kundu Sumit, Secure communication for wireless energy harvesting decode and forward relay in presence of an eavesdropper, *International Conference on Wireless Communications Signal Processing and Networking (WiSPNET)*, March. 2017.

C 36. Yadav Kuldeep, Dhar Roy Sanjay and Kundu Sumit, Hybrid Cooperative Spectrum Sensing with Cyclostationary Detection for Cognitive Radio Networks, *International IEEE India Conference (INDICON), IISc*, Bengaluru, Dec. 2016.

C 35. Kumar Anurag, Sharma Shashibhushan, Dhar Roy Sanjay and Kundu Sumit, Secrecy outage probability with destination assisted jamming in presence of an untrusted relay, *International IEEE India Conference (INDICON)*, IISc. Bengaluru, Dec. 2016.

C 34. S. Sharma, S. D. Roy and S. Kundu, Two way secure communication with two half-duplex DF relay, *TENCON 2017 - 2017 IEEE Region 10 Conference*, Penang, 2017, pp. 869-874. (International Conference)

C 33. Chandrima Thakur, Debjani Goswami, Sanjay Dhar Roy and Sumit Kundu, Throughput Analysis of Multiple Cognitive Radio Networks, *International IEEE India Conference (INDICON)*, IISc. Bengaluru, Dec. 2016

C32. Pranabesh Maji, Binod Prasad, Sanjay Dhar Roy, Sumit Kundu, Secrecy Outage of a Cognitive Relay Network with Energy Harvesting and Imperfect CSI, *IEEE WPMC*, Hyderabad, Dec 2015

C31. Binod Prasad, Sanjay DharRoy, Sumit Kundu , Secondary Throughput in Underlay Cognitive Radio Network with Imperfect CSI and Energy Harvesting Relay, *IEEE ANTS*, ISI, Kolkata, 2015.

C30. Srinivas Nallagonda, V Chandra Sekhar, Aniruddha Chandra, Sanjay Dhar Roy, Sumit Kundu, Detection Performance of Soft Data Fusion in Rician Fading Channel for Cognitive Radio Network, *IEEE WPMC*, Hyderabad, Dec 2015

C29. Binod Prasad, Sanjay Dhar Roy, Sumit Kundu , Throughput of Secondary User in Underlay Cognitive Relay Network with Energy Harvesting, *IEEE WPMC*, Hyderabad, Dec 2015.

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