Muhammad Naeem, Ph.D., MCSD, PE, SMIEEE

Address: COMSATS University Islamabad, Wah Campus, Wah Cantt, Pakistan

Phone: +92(051) 9314382-3 Ext. 211
Email: muhammadnaeem@gmail.com
mnaeem@ciitwah.edu.pk

Education

Post Doctoral Fellow Jan-2012 –Aug 2013	WIreless Networks & COmmunications REsearch Lab (WINCORE Lab), ELCE Department Ryerson University, Toronto, Canada
PhD 2011	Simon Fraser University, Burnaby, BC, Canada **Thesis**: *Computationally efficient algorithms for resource allocation in cognitive radio and green communication systems.*
M.Sc. Computer Engineering 2005	University of Engineering and Technology, Pakistan **Thesis**: *Symbol error probability analysis in wireless fading channels.*
B.Sc. Electrical Engineering 2000	University of Engineering and Technology, Pakistan **Project**: *Development of a complete working simulator for 8085 microprocessor.*

Professional Experience

Research

Post-Doctoral Fellow: Jan-Jan 2012 –Aug 2013	WinCORE Lab, Ryerson University, Toronto, Canada
Research Associate :Oct-2011 to Dec-2011	Simon Fraser University, Burnaby, BC, Canada
Research Assistant: Jan-2007 to Aug-2011	Simon Fraser University, Burnaby, BC, Canada

Teaching

Professor May 2023 to date	COMSATS university Islamabad, Wah campus
Associate Professor July 2016 to May 2023	COMSATS university Islamabad, Wah campus (Previously known as COMSATS Institute of Information Technology. **Courses**:
Assistant Professor August 2013 to July 2016	**BEE**: Electronics, Signal and Systems, Probability, Communication Systems, Circuit Analysis, EMI, Introduction to Power Engineering, Digital Signal Processing **MS/PhD**: Engineering Optimization, Stochastic Process, Power and Energy Management, Wireless Communication, Smart Grid, Special Topics in Wireless Communication systems, Modeling and Simulation, Optimization of Integrated Power Systems
Teaching Assistant	Simon Fraser University, Burnaby, BC, Canada
Lecturer Oct 2005-Jan 2007	Iqra University, Islamabad, Pakistan, Courses: Communication systems, Digital signal processing, Electronic circuits, Probability and statistics

Industry

Senior Design Engineer April 2002- Oct 2005	R&D department, Comcept (Pvt.) Limited, Islamabad Research and Platform Design of smart card based GSM and CDMA payphones
Design Engineer April 2000- April 2002	

Research Interests

1) Resource allocation and Non-Convex optimization in green, cognitive and wireless/sensor networks, 2) Computational Intelligence and Optimization, 3) Algorithms for mixed integer programming in communication and signal processing, 4) Applied Optimization and Probabilistic adaptive algorithms, 5) Renewable Energy and Smart Grid

Awards and Scholarships

1.	**European Union's Programme Horizon 2020: FED4FIRE$^+$ Innovative Experiments** (With Mr. Muhammad Ateeq and Dr. Muhammad Khalil Afzal) *Multi-Parametric QoS Predictions in Wireless Sensor Networks*	31,700 Euro, European Union
2.	**HEC National Research Programme For Universities (NRPU) 2018** (With Dr. Muhammad Iqbal) *A Frame Work For Remote Monitoring Of Cotton Plant Vigor*	1,159,327 Rs (Government of Pakistan)
3.	**HEC National Research Programme For Universities (NRPU) 2018** (With Dr. Ashfaq Ahmad) *A System For Health Monitoring Of Railway*	880,452 Rs (Government of Pakistan)
4.	**HEC Startup grant** 2019 (With Dr. Umer Javed) *Design, modeling and analysis of ubiquitous 5G wireless communication system*	470,000 Rs (Government of Pakistan)
5.	**Pakistan Council for Science and Technology Research Productivity Award - 2017 (Category C)**	57000 Rs (Government of Pakistan)
6.	**ICT R&D NGIRI FYP Grant** 2015 *Smart Energy Trading and Management System*	89000 Rs (Government of Pakistan)
7.	**Pakistan Council for Science and Technology Research Productivity Award - 2015 (Category C)**	57040 Rs (Government of Pakistan)
8.	**Research Productivity Award** 2014, 2015, 2016 and 2017	CIIT Pakistan
9.	**HEC Startup grant** 2014 *Multi-Criteria Optimization for Green Cooperative Cognitive Radio Network*	500,000 Rs (Government of Pakistan)
10.	**HEC Startup grant** 2014 *Efficient Hardware Implementation of Interpolation Filter for HEVC Standard, Targeting Low Power Mobile Devices.*	500,000 Rs (Government of Pakistan)
11.	**President Research Scholarship** 2011	Simon Fraser University, BC, Canada, [$6,250 CAD]
12.	**Alexander Graham Bell Canada Graduate scholarship** 2009-2011	Natural Sciences and Engineering Research Council (NSERC), Canada, [$70,000 CAD]
13.	**Travel and Research Award** 2010	SFU, BC, Canada, [$250 CAD]
14.	**Dean's Graduate Fellowship** 2008 and 2009	SFU, BC, Canada, [$6,250 CAD]
15.	**The Kaltenegger Family Graduate Scholarship 2009**	SFU, BC, Canada, [$700 CAD]

Publication Summary

Citations http://scholar.google.com.pk/citations?hl=en&user=noqjlnIAAAAJ

Patents	Editorial	Journals (with IF) 144			Journal Category	Conferences	Book Chapter	Citations	Total IF
2	1	**Technical**	**Magazine**	**Review /Survey**	**X**	68	5	5596	467
		118	2	24	1				

Research Supervision Summary

(Supervisor/Co-Supervisor)

PhD		MS		BS	
In Progress	Completed	In Progress	Completed	In Progress	Completed
5	6	3	38	1	9
4/1	4/1	2/1	33/5	-	-

Patents

1. D.C. Lee and **M. Naeem** , "Methods of Selecting Signal Transmitting, Receiving, and/or Sensing Devices with Probabilistic Evolutionary Algorithms in Information Conveyance Systems," US Patent US 8,457,240 B2, 2013.
2. D.C. Lee and **M. Naeem** , "EDA-based detection of communication signals," US Patent US 8,391,421 B2, 2013.

Editorial

1. W. Ejaz, A. Anpalagan, M. A. Imran, M. Jo, **M. Naeem**, and S. Qaisar, "Internet of Things (IoT) over 5G Wireless Communications," IEEE Access, vol. 4, pp. 10310-10314, 2016.

Journals

Accepted

1. R. Khalid, Z. Shah, **M. Naeem**, A. Ali, A. Al-Fuqaha, and W. Ejaz, "Computational Efficiency Maximization for UAV-assisted MEC Networks with Energy Harvesting in Disaster Scenarios," IEEE Internet of Things Journal, vol. xx, no. x, pp. xxxx-xxxx, 2023. **IF: 10.6**
2. H. Ur Rehman, S. A. Haider, S. R. Naqvi, O. Chughtai, **M. Naeem**, and W. Ejaz. "IoT-assisted energy cooperation in adjacent buildings with interrupted utility." Journal of Building Engineering (2023), **IF:6.4**
3. Z. Shah, U. Javed, **M. Naeem**, S. Zeadally and W. Ejaz, "Mobile Edge Computing (MEC)-Enabled UAV Placement and Computation Efficiency Maximization in Disaster Scenario," IEEE Transactions on Vehicular Technology, vol. xx no. xx pp. xxxx-xxxx, 2023. IF:4.066
4. M.R. Ramzan, **M. Naeem**, O. Chughtai, W. Ejaz and M. Altaf, "Radio resource management in energy harvesting cooperative cognitive UAV assisted IoT networks: A multi-objective approach," Digital Communications and Networks, vol. xx no. xx pp.xxxx-xxxx, 2023. IF:7.9
5. S. S. Khan, S. Ahmad and **M. Naeem**, "On-grid Joint Energy Management and Trading in Uncertain Environment" Applied Energy, (Accepted) Nov 2022 IF: 11.44
6. M. Ahmad, M. Awais, **M. Naeem**, M. Altaf, M. Iqbal and M. Abrar, "Radio Resource Management for Device to Device Communication Using S and V shaped Transfer Functions" Telecommunication Systems, , vol. xx, pp. xx-xx, 2022 IF: 1.54
7. U. Ghafoor, M. Ali, H. Z. Khan, A. M. Siddiqui and **M. Naeem**, "Efficient resource allocation for hybrid nonorthogonal multiple access based heterogeneous networks beyond fifth-generation.," *Transactions on Emerging Telecommunications Technologies*, vol. xx, no.x, pp. 2022, **IF: 1.535**

Published

8. A. Azam, M. Imran, M. Ali, H. Z. Khan, A. Wakeel, and **M. Naeem**. "Joint user and throughput maximization in re-configurable intelligent surface assisted beyond 5G/6G networks." Transactions on Emerging Telecommunications Technologies, vol. 34, no. 8, August 2023. IF:3.25
9. R. Shahzadi, M. Ali and **M. Naeem**, "Combinatorial Resource Allocation in UAV-Assisted 5G/B5G Heterogeneous networks," IEEE Access, vol. 11., pp 65336 - 65346, June 2023, IF: 3.22
10. R. Masroor, **M. Naeem**, Tallha Akram, Abdullah M. Almasoud, and Waleed Ejaz. "Optimal stratified placement of balloons and UAVs to support users' coverage." Internet of Things, vol. 23, Oct 2023, **IF:5.9**

11. U. Ghafoor, H. Z.Khan, A. Masood Siddiqui, M. Ali, A. Rauf, A. Wahla, and **M. Naeem**. "Cluster based resource management using H-NOMA in heterogeneous networks beyond 5G.", Ad Hoc Networks vol. 149 , Oct 2023. **IF:3.64**

12. M. Riaz, S. Ahmad and **M. Naeem**," Joint energy management and trading among renewable integrated microgrids for combined cooling, heating, and power systems," Journal of Building Engineering, vol. 15, pp 1-18, Sep 2023, IF: 6.4

13. H. Z. Khan, U. Fakhar, Z. Tariq, M. Ali, A. N. Akhtar, **M, Naeem** and A. Wakeel,"Radio Resource Allocation for Energy Efficiency Maximization in Satellite-Terrestrial Integrated Networks," Ad Hoc Networks, vol. 138, pp 1-18, Jan 2023, IF: 3.64

14. Z. Tariq, H. Z. Khan, U. Fakhar, M. Ali, A. N. Akhtar, **M. Naeem** and A. Wakeel, "Fairness-based User Association and Resource Blocks Allocation in Satellite-Terrestrial Integrated Networks," *Physical Communication, Vol. 55,* pp. 1-16, *Dec. 2022*, **IF: 2.319**

15. U. Ghafoor, H.Z. Khan, M. Ali, A. M. Siddiqui, **M. Naeem** and I. Rashid, "Energy Efficient Resource Allocation for H-NOMA Assisted B5G HetNets," IEEE Access, vol. 10. pp 91699 – 91711, Aug. 2022, IF: 3.22

16. U. Ghafoor, M. Ali, H.Z. Khan, A. M. Siddiqui1 and **M. Naeem,** "NOMA and Future 5G & B5G wireless networks: A paradigm," *Journal of Network and Computer Applications*, vol. 204, pp. 1-30, Aug. 2022 **IF: 5.570**

17. M. Basharat, A. Anpalagan, Z. Qadir and **M. Naeem**, "Resource Optimization in UAV-assisted Wireless Networks-A Comprehensive Survey," *Transactions on Emerging Telecommunications Technologies*, vol. 33, no. 7, pp. 1-32, July 2022, **IF: 1.535**

18. Z. Shah, **M. Naeem**, U. Javed, W. Ejaz, and M. Altaf, "A Compendium of Radio Resource Management in UAV-assisted Next Generation Computing Paradigms," Ad Hoc Networks, vol. 131, pp 1-30, June 2022, IF: 3.64

19. A. Mahmood, A. Ahmed, **M. Naeem**, M. Rizwan Amirzada, A. Al-Dweik, "Weighted Utility Aware Computational Overhead Minimization of Wireless Power Mobile Edge Cloud," *Computer Communications*, vol. 190, pp. 178-189, June 2022, **IF: 2.766**

20. F. Shahzad, M. Ali, H. Z. Khan, **M. Naeem**, U. Masud and F. Qamar, "Joint User Association and Energy Efficiency maximization in Beyond 5G Heterogeneous Networks," *International Journal of Communication Systems*, vol. 35, no. 8 , pp 1-16, May 2022, **IF: 1.7**

21. S. Khalid, R. Mehmood, W. B. Abbas, F. Khalid and M. Naeem, "Energy Efficiency Maximization of Massive MIMO Systems using RF Chain Selection and Hybrid Precoding" Telecommunication Systems, , vol. 80, pp. 251-261, April 2022 IF: 1.54

22. N. Riaz, S. Qaisar, M. Ali and **M. Naeem**, "Node Selection and Utility Maximization for Mobile Edge Computing Driven IoT," *Transactions on Emerging Telecommunications Technologies*, vol. 33, no.3, pp. March 2022, **IF: 1.535**

23. R. Khalid, Z. Shah, M. Naeem, A. Ali, A. Al-Fuqaha, and W. Ejaz, "Computational Efficiency Maximization for UAV-assisted MEC Networks with Energy Harvesting in Disaster Scenarios," IEEE Internet of Things Journal, vol. xx, no. x, pp. xxxx-xxxx, 2023. IF: 10.6

24. H Ur Rehman, S.A. Haider, S.R. Naqvi, **M. Naeem**, K.S. Kwak, and S.M.R. Islam, "Environment Friendly Energy Cooperation in Neighboring Buildings: A Transformed Linearization Approach," *Energies , v*ol. 15, no. 3, pp. 1-15, Feb. 2022 **IF: 2.702**

25. M. Riaz, S. Ahmad, I. Hussain, **M. Naeem** and L. Mihet-Popa, "Probabilistic Optimization Techniques in Smart Power System," *Energies , v*ol. 15, no. 3, pp. 1-39, Jan 2022 **IF: 2.702**

26. H. Z. Khan, M. Ali, **M. Naeem**, I. Rashid, S. Mumtaz, A. A. Khan and A. N. Akhtar, "Secure resource management in beyond 5G heterogeneous networks with decoupled access," Ad Hoc Networks, vol. 125, pp 1-12, Feb. 2022, IF: 3.64

27. H. Z. Khan, M. Ali, I. Rashid, A. Ghafoor, **M. Naeem** and A. M. Siddiqui, "Resource Allocation for Energy Efficiency Optimization in Uplink Downlink Decoupled 5G Heterogeneous Networks," *International Journal of Communication Systems*, vol. 34, no. 14, pp 1-23, Sep. 2021, **IF: 1.7**

28. R. Masroor, **M. Naeem**, and W. Ejaz, "Efficient Deployment of UAVs for Disaster Management: A Multi-criterion Optimization Approach," *Computer Communications*, vol. 177, pp. 185-194, Sep. 2021, **IF: 2.766**

29. H. Z. Khan, M. Ali, **M. Naeem**, I. Rashid, A. N. Akhtar, F. Akram, "Joint DL/UL Decouple User Association in Microwave and mmWave Enabled Beyond 5G Heterogeneous Networks," *IEEE Access*, vol. 09. pp 134703 – 134715, Oct. 2021, **IF: 3.22**

30. W. Ejaz, **M. Naeem**, S. K. Sharma, A. M. Khattak, M. R. Ramzan, A. Ali, and A. Anpalagan, "IoV-based Deployment and Scheduling of Mobile Charging Infrastructure for Intelligent Transportation Systems," *IEEE Sensors Journal*, vol. 21, no. 14., pp. 15504 – 15514, July 2021. **IF: 2.512**

31. A. Ahmed, A. Al-Dweik, Y. Iraqi, H. Mukhtar, **M. Naeem** and E. Hossain, "Hybrid Automatic Repeat Request (HARQ) in Wireless Communications Systems and Standards: A Contemporary Survey," *IEEE Communications Surveys and Tutorials*, vol. 23, no. 4., pp 2711-2752, Oct, 2021, **IF: 20.23**

32. M. Ateeq, H. Habib, M. K. Afzal, **M. Naeem** and S. W. Kim, "Towards Data-Driven Control of QoS in IoT: Unleashing the Potential of Diversified Datasets," *IEEE Access*, vol. 9., pp 146068-146081, Oct 2021, **IF: 3.22**

33. W. Ejaz, **M. Naeem** and S. Zeadally, "On-demand Sensing and Wireless Power Transfer for Self-sustainable Industrial IoT Network," *IEEE Transactions on Industrial Informatics*, , vol. 10, pp. 7075 - 7084, Oct. 2021 **IF: 5.43**

34. R. Shahzadi, M. Ali, H. Z. Khan and **M. Naeem**, "UAV Assisted 5G and Beyond Wireless Networks: A Survey," *Journal of Network and Computer Applications*, , vol. 189, pp. 1-20, Sep. 2021 **IF: 5.570**

35. R. Masroor, **M. Naeem** and W, Ejaz, "Resource Management in UAV-assisted Wireless Networks: An Optimization Perspective," *Ad Hoc Networks*, vol. 121., pp 1-27, OCT. 2021, **IF: 3.64**

36. R. Basir, M. Ali, S. B. Qaisar and **M. Naeem**, "Cloudlet Selection in Cache-Enabled Fog Networks for Latency Sensitive IoT Applications," *IEEE Access*, vol. 9., pp 93224-93236, August 2021, **IF: 3.22**

37. S. M. Amjad, O. Chughtai, **M. Naeem** and W. Ejaz, "SWIPT-Assisted Energy Efficiency Optimization in 5G/B5G Cooperative IoT Network," *Energies* , Vol. 14, 1-25, April 2021 **IF: 2.702**

38. S. Khalid, R. Mehmood, W. B. Abbas, F. Khalid and **M. Naeem**, "Probabilistic Distribution Learning Algorithm Based Transmit Antenna Selection and Precoding for Millimeter Wave Massive MIMO System," *Telecommunication Systems*, , vol. 76, pp. 449-460, Feb 2021 **IF: 1.54**

39. F. Irrum, M. Ali, **M. Naeem**, A. Anpalagan, S. Qaisar and F. Qamar, "D2D-Enabled Resource Management in Secrecy-ensured 5G and Beyond Heterogeneous Networks," *Physical Communication, Vol. 45,* pp. 1-10*, April 2021*, **IF: 1.415**

40. A. Ahmed, **M. Naeem** and A. Al-Dweik, "Joint Optimization of Sensors Association and UAVs Placement in IoT Applications with Practical Network Constraints," *IEEE Access*, vol. 9., pp 7674-7689, Jan. 2021, **IF: 3.22**

41. H. Z. Khan, M. Ali, **M. Naeem**, I. Rashid, A. M. Siddiqui, M. Imran and S. Mumtaz, "Joint Admission Control, Cell association, Power allocation and Throughput Maximization in Decoupled 5G Heterogeneous Networks" *Telecommunication Systems*, , vol. 76, No. 1 pp. 115-128, Jan 2021 **IF: 1.54**

42. F. Ahmed, **M. Naeem**, W. Ejaz, M. Iqbal, A. Anpalagan and M. Haneef, "Energy Cooperation with Sleep Mechanism in Renewable Energy Assisted Cellular HetNets," *Wireless Personal communications,* vol. 116, no. 1, pp 105-124, Jan 2021, **IF: 1.2**

43. T. Akram, M. Awais, R. Naqvi, A. Ahmed, **M. Naeem**, "Multicriteria UAV Base Stations Placement For Disaster Management," *IEEE Systems Journal*, vol. 14, no. 3, pp. 3475-3482, Sep 2020, **IF: 4.463**

44. M. Ateeq, M. K. Afzal, **M. Naeem**, M. Shafiq, J.-G. Choih, "Deep Learning-Based Multi parametric Predictions for IoT," *Sustainability*, vol. 12, no. 8, pp. 1-12, Sep 2020, **IF: 2.57**

45. A. S. Khwaja, A. Anpalagan, **M. Naeem** and B. Venkatesh, "Smart Meter Data Obfuscation Using Correlated Noise," *IEEE Internet of Things Journal*, vol. 7, no. 8, pp. 7250-7264, August 2020, **IF: 5.86**

46. S. Ahmad, M. Alhaisoni, **M. Naeem**, A. Ahmad and M. Altaf, "Joint Energy Management and Energy Trading in Residential Microgrid System," *IEEE Access*, vol. 8. xx, pp 123334-123346, Dec. 2020, **IF: 3.22**

47. S. Khalid, R. Mehmood, W. B. Abbas, F. Khalid and **M. Naeem,** "Joint Transmit Antenna Selection And Precoding for Millimeter wave Massive MIMO Systems," *Physical Communication, Vol. 42,* pp. 1-10, *Oct 2020*, **IF: 1.415**

48. A. Mahmood, A. Ahmed, **M. Naeem** and Y. Hong**,** "Partial Offloading in Energy Harvested Mobile Edge Computing: A Direct Search Approach," *IEEE Access,,* vol. 8, no. 1, pp 36757-36763, Dec. 2020, **IF: 3.22**

49. **M. Naeem**, W. Ejaz, M. Iqbal, F. Iqbal, A. Anpalagan, and J. P. C. Rodrigues, "Efficient Scheduling of Video Camera Sensor Networks for IoT Systems in Smart Cities" *Transactions on Emerging Telecommunications Technologies ,* vol. 31 no. 5, pp. 1-13, May 2020 **IF: 1.54**

50. M. Afzal,, Q. Huang, W. Amin, K. Umer, A. Raza and **M. Naeem,** "Blockchain Enabled Distributed Demand Side Management In Community Energy System With Smart Homes," *IEEE Access*, vol. 8, no. 1 , pp 37428-37439, Dec. 2020, **IF: 3.22**

51. W. Ejaz, S. K.Sharma, S. Saadat, **M. Naeem**, A. Anpalagan and N.A.Chughtai, "A comprehensive survey on resource allocation for CRAN in 5G and beyond networks," *Journal of Network and Computer Applications*, vol. 160, pp. 1-11, June 2020, **IF: 3.99**

52. M. Yousaf, M. Ali, S. Qaiser, **M. Naeem**, C. Chrysostomou and M. Iqbal, "Placement Optimization for Renewable Energy Sources: Ontology, Tools and Wake Models," *IEEE Access*, vol. 8, pp. 72781 - 72800, April 2020, **IF: 3.55**

53. M. Ali, S. Qaisar, **M. Naeem**, S. Mumtaz and J.P.C. Rodrigues**,** "Combinatorial resource allocation in D2D assisted heterogeneous relay networks," *Future Generation Computer Systems,* vol. 107, pp. 956-964, June 2020 **IF: 3.997**

54. S. Ahmad, **M. Naeem** and A. Ahmad, "Unified Optimization Model for Energy Management in Sustainable Smart Power Systems," *International Transactions on Electrical Energy Systems.* vol. 30, no. 4, pp. 1-13, April 2020 **IF: 1.619**

55. M. Ahmad, M. Ali, **M. Naeem**, A. Ahmed, M. Iqbal, W. Ejaz and A. Anpalagan, "Device-Centric Communication in IoT: An Energy Efficiency Perspective" *Transactions on Emerging Telecommunications Technologies ,* vol. 21, no. 2, pp. 1-15, Feb 2020 **IF: 1.54**

56. W. Ejaz, M. Basharat, S. Saadat, A. M. Khattak, **M. Naeem**, and A. Anpalagan, "Learning Paradigms for Communication and Computing Technologies in IoT Systems," *Computer Communications*, vol. 153, pp. 11-25, March 2020, **IF: 2.766**

57. H. Z. Khan, M. Ali, **M. Naeem**, I. Rashid and M. Imran, "Resource Allocation in 5G Heterogeneous Networks with Downlink-Uplink Decoupled Access," *Transactions on Emerging Telecommunications Technologies*, vol. 31, no. 3, pp. 1-18, March 2020, **IF: 1.535**

58. A. Basit, S. Qaisar, M. Ali, **M. Naeem**, M. Bruyerex, J. P. C. Rodrigues, "Interconnecting Networks with Optimized Service Provisioning" *Telecommunication Systems*, , vol. 73, pp. 223-239, 2020 **IF: 1.54**

59. A. Awan, M. Ali, **M. Naeem,** F. Qamar and M. N. Sial, , "Joint Network Admission Control, Mode Assignment and Power Allocation in Energy Harvesting aided D2D Communication," *IEEE Transactions on Industrial Informatics.* vol. 16, no. 3, pp. 1914-1923, March 2020 **IF: 6.764**

60. A. Khwaja, A Anpalagan, **M. Naeem**, and B. Venkatesh, "Joint Bagged-Boosted Artificial Neural Networks: Using Ensemble Machine Learning to Improve Short-term Electricity Load Forecasting" *Electric Power Systems Research,* vol. 179, pp. 1-7, Feb 2020 **IF: 2.8**

61. F. Ahmed, **M. Naeem**, W. Ejaz, M. Iqbal and A. Anpalagan**,** "Renewable Energy Assisted Sustainable and Environment Friendly Energy Cooperation in Cellular Networks," *Wireless Personal communications,* vol. 108, no. 4, pp 2585-2607, Oct. 2019, **IF: 1.2**

62. M. Ahmad, **M. Naeem** and M. Iqbal**,** "Estimation of Distribution Algorithm for Joint Resource Management in D2D Communication," *Wireless Personal communications,* vol. 108, no. 2, pp 1113-1129, 2019, **IF: 1.2**

63. S. R. Naqvi, A. Roman, T. Akram, M. Mohaia, Alhaisoni, **M. Naeem**, S. A. Haider, O. Chughtai, M. Awais, "An Optimization Framework for Codes Classification and Performance Evaluation of RISC Microprocessors," *Symmetry,* vol. 11, pp. 1-20, July 2019. **IF: 2.143**

64. M. Ateeq, F. Ishmanov, M. K. Afzal, **M. Naeem,** "Predicting Delay in IoT using Deep Learning: A Multiparametric Approach," *IEEE Access,,* vol. 7, no. 1, pp 62022-62031, Dec. 2019, **IF: 3.22**

65. A. Ahmed, M. Ali, **M. Naeem**, M. Iqbal, U. Pareek, A. A. Khan, "A Non-Orthogonal Cooperative Scheme for Multi-user CRN using Probabilistic Interference Constraint," *Transactions on Emerging Telecommunications Technologies*, vol. 30, no. 5, pp. 1-13, May 2019, **IF: 1.535**

66. M. Awais, A. Ahmed, S. A. Ali, **M. Naeem**, W. Ejaz, and A. Anpalagan, "Resource Management in Multicloud IoT Radio Access Network," *IEEE Internet of Things Journal*, vol. 6, no. 2, pp. 3014 - 3023, April 2019 **IF: 5.863**

67. M. Ahmad, F. A. Orakzai, A. Ahmed, **M. Naeem**, M.Iqbal and T. Umer, "Energy efficiency in cognitive radio assisted D2D communication networks," *Telecommunication Systems*, vol. 71, pp. 167-180, April 2019 **IF: 1.54**

68. M. Basharat, **M. Naeem**, W. Ejaz, A. M. Khattak, A. Anpalagan, O. Alfandi, H. S. Kim, "Non-orthogonal Radio Resource Management for RF Energy Harvested 5G Networks," *IEEE Access*, vol. 07, no. 01, pp. 46550-46561, Dec 2019, **IF: 3.224**

69. R. Farhan, A. Niaz, M. Ali, **M. Naeem**, J. JPC Rodrigues, S. M. Anwar, F. Qamar, "Three Tier Fog Networks: Enabling IoT/5G for Latency Sensitive Applications," *China Communication,* vol. 16, no. 3,pp. 1-11, Mar. 2019 **IF: 1.514**

70. M. Ateeq, F. Ishmanov, M. K. Afzal, **M. Naeem**, "Multi-Parametric Analysis of Reliability and Energy Consumption in IoT: A Deep Learning Approach," *Sensors,* vol. 19, no. 02, pp. 1-20. . Feb 2019. **IF: 2.475**

71. S. Ahmad, **M. Naeem** and A. Ahmad, "Low Complexity Approach for Energy Management in Residential Buildings," *International Transactions on Electrical Energy Systems*. vol. 29, pp. 1-19, Jan 2019 **IF: 1.619**

72. F. A. Orakzai, M. Iqbal, **M. Naeem** and A. Ahmad, "Energy Efficient Joint Radio Resource Management in D2D Assisted Cellular Communication" *Telecommunication Systems*, , vol. 69, no. 4, pp. 505-517, Dec. 2018 **IF: 1.54**

73. M. Amjad, A. Ahmed, **M. Naeem**, M. Awais, W. Ejaz, A. Anpalagan, "Resource Management in Energy Harvesting Cooperative IoT Network under QoS Constraints," *Sensors,* vol. 18, no. 10, pp. 1-19. Oct. 2018. **IF: 2.475**

74. S. Ahmad, A. Ahmad, **M. Naeem**, W. Ejaz and H. S. Kim, "A Compendium of Performance Metrics, Pricing Schemes, Optimization Objectives and Solution Methodologies of Demand Side Management for Smart Grid," *Energies*, vol. 11, no. 10, pp. 1-33 Oct. 2018. **IF: 2.676**

75. M. Ali, S Qaisar, **M. Naeem**, Joel J. P. C. Rodrigues and F. Qamar, "Resource Allocation for Licensed and Unlicensed Spectrum in 5G Heterogeneous Networks," *Transactions on Emerging Telecommunications Technologies*, vol. 29, no. 10, pp. 1-15, 2018, **IF: 1.535**

76. A. Karmokar, **M. Naeem** and A. Anpalagan, "Green Metric Optimization in Cooperative Cognitive Radio Networks with Statistical Interference Parameters," *IEEE Systems Journal*, vol. 12, no. 1, pp. 1034-1037, March 2018 **IF: 3.8820**

77. F. Ahmed, **M. Naeem**, W. Ejaz, M. Iqbal, and A. Anpalagan, "Resource Management in Cellular Base Stations Powered by Renewable Energy Sources," *Journal of Network and Computer Applications*, vol. 112, no. 15, pp. 1-17, June 2018 **IF: 3.5**

78. M. Ali, N. Riaz, M. I. Ashraf, S. Qaisar and **M. Naeem**, "Joint Cloudlet Selection and Latency Minimization in Fog Networks," *IEEE Transactions on Industrial Informatics*. vol. 14, no. 9, pp. 1551-3203, Sep. 2018 **IF: 6.764**

79. N. A. Chughtai, M. Ali, S. Qaisar, M. Imran and **M. Naeem**, "Energy Efficient Resource Allocation for Energy Harvesting Aided H-CRAN," *IEEE Access,* vol. 6, no. 1, pp. 43990-44001, Dec. 2018 **IF: 3.224**

80. M. Ahmad, **M. Naeem**, M. Iqbal, W. Ejaz, A. Anpalagan, "Joint User Selection, Mode Assignment and Power Allocation in Cognitive Radio Assisted D2D Networks," *IET Communication,* vol. 12, no. 10, pp. 1207–1214, June 2018 . **IF: 1.06**

81. A. Ahmed, M. Awais, **M. Naeem**, M. Iqbal, W. Ejaz, A. Anpalagan and H. Kim, "Multiple Line Outage Detection in Smart Grid: A Probabilistic Bayesian Approach," *IEEE Access,* vol. 6, no. 1, pp. 10650-10661, Dec. 2018 **IF: 3.224**

7

82. A. Ahmed, Q. Khan, **M. Naeem**, M. Iqbal, A. Anpalagan and M. Awais, "An Insight to The Performance of Estimation of Distribution Algorithm for Multiple Line Outage Identification," *Swarm and Evolutionary Computation,* Vol. 39, pp. 114-122, April 2018, **IF: 3.893**

83. M. Basharat, W. Ejaz, **M. Naeem**, A. M. Khattak, and A. Anpalagan, "A Survey and Taxonomy on Non-Orthogonal Multiple Access Schemes for 5G Networks," *Transactions on Emerging Telecommunications Technologies*, vol. 29, no. 1, pp 1-17, Jan 2018 **IF: 1.535**

84. M. Iqbal, **M. Naeem**, A. Ahmed, M. Awais, A. Anpalagan and A. Ahmad, "Swarm Intelligence Based Resource Management for Cooperative Cognitive Radio Network in Smart Hospitals," *Wireless Personal communications,* vol. 98, no. 1, pp 571–592, Jan. 2018, **IF: 0.951**

85. F. Dowlatdad, F. Hussain, **M. Naeem** and A. Anpalagan, "Cross Layer Optimization for ZigBee-Based Transmission Line Monitoring and Data Collection," (with Ryerson only) *Wireless Personal communications,* vol. 98, no. 1, pp 1413–1433, Jan. 2018, **IF: 0.951**

86. F. Ahmed, **M. Naeem**, M. Iqbal, W. Ejaz, A. Anaplagan and H. S. Kim, "Renewable Energy Assisted Traffic Aware Cellular Base Station Energy Cooperation," *Energies*, vol. 11, no. 1, Jan. 2018. **IF: 2.676**

87. **M. Naeem**, W. Ejaz, L. Karim, S. H. Ahmed, A. Anpalagan, M. Jo, and H. Song, "Distributed Gateway Selection for Machine-to-Machine Communication in Cognitive 5G Networks," *IEEE Network*, Vol. 31, no. 6, pp. 94-100, Nov. 2017, **IF: 7.23**

88. A. A. Khan, N. N. Qadri, , A. Mahbub, M. Y. Qadri, M. Iqbal and **M. Naeem**, "Energy-efficient MAC Protocols for Wireless BANs: Comparison, Classification, Applications and Challenges," *International Journal of Sensor Networks*. vol. 25, no. 3, 3rd Quarter2017 **IF: 0.635**

89. M. Ali, Q. Rabbani, M. Naeem, S. Qiasar and F. Qamar, "Joint User Association, Power Allocation and Throughput Maximization in 5G H-CRAN Networks," *IEEE Transactions on Vehicular Technology*, Vol 66, No. 10, pp. 9254-9262 . Oct. 2017 IF:**4.066**

90. F. Alam, M. Iqbal, A. Ahmad, **M. Naeem**, "A Compendium of Optimization Techniques for Green Radio Resource Management," *Telecommunication Systems*, vol 66, no. 3, pp. 447-468 Nov. 2017. **IF: 1.54**

91. M. Ali, S. Qaisar, **M. Naeem** and S. Mumtaz, "Smart Heterogeneous Networks: A 5G Paradigm," *Springer Telecommunication Systems*, Vol. 66, no. 2, pp. 311-330, October 2017. **IF: 1.54**

92. M. Afzal, **M. Naeem**, M. Iqbal, M. Sharif, and Qi Huang, "Efficient energy resource scheduling for sustainable diversified farming," *Journal of Renewable and Sustainable Energy*, Vol. 9, pp. 449021 - 4490213, 2017 **IF: 1.135**

93. M. R. Ramzan, N. Nawaz, A. Ahmed, **M. Naeem**, M. Iqbal and A. Anpalagan, "Multi-objective optimization for spectrum sharing in cognitive radio networks: A review," *Pervasive and Mobile Computing*, Vol. 41, pp. 106-131, October 2017. **IF: 2.349**

94. M. Ahmad, M. Azam, **M. Naeem**, M. Iqbal, A. Anpalagan and M. Haneef, "Resource Management in D2D Communication: An Optimization Perspective," *Journal of Network and Computer Applications*. Vol. 93, pp-51-75, Sep. 2017. **IF: 3.5**

95. M. Awais, A. Ahmed, **M. Naeem**, M. Iqbal, W. Ejaz, A. Anpalagan and H.S. Kim, "Efficient Joint User Association and Resource Allocation for Cloud Radio Access Networks," *IEEE Access, Vol 5, pp 1438-1448. 2017* **IF: 3.224**

96. F. Hussain, A. Anpalagan, A. S. Khwaja and **M. Naeem**, "Resource Allocation and Congestion Control in Clustered M2M Communication using Q-Learning," *Transactions on Emerging Telecommunications Technologies*, Vol. 28, no. 4 , April 2017. **IF: 1.535**

97. M. N. Naz, M. I. Mushtaq, M. Naeem, M. Iqbal, M. W. Altaf and M. Haneef, "Multicriteria Decision Making for Resource Management in Renewable Energy Assisted Microgrids," *Renewable & Sustainable Energy Reviews*. Vol. 71, pp323-341, May 2017. **IF: 8.05**

98. M. N. Naz, **M. Naeem**, M. Iqbal, M. Imran, "Economically Efficient and Environment Friendly Energy Management in Rural Area," *Journal of Renewable and Sustainable Energy*, Vol. 9, pp. 15501-155010, Jan 2017 **IF: 1.135**

99. W. Ejaz, **M. Naeem**, A. Shahid, A. Anpalagan, and M. Jo, "Efficient Energy Management for Internet of Things in Smart Cities," *IEEE Communications Magazine*, Vol. 55, No. 1, pp. 84-91, Jan 2017 **IF: 10.435**

100. F. Ahmed, **M. Naeem** and M. Iqbal, "ICT and Renewable Energy: A Way Forward to the Next Generation Telecom Base Stations," *Telecommunication Systems*, Vol. 64, pp. 43-56, 2017 **IF: 1.54**

101. M. Ahmad, **M. Naeem**, A. Ahmed, M. Iqbal and A. Anpalagan, "Mesh Adaptive Direct Search Approach for D2D Resource Management," *Wireless Communications and Mobile Computing*, Vol 16, pp. 2329-2339, 2016. **IF: 1.899**

102. M. Azam, M. Ahmad, **M. Naeem**, M. Iqbal, A. S. Khwaja , A. Anpalagan and S. Qaisar, "Joint Admission Control, Mode Selection and Power Allocation in D2D Communication Systems," *IEEE Transactions on Vehicular Technology*, vol. 65 no. 9 pp.7322-7333, September 2016. **IF:4.066**

103. M. Ali, S. Qaisar, **M. Naeem** and S. Mumtaz, "Energy Efficient Resource Allocation in D2D-Assisted Heterogeneous Networks with Relays," *IEEE Access*, vol. 4, pp-4902-4911, 2016. **IF: 3.224**

104. **M. Naeem**, A. S. Khwaja, A. Anpalagan and M. Jaseemuddin, "Green Cooperative Cognitive Radio: A Multi-objective Optimization Paradigm," *IEEE Systems Journal*, vol. 10 no. 1 pp.240-250, March 2016 **IF: 3.8820.**

105. W. Ejaz, **M. Naeem**, M. Basharat, A. Anpalagan, and S. Kandeepan, "Efficient Wireless Power Transfer in Software-Defined Wireless Sensor Networks," *IEEE Sensors Journal*, vol. 16, no. 20. Oct. 2016. **IF: 2.512**

106. A. S. Khwaja, **M. Naeem** and A. Anpalagan, "Pattern Search based Non-convex Cooperative Sensing in Multiband Cognitive Radio Systems," *IEEE Systems Journal*, vol. 10 no. 2 pp.580-591, June 2016 **IF: 3.8820.**

107. N. Majedi, **M. Naeem** and A. Anpalagan, "Telecommunication Integration in e-Healthcare: Technologies, Applications and Challenges," *Transactions on Emerging Telecommunications Technologies*, vol. 27 no. 6 pp.775-789, June 2016, **IF: 1.535 (**With Ryerson only**).**

108. M. Iqbal, **M. Naeem**, A. Anpalagan, N. N. Qadri and M. Imran, "Multi-objective Optimization in Sensor Networks: Optimization Classification, Applications and Solution Approaches," *Computer Networks*, Vol. 99, April 2016, Pages 134-161, **IF: 2.516**

109. K. Illanko. **M. Naeem**, A. Anaplagan and D. Androutsos, "Energy Efficient Frequency and Power Allocation for Cognitive Radios in Television Systems," *IEEE Systems Journal*, vol. 10 no. 1 pp. 313-324, March 2016 **IF: 3.8820.**

110. Zahooruddin, A. Ahmad, M. Iqbal and **M. Naeem** "Modified Infomax Algorithm for Smaller Data Block Lengths," *Springer Wireless Personal communications,* vol. 87, pp. 245-264, 2016 **IF: 0.951**

111. A. A. Khan, **M. Naeem**, M. Iqbal, S. Qaisar and A. Anpalagan, "A Compendium of Optimization Objectives, Constraints, Tools and Algorithms for Energy Management in Microgrids," *Elsevier Renewable & Sustainable Energy Reviews.* Vol 58, pp. 1664-1683 May 2016 **IF: 8.05**

112. M. Awais, A. Ahmed, **M. Naeem**, M. Iqbal, N. N. Qadri and A. Anpalagan, "Multiple Line Outages Identification: A Customized Quantum Inspired Approach," *Electric Power Systems Research*, vol. 134, pp. 47-55, May 2016. **IF: 2.688.**

113. F. Qayyum, M. Naeem, A. Khwaja, A Anpalagan, L. Guan, and B. Venkatesh, "Appliance Scheduling Optimization in Smart Home Networks," *IEEE Access,* Vol. 3, 2015**, IF: 3.224.**

114. N. Majedi,A. S. Khwaja, **M. Naeem** and A. Anpalagan, "Central Processing Point Deployment for e-Healthcare Services Using Wireless Networks," *IEEE Canadian Journal of Electrical and Computer Engineering*, vol. 38, no. 3, pp. 274-284, 2015 . **IF: 1.091**

115. **M. Naeem**, U. Pareek, D.C. Lee, A. S. Khwaja, A. Anpalagan , "Wireless Resource Allocation in Next Generation Healthcare Facilities," *IEEE Sensors Journal*, vol. 15, no. 3, pp. 1463-1474, March 2015. (**Listed among top accessed articles in IEEE Sensor Journal in January, February, March, April, May and June 2015.**) **IF:2.512**

116. **M. Naeem**, A. Anpalagan and M. Jaseemuddin, "Min-Max Energy-Efficiency Analysis of Green Multiuser Wireless Systems," *Wireless Personal communications,* vol. 80, no. 1, pp. 347-356, Jan. 2015 **IF: 0.951**

117. Y. Liu, M. Iqbal, **M. Naeem**, A. Anpalagan and N. N. Qadri, "Resource Allocation in Hospital Networks based on Green Cognitive Radios," *Wireless Personal communications, ,* vol. 85, no. 3, pp. 1487-1507, Dec. 2015, **IF: 0.951**

118. M. Iqbal, **M. Naeem**, A. Anpalagan, A. Ahmed and M. Azam, "Wireless Sensor Network Optimization: Multi-Objective Paradigm," *Sensors,* vol. 15, no. 7, pp. 17572-17620, July 2015. **IF: 2.475**

119. Zahooruddin, A. Ahmad, M. Iqbal, **M. Naeem** and M. Altaf "Applications of Independent Component Analysis in Wireless Communication Systems," *Wireless Personal communications,* vol. 84, no. 4, pp. 2711-2737 August **2015. IF: 0.951**

120. M. Y. Khan, S. B. Qaisar, **M. Naeem**, A. Aslam, S. Shahid and I. Naqvi, "Detection and Self-Healing of Cluster Breakages in Mines and Tunnels: An Emperical Investigation," *Sensor Review*, vol. 35, no. 3, **2015. IF:1.277**

121. A. S. Khwaja, **M. Naeem**, A. Anpalagan, T. Venetsanopoulos and B. Venkatesh, "Improved Short-term Load Forecasting using Bagged Neural Networks," *Electric Power Systems Research*, Vol. 125, pp. 109-115, August 2015. **IF: 2.688 (**With Ryerson only**).**

122. S. Ali , S. Qaisar, H. Saeed, M. F. Khan, **M. Naeem**, A. Anpalagan, "Network Challenges for Cyber Physical System with Tiny Wireless Devices: A Case Study on Reliable Pipeline Condition Monitoring," *Sensors : Special Issue on Sensor Networks in Cyber Physical Systems,* vol. 15, no. 4, pp. 7172-7205, April 2015. **IF: 2.475**

123. M. Iqbal, M. Azam, **M. Naeem**, A. S. Khwaja and A. Anpalagan, "Optimization Classification, Algorithms and Tools for Renewable Energy: A Review," *Elsevier Renewable & Sustainable Energy Reviews,* Nov. 2014**. (Listed among top accessed articles in Elsevier Renewable & Sustainable Energy Reviews in Dec 2014 and Jan-Feb 2015**), IF: 8.05

124. **M. Naeem** and D. C. Lee, "A Joint Antenna and User Selection Scheme for Multiuser MIMO System," *Applied Soft Computing,* vol. 23, pp. 366-374, October 2014. **IF: 3.541.**

125. **M. Naeem**, A. Anpalagan, M. Jaseemuddin and D.C. Lee, "Resource Allocation Techniques in Cooperative Cognitive Radio Networks," *IEEE Communications Surveys and Tutorials*, vol. 16, no. 2, pp. 729-744, April 2014. **IF: 17.188**

126. A. Karmokar, **M. Naeem**, A. Anpalagan and M. Jaseemuddin, "Energy-efficient Power Allocation using Probabilistic Interference Model for OFDM-based Green Cognitive Radio Networks," *Energies,* vol. 7, no. 4, pp. 2535-2557, April 2014**. IF: 2.676.**

127. **M. Naeem**, K. Illanko, A. Karmokar, A. Anpalagan and M. Jaseemuddin, "Decode and Forward Relaying for Energy Efficient Multiuser Cooperative Cognitive Radio Network with Outage Constraints," *IET Communication,* vol. 8, no. 5, pp. 578–586, March 2014. **IF: 1.06.**

128. K. Illanko, **M. Naeem**, A. Anpalagan and D. Androutsos, "Frequency and Power Allocation for Energy Efficient OFDMA Systems with Proportional Rate Constraints," *IEEE Wireless Communications Letters*, vol. 3, no. 3, pp. 313-316, June **2014**. IF **2.449**

129. A. S. Khwaja, **M. Naeem** and A. Anpalagan, "Analysis of Moving Object Imaging from Compressively Sensed SAR Data in the Presence of Dictionary Mismatch," *International Journal of Antennas and Propagation.* 2013. **IF: 1.164.**

130. **M. Naeem**, K. Illanko, A. Karmokar, A. Anpalagan and M. Jaseemuddin, "Energy-Efficient Cognitive Radio Sensor Networks: Parametric and Convex Transformations," *Sensors,* vol. 13, no. 8, pp. 11032-11050, Aug. 2013. **IF: 2.475**

131. **M. Naeem**, U. Pareek, D.C. Lee and A. Anpalagan, "Power Allocation and Relay Assignment for Shared Band Non-Regenerative Relaying in Cognitive Radio Systems," *IEEE Transactions on Vehicular Technology*, vol. 62, no. 6, pp. 2853-2859, July2013. **IF:4.066**

132. **M. Naeem**, K. Illanko, A. Karmokar, A. Anpalagan and M. Jaseemuddin, "Optimal Power Allocation for Green Cognitive Radio: Fractional Programming Approach," *IET Communication,* vol. 7, no. 12, pp. 1279–1286, August 2013. **IF: 1.06**

133. **M. Naeem**, U. Pareek, D.C. Lee and A. Anpalagan, "Estimation of Distribution Algorithm for Resource Allocation in Green Cooperative Cognitive Radio Sensor Networks," *Sensors,* vol. 13, no. 4, pp. 4884-4905. 2013. **IF: 2.475**

134. **M. Naeem** and D.C. Lee, "EDA-Based Scheduling of Users in the MIMO Multiple Access Channel," *Springer Wireless Personal communications,* vol. 71, no. 1, pp. 467-490, Jan. 2013. **IF:0.951**

135. L. Chen, W. Wangy, A. Anpalagan, A. V. Vasilakosx, K. Illanko, H. Wang and **M. Naeem**, "Green Cooperative Cognitive Communication and Networking: A New Paradigm for Wireless Networks," *ACM/Springer Mobile Networks & Applications*, vol. 18, no. 4, pp. 524-534, August 2013. **IF:1.538**

136. **M. Naeem**, U. Pareek and D.C. Lee, "Swarm Intelligence for Sensor Selection Problems," *IEEE Sensors Journal*, vol. 12, no. 8, pp. 2577-2585, Aug. 2012. (**Listed among top accessed articles in IEEE Sensor Journal in June and August 2012.**) **IF:2.512**

137. **M. Naeem**, U. Pareek, and D. C. Lee, "Max-Min Fairness Aware Joint Power, Subcarrier Allocation and Relay Assignment for Multiuser Multicast Cognitive Radio," *IET communication,* vol. 6, no. 11, pp. 1511-1518, July 2012. **IF: 1.06**

138. **M. Naeem**, U. Pareek, and D. C. Lee, "Interference-aware joint user selection and quantised power control schemes for uplink cognitive multiple-input multiple-output system," *IET communication*, vol. 5, no. 16, pp. 2266-2274, Nov. 2011. **IF: 1.06**

139. **M. Naeem**, D.C. Lee, "Low-complexity joint transmit and receive antenna selection for MIMO systems," *Engineering Applications of Artificial Intelligence*, vol. 24, no. 6, pp. 1046–1051, Sep. 2011. **IF:2.894**

140. D. C. Lee, L.-F. Tsaur and **M. Naeem**, "Symbol-by-Symbol CDMA Spreading Gain Adaptation and Detection Using OVSF Sequences," *IEEE Transactions on Wireless Communications*, vol. 8, no. 9, pp. 4529-4539, Sep. 2009. **IF: 4.951**

141. **M. Naeem** and D.C. Lee, "On Convexity of MQAM's and MPAM's Bit Error Probability Functions," Wiley: *International Journal of Communication Systems*, vol. 22, no.11, pp. 1465-1477, November. 2009. **IF:1.066**

142. S. Bashir, **M. Naeem** and S.I. Shah, "A comparative study of heuristic algorithms: GA and UMDA in spatially multiplexed communication systems," *Engineering Applications of Artificial Intelligence*, vol. 23, no. 1, pp. 95-101, Feb 2010. **IF:2.894**

143. S. Bashir, **M. Naeem**, A. Khan, S.I. Shah, "An application of univariate marginal distribution algorithm in MIMO communication systems**,"** *International Journal of Communication Systems*, vol. 23 no.1 pp 109-124, Jan. 2010. **IF:1.066**

144. A. Khan, S. Bashir, **M. Naeem**, S.I. Shah and X. Li, "Symbol detection in spatial multiplexing system using particle swarm optimization meta-heuristics," *International Journal of Communication Systems*, vol. 21, no. 12, pp. 1239-1257, Dec. 2008. **IF:1.066**

National Journals

1. A. A. Khan, **M. Naeem** and S. I. Shah, "Meta-Heuristics for Symbol Detection in a Spatial Multiplexing System," *NUST Journal of Engineering Sciences, col. 1, no. 1,* **2008**.

Others

1. R. Khalid, M. Naeem, and W. Ejaz. "Autonomous Aerial Networks with Wireless Power Transfer: Resource Optimization, Standardization, and Challenges." IEEE Communications Standards Magazine, vol. 6, no. 3, pp.24-31, Sep 2022.

2. M. Rouault, W. Ejaz, M. Naeem, and R. Masroor "The Role of UAV-Assisted IoT Networks in Managing the Impact of the Pandemic." IEEE Communications Standards Magazine vol. 5, No. 4, pp.10-16 Dec. 2021

3. M. Ali, S. Qaisa, **M. Naeem**, W. Ejaz and N. Kvedaraite, "LTE-U WiFi HetNets: Enabling Spectrum Sharing for 5G/Beyond 5G Systems," *IEEE Internet of Things Magazine,* **2020**.

4. F. Hussain, A. Anpalagan, **M. Naeem** and A. S. Khwaja, "Multi-Objective Resource Allocation in Interference-Limited M2M Communication Networks," *InderScience International Journal of Communication Networks and Distributed System,* **2016**.

5. A. S. Khwaja, **M. Naeem**, A. Anpalagan, T. Venetsanopoulos, and R.V. Bala, "Smart Meter Deployment Optimization and its Analysis for Appliance Load Monitoring," *IET Journal of Engineering,* **2015**.

6. S. Ashrafinia, **M. Naeem** and D. C. Lee, "Discrete Artificial Bee Colony for Computationally Efficient Symbol Detection in Multi-Device STBC MIMO Systems," *Advances in Artificial Intelligence*, **2013**.

Conference

1. M. Basharat, M. Naeem and A. Anpalagan, "Latency and Cost Minimization for Task Offloading with Energy Harvesting in UAV-MEC Network," In Proc. IEEE Symposium on Wireless Technology & Applications (ISWTA 2023), Kuala Lumpur, Malaysia, August 2023. (Best Paper Award)

2. R. Masroor, M. Naeem, T. Akram, A. Anpalagan and W. Ejaz, "Priority-Based Efficient Deployment of UAVs with Resource Constraints in Mission-Critical Networks," In Proc. IEEE International Conference on Communications Workshops (ICC Workshops), Rome, Italy, May 2023.

3. R. Basir, M. Ali, S. B. Qaisar, **M. Naeem** and A. Anpalagan , "Energy-Efficient Resource Allocation in D2D Assisted Cache-Enabled Fog Network," *In Proc IEEE 30th Biennial Symposium on Communications (BSC 2021), Saskatoon, Canada,2022*

4. U. Ghafoor, M. Ali, H. Z. Khan, A. M. Siddiqui and **M. Naeem**, "Throughput Maximization in Hybrid NOMA assisted Beyond 5G Heterogeneous Networks," *In Proc IEEE IWCMC-SCN 2021.*

5. H. Z. Khan, M. Ali, **M. Naeem**, I. Rashid, , S. Mumtaz, "Joint Secure User Association, Power and Subcarrier Allocation in Decoupled 5G Heterogeneous Network," *In Proc. IEEE ICC, 2021.*

6. H. Z. Khan, M. Ali, **M. Naeem**, I. Rashid, A. M. Siddiqui, M. Imran, S. Mumtaz, "Resource Allocation and Throughput Maximization in Decoupled 5G Heterogeneous Networks," *In Proc. IEEE WCNC, 2020.*

7. R. Basir, S. B. Qaisar, M. Ali, **M. Naeem**, K. C. Joshi and J. Rodriguez, "Latency-Aware Resource Allocation in Green Fog Networks for Industrial IoT Applications,", *In Proc. IEEE ICC 2020 Workshop - Secure and Dependable Software Defined Networking for Sustainable Smart Communities*, 2020.

8. R. Basir, S. Qaisar, M. Ali, H. **M. Naeem** and M. A. Imran, "Resource Allocation and Throughput Maximization for IoT Real-time Applications," *In Proc. Spring VTC* 2020.

9. N. A. Chughtai, M. Ali, S. Qaisar, M. Imran and M. Naeem, "Energy Efficiency Maximization in Green Energy Aided Heterogeneous Cloud Radio Access Networks,", *In Proc. Spring VTC* 2020.

10. H. Z. Khan, M. Ali, I. Rashid, A. Ghafoor and **M. Naeem**, "Cell Association for Energy Efficient Resource Allocation in Decoupled 5G Heterogeneous Networks,", *In Proc. Spring VTC* 2020.

11. A. Awan, M. N. Sial, M. Ali, **M. Naeem** and F. Qamar, "Joint Network Admission Control, Mode Selection and Power Allocation in EH enabled D2D Communication," *In Proc. IEEE WCNC, April 2019.*

12. M. Ali, M. Ahmad, **M. Naeem**, A. Ahmed, M. Iqbal, W. Ejaz and A. Anpalagan, "Devices to Devices (Ds2Ds) Communication: Towards Energy Efficient IoT," *In Proc. IEEE GLOBECOM, Dec 2018.*

13. X. Zhang, A. Khwaja, **M. Naeem** and A. Anpalagan, "Energy Efficiency of Cooperative D2D Communications Underlaying LTE-A Networks," *In Proc. International Joint Conference on Information and Communication Engineering (JCICE 2018),* Shanghai, China, April 2018.

14. M. Basharat, W. Ejaz, **M. Naeem**, A. M. Khattak, A. Anpalagan, O. Alfandi, "Energy Efficient Resource Allocation for NOMA in Cellular IoT with Energy Harvesting," *In Proc. IEEE International Conference on Emerging Technologies (ICET2017),* Islamabad, Dec 2017.

15. M. Ali,S. B. Qaisar, **M. Naeem** and S. Mumtaz, "Joint User Association and Power Allocation for Licensed and Unlicensed Spectrum in 5G Networks," *In Proc. IEEE GLOBECOM, Dec 2017.*

16. W. Ejaz, **M. Naeem**, M. R. Ramzan, Farkhund Iqbal, and A. Anpalagan, "Cost Effective Charging Infrastructure Placement for Electric Vehicle in Smart Cities," *In Proc. IEEE ITNAC, Melbourne, Australia, 2017.*

17. F. Ahmed, **M. Naeem**, M. Iqbal and A. Anaplagan, "Renewable Energy Assisted Base Station Collaboration as Micro Grid," *In Proc. IEEE EPEC*, Canada 2016.

18. M. Ahmad, **M. Naeem**, A. Ahmed, M. Iqbal and A. Anpalagan, "Utility based Resource Management in D2D Networks using Mesh Adaptive Direct Search Method," *In Proc of IEEE VTC-Fall 2016.*

19. F. Qayyum, **M. Naeem**, A. S. Khwaja and A. Anpalagan, "Appliance Scheduling Optimization in Smart Home Networks Comprising of Smart Appliances and a Photovoltaic Panel," *In Proc. IEEE EPEC*, Canada 2015

20. **M. Naeem**, A. Anpalagan and M. Jaseemuddin, "'Min-Max Energy-Efficiency Analysis of Green Multiuser Wireless Systems," *In Proc. PIMRC*, 2015.

21. A. Karmokar, **M. Naeem** and A. Anpalagan, "Energy-efficient Subcarrier Power Allocation for Cognitive Radio Networks using Statistical Interference Model," *In Proc. PIMRC*, 2015.

22. A. Ahmed, M. Awais, **M. Naeem**, M. Iqbal, and A. Alpalagan, "Efficient Multiple Lines Outage Detection in SmartGrid," *In Proc. of Power Generation System and Renewable Energy Technologies (PGSRET)*, Islamabad, 2015.

23. **M. Naeem**, U. Pareek, D.C. Lee, A. S. Khwaja, A. Anpalagan, "Efficient Multiple Personal Wireless Hub Assignment in Next Generation Healthcare Facilities," *In Proc IEEE WCNC*, 2015

24. N. Majedi, **M. Naeem**, K. A. Shaharyar and A. Anpalagan, "EMI-aware Central Processing Point Deployment for Wireless Networks in Hospitals," *In Proc of IEEE Queen's Biennial Symposium on Communications, Canada, 2014.*

25. **M. Naeem**, A. S. Khwaja, A. Anpalagan and M. Jaseemuddin, "Cross Entropy Optimization for Constrained Green Cooperative Cognitive Radio Network," *In Proc of IEEE VTC-Spring 2014.*

26. A. S. Khwaja **, M. Naeem**, A. Anpalagan and T. Venetsanopoulos, "Optimization of Non-convex Multiband Cooperative Sensing," *In Proc of IEEE Queen's Biennial Symposium on Communication, Kingston,Canada 2014.*

27. **M. Naeem**, K. Illanko, A. Karmokar, A. Anpalagan and M. Jaseemuddin, "Energy Efficiency of Cooperative Cognitive Radio Network with Outage Constraints," *In Proc. of IEEE RWS,* California, USA, 2014.

28. F. Hussain,A. Anpalagan **and M. Naeem**, "Multi-Objective MTC Device Controller Resource Optimization in M2M Communication," *In Proc of IEEE Queen's Biennial Symposium on Communications, Ontario, Canada, 2014.*

29. **M. Naeem**, K. Illanko, A. Karmokar, A. Anpalagan and M. Jaseemuddin, "Optimal Bits per Joule Power Allocation for Multiuser Cognitive Radio Networks," *In Proc. of IEEE RWS,* California, USA, 2014.

30. **M. Naeem**, K. Illanko, A. Karmokar, A. Anpalagan and M. Jaseemuddin, "Power Allocation in Decode and Forward Relaying for Green Cooperative Cognitive Radio Systems," *In Proc. of IEEE WCNC* 2013.

31. S. Abdulhadi, **M. Naeem**, M. Jaseemuddin and A. Anpalagan, "Optimized packet size for energy efficient cooperative wireless ad-hoc networks," In *Proc. of IEEE ICC* 2013.

32. **M. Naeem** , K. Illanko, A. Karmokar, A. Anaplagan and M. Jaseemuddin, "Iterative Power Allocation for Downlink Green Cognitive Radio Networks," *In Proc. of IEEE Globecom* 2012

33. K. Illanko. **M. Naeem**, A. Anaplagan and D. Androutsos, "Low Complexity Energy Efficient Power Allocation for Green Cognitive Radio with Rate Constraints," *In Proc. of IEEE Globecom* 2012.

34. **M. Naeem**, S. Ashrafinia and D. C. Lee, "Estimation-of-Distribution algorithm for green resource allocation in cognitive radio systems," *In Proc. of IEEE ICSPCS*, 2012.

35. S. Ashrafinia, U. Pareek,**M. Naeem**, and D. C. Lee, "Binary Artificial Bee Colony for Cooperative Relay Communication in Cognitive Radio Systems," *In Proc. of IEEE ICC,* Ottawa Canada 2012.

36. S. Ashrafinia, U. Pareek,**M. Naeem**, and D. C. Lee, "Source and Relay Power Selection Using Biogeography-Based Optimization for Cognitive Radio Systems," *In Proc. of IEEE VTC* fall 2011.

37. **M. Naeem**, U. Pareek and D.C. Lee, "User Selection Schemes for Uplink Cognitive MIMO Systems, " *In Proc. of IEEE International Workshop on Cognitive Radio*, 2010.

38. **M. Naeem**, U. Pareek and D.C. Lee, "Power Allocation For Non-Regenerative relaying in Cognitive Radio Systems," *In Proc. of IEEE WiMob*, October 2010, Niagra Falls Canada.

39. S. A. Hejazi, **M. Naeem** and D.C. Lee, "Swarm Based Resource Minimization in Network Coded System," *In Proc. of IEEE Symposium Series in Computational Intelligence*, 2011 - Paris, France

40. S. Ashrafinia, U. Pareek, **M. Naeem**, and D. C. Lee, "Biogeography-Based Optimization for Joint Relay Assignment and Power Allocation in Cognitive Radio Systems," *In Proc. of IEEE Symposium Series in Computational Intelligence*, 2011 - Paris, France

41. **M. Naeem**, H. M. Ali, and Daniel C. Lee, "Quantum inspired evolutionary algorithm for optimizing sensor selection," *In Proc. of International Conference on Control and Applications*, Banff Alberta Canada, 2010.

42. U. Pareek, **M. Naeem**, and D. C. Lee, " Quantum Inspired Evolutionary Algorithm for Joint User Selection and Power Allocation for Uplink Cognitive MIMO Systems," *In Proc. of IEEE Symposium on Computational Intelligence in Scheduling*, 2011 - Paris, France

43. **M. Naeem**, D.C. Lee and U. Pareek, "An Efficient Multiple Relay Selection Scheme For Cognitive Radio System," *In Proc. of IEEE ICC*, May 2010.

44. **M. Naeem** and D.C. Lee, "Estimation of Distribution Algorithm for Sensor Selection Problems," *IEEE Radio and Wireless Symposium*, New Orleans, USA. pp 388 – 391, Jan 2010

45. J.S. Oberoi ,U. Pareek, **M. Naeem** and D.C. Lee, "EDA-based joint power, subcarrier allocation and relay assignment scheme for multiuser relaying in OFDMA-based cognitive radio systems," *In Proc. of IEEE ICSPCS*, USA, 2011.

46. S. Ashrafinia, **M. Naeem**, and D. C. Lee, "A low complexity evolutionary algorithm for multi-user MIMO detection," *In Proc. of IEEE Symposium on Computational Intelligence in Multicriteria Decision-Making*, 2011 - Paris,

47. **M. Naeem**, U. Pareek and D.C. Lee, "Interference Aware Relay Assignment Schemes For Multiuser Cognitive Radio Systems," *IEEE VTC Fall*, Ottawa Canada, 2010.

48. **M. Naeem** and D.C. Lee, "Joint Transmit and Receive Antenna Selection Using a Probabilistic Distribution Learning Algorithm in MIMO Systems," In Proc. of IEEE *RWS*, New Orleans,USA, 2010.

49. **M. Naeem** and D.C. Lee, "A Joint Symbol Detection Algorithm Efficient at Low SNR for a Multi-Device STBC-MIMO System," *IEEE Radio and Wireless Symposium*, pp 440 - 443, Jan 2010.

50. U. Pareek, **M. Naeem** and D.C. Lee, "Power Allocation in Bi-Directional Cognitive Relay Networks," *IEEE Radio and Wireless Symposium* , Phoenix, USA , Jan 2011,

51. S. A. Hejazi, **M. Naeem** and D. C. Lee, "Efficient Resource Minimization Scheme for Network Coding-Assisted Multicast System," *In Proc. of IEEE Globecom*, 2010.

52. U. Pareek, **M. Naeem** and D.C. Lee, "An Efficient Relay Assignment Scheme for Multiuser Cognitive Radio Networks with Discrete Power Control," *In Proc. of IEEE WiMob*, 2010, Niagra Falls Canada.

53. U. Pareek, **M. Naeem** and D.C. Lee, "EDA-Based Relay Assignment Scheme for Multiuser Cognitive Radio Systems," *The International Conference on Wireless Communications*, banff Alberta Canada, 2010

54. **M. Naeem** and D.C. Lee, "Efficient Symbol Detection in Multi-Device STBC-MIMO System," *In Proc. of IEEE ISCIT*, Korea, pp 578 - 583 , Sep 2009

55. **M. Naeem** and D.C. Lee, "Near-Optimal Joint Selection of Transmit and Receive Antennas for MIMO Systems," *In Proc. of* IEEE *ISCIT*, Korea, pp 572 - 577, Sep 2009.

56. **M. Naeem**, Song Xue and D.C. Lee, "Cross-Entropy Optimization for Sensor Selection Problems," *In Proc. of* IEEE *International Symposium on Commutation and Information Technologies*, Korea,2009.

57. **M. Naeem** and D.C. Lee, "Estimation of Distribution Algorithm for Scheduling in Uplink Multiuser Wireless Communication System," *In Proc. of IEEE Symposium on Computational Intelligence in Scheduling*, USA, 2009.

58. **M. Naeem** and D.C. Lee, "Performance Loss Due to Imperfect Knowledge of Offered Load in CAC Policies," *In Proc. of IEEE INCC* 2008.

59. D.C. Lee, **M. Naeem** and S. Xue, "On Error-Constrained Data Throughput of Rapid Symbol Duration Adaptation with Imperfect Channel Information," *In Proc. of IEEE INCC* 2008

60. D.C. Lee, **M. Naeem**, and C. Hsu, "Complexity Analysis of Optimal Stationary Call Admission Policy and Fixed Set Partitioning Policy for OVSF-CDMA Cellular Systems," *In Proc. of IEEE CCECE*, Vancouver, 2007.

61. I. Zaka, H.-ur Rehman, **M. Naeem**, S. I. Shah, J. Ahmad, "Narrowband Jammer Excision in CDMA Using Particle Swarm Optimization," *In Proc. of International Conference on Intelligent Computing*, 2008.

62. A. Khan, **M. Naeem**, S.I. Shah, " A particle swarm algorithm for symbols detection in wideband spatial multiplexing systems," *In Proc. of ACM GECCO* 2007 London, England

63. S. Bashir, A. Khan, **M. Naeem**, S.I. Shah, "An Application of GA for Symbol Detection in MIMO Communication Systems," *Third International Conference on Natural Computation* (ICNC 2007), 2007.

64. H. Rehman, I. Zaka, **M. Naeem**, S.I. Shah, J. Ahmad, "Minimum Bit Error Rate Multiuser Detection for OFDM-SDMA Using Particle Swarm Optimization," *In Proc. of* International *Conference on Intelligent Computing.*

65. A. Khan, S. Bashir, **M. Naeem**, S.I. Shah and A.U. Sheikh, "Binary Ant Colony Algorithm for Symbol Detection in a Spatial Multiplexing System," *In Proc. of 6th International Conference Unconventional Computation,* .2007.

66. H. Rehman , I. Zaka , **M. Naeem**, S.I. Shah, " Multicarrier Interleave Division Multiple Access Communication with Adaptive Sub channel Allocation ," In Proc. of *IEEE ICEE,* , 2007

67. H. Rehman, **M. Naeem**, I. Zaka, S.I. Shah "Multicarrier Interleave-Division Multiple Access Communication in Multipath Channels", *In Proc. of* Int. *Conf. On electronics, hardware, wireless and optical communications* 2006.

68. A.A. Khan, S. Bashir, **M. Naeem**, S.I Shah, "Heuristics Assisted Detection in High Speed Wireless Communication Systems," *In Proc. of IEEE INMIC*, 2006

69. **M. Naeem**, S.I. Shah and H. Jamal, "Performance Analysis of Odd Bit QAM Constellation," *In Proc. of IEEE ICET* 2005.

Book Chapters

1. N. Qamar , T. N. Malik , F. Qamar, M. Ali and **M. Naeem**, "Energy Hub: Modelling, Control and Optimization," Renewable Energy systems: Modelling, control and optimization, Elsevier, 2021.

2. M. Ali, **M. Naeem** and A. Anpalagan, "Blockchain Based Secure Communication in Smart Cities," Communication Technologies for Networked Smart Cities, IET Press, 2021**.**

3. M. Kashif, **M. Naeem**, M. Iqbal, W. Ejaz and A. Anpalagan, "From Conventional Grids to Smart Grids: Optimization, Problems, and Solutions," Power Line Communication Systems for Smart Grids, IET Press, 2018.

4. **M. Naeem**, A. Ahmad, A. Anpalagan, M. Iqbal , M. Obaidat, "Optimization Classification and Techniques of WSNs in Smart Grid," Smart Cities and Homes-Key Enabling Technologies, Elsevier, 2015.

5. D. C. Lee and **M. Naeem**, "Computationally Efficient Symbol Detection Schemes in Multi-Device STBC-MIMO Systems," MIMO Systems, Theory and Applications, Vienna, Austria: INTECH, 2011.

Professional Activities

Research Supervision

PhD Students

1. **Mushtaq Ahmad** Utility Aware Resource Management for Device to Device Communication (April 2018)
2. **Faran Hameed** Resource Management and Energy Cooperation in Wireless Cellular Networks (Oct 2018)
3. **Sadiq Ahmad** Energy Management and Trading in Smart Power System (August 2020)
4. **Muhammad Ateeq (** Co-supervision with Dr. Khalil Afzal**)** Multi-Parametric Analysis of QoS in WSNs: A Data Driven Approach (June 2021)
5. **Maliha Amjad** Resource Management in Energy Harvested Cooperative loT Network (Oct 2022)
6. **Rooha Masroor (In Progress)** Efficient Placement and Resource Management in Multilayer UAV Network
7. **Muhammad Rashid Ramzan (In Progress)** Efficient Multicriterion Radio Resource Management for Cooperative UAV Enabled Wireless Networks
8. **Saad Salman (In Progress)** Multicriterion Modeling and Analysis of Integrated Smart Power System
9. **Muhammad Riaz(In Progress)** Joint Trading and Management in Grid Connected Power System

Masters Students
1. **Talal Mehmood** A Systematic Method for Power System Hardening to Increase Resilience against Earthquakes (July 2022)
2. **Muhammad Adnan Fazal** Energy Management and Optimization of Vehicle to Grid System for Wind Power Integration (July 2022)
3. **Fiza Qayyum** Cost-effective Data Aggregator Deployment for Smart Meter in Smart Grid (Co-supervision with Dr. Hafiz Muhammad Omer Chughtai) (July 2022)
4. **Komal Sajid** Environmental, Economic and Social Tradeoffs in a Renewable Energy Target's Geographic Location (Co-supervision with Dr. Sadiq Ahmad) (July 2022)
5. **Mahnoor Dil** Adaptive Deployment ofUAVs in Emergency Situations (July 2022)

6. **Waleed Ahmad** Scheduling and Operation in Grid-Connected Energy Storage System for Prosumer Market (Jan 2022)
7. **Syed Aal E Raza Kazmi** A Swarm Based Operating Schedule for Smart Energy Systems (Jan 2022)
8. **Urfa Afzal** Secure Computational Efficiency Maximization for UAV Assisted MEC Network in Disastrous Conditions (July 2021)
9. **Momal Jehan** Efficient UAV Deployment and Data Offloading for Prioritized Users in UAV Mobile Edge Computing Network (July 2021)
10. **Rashid Mehmood** Complexity Reduction of partially connected mmWave Massive MIMO Hybrid Pre-coding system through Antenna Selection Mechanism (Aug 2020)
11. **Shoaib Ur Rehman** Computational Models for Renewable Energy Targets (Aug 2020)
12. **Zaiba Shah** (Co-supervision with Dr. Umer Javed) Resource Management in VAV Assisted Mobile Edge Computing (Aug 2020)
13. **Muhammad Mazhar Iqbal** A Multi Objective Optimization DSM for Industrial Units (Aug 2020)
14. **Maham Arooj** (Co-supervision with Dr. Muhammad Iqbal) Role of Energy Storage System CESS)for the Optimal Operation of Industrial Prosumers (Aug 2020)
15. **Syeda Rida Batool** (Co-supervision with Dr. Muhammad Iqbal) Cost Reduction in Prosumer Based Market Environment for Smart Grid Connected Industrial Complex (Aug 2020)
16. **Sehrish Javed** Scheduling of Electric Vehicles in a Smart City (Jan 2020)
17. **Syeda Aqeela Naqvi** Robust Placement for UAV Communication Networks (Jan 2020)
18. **Muhammad Asif** A Non-Cooperative Game Based Optimization for Energy Management in Smart Grid (Jan 2019)
19. **Bilal** Game Based Demand Side Management for Smart Grid (Jan 2019)
20. **Nabeela Ahmad** PMU Placement in Smart Grid for Line Outage Detection (Oct 2018)
21. **Syeda Zunaira Riaz** Plug-in Electircal Vehicle Charging Plan Using MPC for Demand Side Management (May 2018)
22. **Umair Hassan** Optimal Energy Trading and Demand Side Management of Cement Industry (May 208)
23. **Muhammad Faizan** Game Theory based Decentralized Energy Trading in Cooperative Microgrids (April 2017)
24. **Muhammad Shoaib** Energy Efficient Resource Management for Multiple Relay Network (May 2017)
25. **Rehmat Iqbal** Economic and Lifecycle Analysis of GPON in Security Surveillance Systems (May 2017)
26. **Muhammad Usman Chaudhry** Cooperative CCHP in Commercial Buildings (April 2017)
27. **Muhammad Waseem Altaf** Economically Efficient Hydrothermal Scheduling (Jan 2017)
28. **Tarique Aziz** Marginalizing Critical Nodes in Interdependent Power and Communication Network (Jan 2017)
29. **Muhammad Naveed Naz** Economically Efficient Energy Allocation in Rural Area (May 2016)
30. **Muhammad Asif Naeem** Reliable and Economical Fiber to the Cabinet Planning (Jan 2016)
31. **Muhammad Irfan Mushtaq** Energy Management in Small Industry (Dec 2015)
32. **Muhammad Ehjaz**   Renewable Energy Congestion Management in Smart Distribution Network (June 2015)
33. **Manzar Abbas**   Cost Effective Energy Management in WHR Based Cement Plants (June 2015)
34. **Muhammad Kashif** Heating, Cooling and Power Optimization for Environment Friendly Energy Systems (June 2015)
35. **Muhammad Rashid Ramzan**   Cost Effective Electric Vehicle Charging Infrastructure Placement (May 2015)
36. **Muhammad Azam**   Resource Allocation in 5G Network: A D2D Paradigm (May 2015)
37. **Qasim Khan**   Computationally Efficient Method for Multiple Line Outage Detection and Identification (Jan. 2015)
38. **Aftab Ahmad Khan**   Efficient Energy Management in Smart Microgrid Network (Dec. 2014)

BS Projects
1. Smart City: A fully Automated framework (2020)
2. A Testbed for AI Based Heart Anomaly Detection (2019)
3. Real Time Surveillance and Trespass Detection (2018)
4. RFID base library management system (2017)
5. Wirelessly Controlled Tariff Dispatch and Energy Management System (2016)
6. Automated Drip Irrigation System (2016)
7. Design and Fabrication of Multiple Wireless Receivers for Extreme Environments (2016)
8. Smart Energy Trading and Management System (2015)
9. Kinesthetic Communication based wireless Control Humanoid Robot Arm (2015)
10. A smart city with automatic intelligence and controlled security system (2014)

Administrative Activities

Activity	Duration
Undergraduate Class Councilor	Fall-2014, Fall-2015
Member PEC Documentation Committee	Fall-2013-Fall 2014
Convener/Incharge CPD and Workshop Committee	Fall-2013- to date

Member Hostel Discipline Committee	Spring-2014 to date
Member Committee to Assess Appropriate Utilization and Refurbishing/Renovation Requirements	Spring-2014
Member Comprehensive Exam Committee	Spring-2014 to date
Member Graduate Admission Committee	Spring-2015 to date
Convener EE Departmental Event Committee	Spring-2015 to date
Member Departmental Advisory Committee of EE Department	Spring-2015 to date
Member Technical Evaluation Committee for Procurement of Equipment for Power Engineering Lab	Spring-2015 to date
Member Lab Assistant Recruitment Committee	Fall-2016 to date
Member Grievances Redressal Committee	Spring-2017 to date
Convener Air Conditioners Technical Bid Evaluation Committee	Spring-2017
Convener EE Labs Disciplinary Committee	Spring-2017 to date
Member EE Admission Committee	Spring-2017 to date

Certifications, Trainings and Workshops

- Microsoft certified solution developer (MCSD: Visual C++ Track)
- Qualcomm CDMA 2000 1xRC1 and RC2 Training
- National Innovation System and Intellectual Property (Asian Region Consultative Workshop)
- Resource Allocation in Green Communication (Presenter: PEC CPD Workshop)
- Game Theory for Wireless Communication (Presenter: PEC CPD Workshop)
- Outcome-Based Accreditation (OBA) for Program Evaluators (PEC CPD Workshop)

External Examiner/Evaluator

PhD Thesis:

1) Muhammad Ibrar Khan: *PUF Based Physical Layer Security for Wireless Communication of IOT Applications*, FAST-NUCES, Islamabad, April 2022
2) Mateen Hassan: *Design and Development of MIMO Reconfigurable Antenna System Based on MEMS Technology*, MCS NUST, Jan 2021
3) Muhammad Haroon Siddiqui: *Analysis and Evaluation of Performance Parameters and Trade-offs for Fifth Generation Mobile Communication System*, MCS NUST, 2020.
4) Waseem Shahzad: *Multi-Gesture decoding using Hybrid EMG-IMU for Rehabilitation Applications,* SMME*,* NUST, 2020.

MS Thesis:

1. Hafiz Ahmad: *Pilot Optimization in Multi-cell Multi-User Massive MIMO Systems using Genetic Algorithms*, CASE Islamabad 2015
2. Rehan Babar: *Performance Comparison Of Routing Protocol By Deploying Zigbee As Wireless Sensor Network*, Bahauddin Zakariya University BZU, Multan, 2017
3. Anum Alamgir, *Solar Irradiance Forecasting by Neural Networks*, BZU, Multan ,2017
4. Muhammad Ali Khokhar, *Wireless Power Transmission In Electric Vehicles*", BZU, Multan, 2017
5. Muhammad Qasim, *Design of High Gain, Soft Switching Bidirectional DC to DC Converter for Battery Powered Electric Vehicles*, UET Taxila, Feb. 2018
6. Rouf Muhammad *Smart Planner Antenna For Smaller UAVs*, BZU, Multan, Sep. 2018

BS. Final year Project Examiner at Foundation University Rawalpindi (2015)

Professional Activities and Memberships

- HEC Approved Phd Supervisor
- Senior Member IEEE,
- Member PEC
- Editor, IEEE Access

- Guest Editor, IEEE Access (Special Section: Internet of Things (IoT) in 5G Wireless Communications)

TPC Member	Technical Reviewer	
	Journals	Conferences
IEEE WCNC 2013, 2014, 2015, 2019; IEEE Globecom 2015-2019, IEEE Healthcom 2013, Workshop on Mobile Cloud Computing for Health Care Applications; IEEE ICSPT 2013; IEEE ICCVE 2013/2014; IEEE HP3C-2014 IEEE INFOCOM (GSNC 2016)	IEEE Transactions on Communications, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Vehicular Technology, IEEE Transactions on Signal Processing, IEEE Communication Letters, IEEE Transactions on Industrial Informatics, IEEE Transactions on Smart Grid, IETE Technical Review, Journal of Power and Energy Systems, IEEE Communication Magazine, IEEE Wireless Communication Magazine, IEEE Signal Processing Letters, IEEE Systems Journal, IEEE Sensors Journal, IET Communications, IET Networks, ACM/Springer Mobile Networks & Applications, Springer: Wireless Personal Communication, EURASIP Journal on Wireless Communications and Networking, Wiley: Transactions on ETT, Wiley: International Journal of Communication, Wiley: International Journal of Network Management, ETRI, Applied Energy	IEEE GLOBECOM, IEEE ICC, IEEE VTC IEEE WCNC, IEEE WMPC, IEEE IWCMC, IEEE WCNIS