



Dr. Rahat Ullah

OBJECTIVES

To get an academic/research position that allows me to put into practice my academic, administration, research, and project management skills.

EDUCATION

- Sep 12 – Jun 16** **PhD Electrical Engineering**
- Universiti Teknologi Malaysia (UTM)
- Sep 07 – Oct 10** **MS (Electronics Engineering)**
- International Islamic University Islamabad, Pakistan
- Jan 02 – Apr 06** **B.Sc Electrical Engineering**
- CECOS University of IT & Emerging Sciences Peshawar, Pakistan
 - Pakistan Engineering Council (PEC) Registration # Elect/21634

EXPERIENCE

- Dec-23 to Date** **Incharge Dean, Faculty of Electrical Engineering**
Federal Urdu University of Arts, Sciences and Technology, Islamabad
- Lead Faculty strategy and oversight.
 - Implement academic strategies, policies, and OBE for quality education.
 - Supervise staff for excellence.
 - Manage student recruitment and retention efforts for a positive learning environment.
 - Secure funding for research.
 - Oversee administrative functions.
 - Foster industry partnerships, alumni relations, and collaborations.
- Nov-10 to Date** **Assistant Professor**
Department of Electrical Engineering
Federal Urdu University of Arts, Sciences and Technology, Islamabad
- Courses Taught: Signal and System, Communication System, Wireless Communication, Computer Communication and Networks.
 - Member Departmental OBE Committee, Member GRMC
 - Supervision of MS Thesis, FYP Coordinator, PEC Coordinator
- Jun-18 to July-21** **Head of Department**
Department of Electrical Engineering
Federal Urdu University of Arts, Sciences and Technology, Islamabad
- Responsibilities:**
- Run the department as per Pakistan Engineering Council (PEC) guidelines.
 - Implementation of Outcome Based Education (OBE) System
 - Self-Assessment Report (SAR) preparation
 - PEC Visits and Accreditation, Manage the department (Students and Staff)
- Sep-06 to Nov-10** **Lecturer**
Department of Electrical Engineering
Federal Urdu University of Arts, Sciences and Technology, Islamabad

Courses Taught: Wireless Communication, Signal and System, Computer Networks and Communication System.

May 06- Sep 06

Customer Support Engineer

Comcept Pvt. Ltd. (Telecom Company), Islamabad.

Responsibilities:

- Technical Support, Testing and debugging of CDMA, GSM and all types of payphones, Field Visit and testing Modules (CDMA, GSM)
- Technical support and troubleshooting of NMS
- Coordination with Design Department, Client queries and solutions

ACADEMIC RESEARCH PROJECTS

PhD Thesis

- Fractional Frequency Reuse Based Interference Mitigation in Irregular Geometry Multicellular Networks

MS Thesis

- 3D Hemisphere Model with Antenna Array at BS for Wireless Radio Environment

RESEARCH GRANTS

- Secure a research grant of 143,500 MYR (4.2 Million PKR) under the Fundamental Research Grant Scheme (FRGS), MALAYSIA, in 2013
- Secure a research grant of 479,000 PKR under the HEC Startup Research Grant Program (SRGP), in 2017
- Erasmus+ KA107 Project (2019-1-ES01-KA107-062073), funded by the European Commission within the Erasmus+ Program (Collaboration with Universitat Politècnica de València, Spain)

MS ELECTRICAL ENGINEERING THESIS SUPERVISED

- Data Mining based Vertical Handover and Load Balancing in 5G Networks.
- Reconfigurable Antenna Design for 5G Networks
- Soft-Frequency Reuse Based Interference Mitigation for Heterogeneous Cellular Networks
- IoT Devices Security Tools, Application Aspects and Analysis
- Performance Evaluation of Channel Estimation in Massive MIMO System
- Distributed Congestion Control Algorithm for Streaming Application in Data Networks
- Soft-Frequency Reuse for LET-Advanced Cellular Networks

RESEARCH PUBLICATIONS (JOURNAL)

1. Abdullah Umar, Zubair Khalid, M. Abazeed, **Rahat Ullah**, Hashim Safdar "A review on Congestion Mitigation Techniques in Ultra Dense Wireless Sensors Networks State of Art Future Emerging Artificial Intelligence Based Solutions" Applied Sciences 13 (22), 2023. **(IF 2.7)** [ISSN: 2076-3417]
2. **Rahat Ullah**, Abdullah Gani, M. Shiraz, Imran Khan, Khalid Zaman, " Auction Mechanism Based Sectored Fractional Frequency Reuse for Realistic Multicellular Networks" Electronics (Switzerland), 2022. **(IF 3.02)** [ISSN: 2079-9292]
3. Hashim Safdar, **Rahat Ullah**, Zubair Khalid, "Game Theoretic based Distributed Dynamic Power Allocation in Irregular Geometry Multicellular Network", International Journal of Computer Science and Network Security, 22(7), 2022 (Accepted) [ISSN: 738-7906]
4. **Rahat Ullah**, Syed M. Bilal, Zubair Khalid, Hashim Safdar, "Soft Frequency Reuse-based Interference Mitigation in Irregular Geometry Heterogeneous Networks" International Journal of Computer Science and Network Security, 22(6), 2022 [ISSN: 738-7906]

5. Abdullah Umar, **Rahat Ullah**, Hashim Safdar, Zubair Khalid, "Non-Orthogonal Multiple Access for Future Emerging Ad-Hoc Networks" *International Journal of Computer Science and Network Security*, 22(6), 2022 [ISSN: 738-7906]
6. **Rahat Ullah**, Zubair Khalid, Fargham Sandhu, Imran Khan, " Hungarian Mechanism Based Sectored FFR Scheme for Irregular Geometry Multicellular Networks" *EMITTER-International Journal of Engineering Technology*, 9 (2), 2021. [ISSN: 2355-391X]
7. **Rahat Ullah**, Fahim Ullah, Zubair Khalid and Hashim Safdar, "A Review of Inter cell Interference Coordination in Regular and Irregular Geometry Cellular Networks," *Jurnal Teknologi (Sciences and Engineering)*, Vol 83, issue 5, 2021. **(IF 0.82)** [ISSN: 2180-3722]
8. A I Tahirkheli, M Shiraz, **Rahat Ullah**. "A Survey on Modern Cloud Computing Security over Smart City Networks: Threats, Vulnerabilities, Consequences, Countermeasures, and Challenges" *Electronics (Switzerland)*, 10 (15), 2021. **(IF 3.02)** [ISSN: 2079-9292]
9. I Khan, F Waheed, Q Khan, A Iqbal Bhatti, **Rahat Ullah** and R Akmeiliawati "A Linear Parameter Varying Strategy based Integral Sliding Mode Control Protocol Development and Its Implementation on Ball and Beam Balancer," in *IEEE Access*, vol. 9, pp. 74437-74445, 2021. **(IF 3.37)** [ISSN: 2169-3536]
10. **Rahat Ullah**, Hanif Ullah, Zubair Khalid, and Hashim Safdar, "Irregular Geometry Based Sectored FFR Scheme for ICI Mitigation in Multicellular Networks," *Journal of Communications* vol. 15, no. 11, pp. 796-807, November 2020. Doi: 10.12720/jcm.15.11.796-807 **(IF 0.88)** [ISSN: 1796-2021]
11. **Rahat Ullah**, Norsheila Fisal, and Hashim Safdar, "Stochastic Geometry Based Dynamic Fractional Frequency Reuse for OFDMA Systems," *Jurnal Teknologi (Sciences and Engineering)*, vol. 1, pp. 61–67, 2014. **(IF 0.82)** [ISSN: 2180-3722]
12. Hashim Safdar, Norsheila Fisal, **Rahat Ullah**, Zubair Khalid, Wajahat Maqbool, "Resource Allocation for M2M Communication in Heterogeneous Network : Coalitional Game Theory Approach," *Jurnal Teknologi (Sciences and Engineering)*, vol. 1, pp. 83–88, 2014. **(IF 0.82)** [ISSN: 2180-3722]
13. A Khan, N. Fisal, Z. Bakar, **Rahat Ullah** and H.Safdar "Secure Authentication and Key Management Protocols for Mobile Multihop WiMAX Networks," *Indian J. Sci. Technology*, vol. 7, no. March, pp. 282–295, 2014. [ISSN: 0974-6846 / 0974-5645]
14. Zubair Khalid, Norsheila Fisal, **Rahat Ullah**, Hashim Safdar, W. Maqbool, S. Zubair, A. S. Khan, "M2M Communication in Virtual Sensor Network for SHAAL," *Jurnal Teknologi (Sciences and Engineering)*., vol. 1, pp. 99–105, 2013. **(IF 0.82)** [ISSN: 2180-3722]
15. W Maqbool, SK Syed Yusof, A Latiff, H Safdar, **Rahat Ullah**, Z Khalid. "Link Capacity Based Channel Assignment for Cognitive Radio Networks," *Jurnal Teknologi (Sciences and Engineering)*, vol. 1, pp. 93–97, 2013. **(IF 0.82)** [ISSN: 2180-3722]
16. Anmol Shahani, S. H. Qazi, G. S. Kaloi, **R. Ullah** "Review on Performance Analysis of SCIG and PMSG-Based Wind Energy Conversion System Systems" *SSRG International Journal of Electronics and Communication Engineering*, 2019. [ISSN: 2348 - 8549]

RESEARCH PUBLICATIONS (CONFERENCE)

17. Z. Khalid, U. Khalid, M. A. Sarijari, H. Safdar, **R. Ullah**, M. Qureshi, S. Rehman "Sensor virtualization Middleware design for Ambient Assisted Living based on the Priority packet processing" *Elsevier Procedia Computer Science*, Vol. 151, pp.345*352, 2019.
18. S. Ullah, A. Bouich, M. Mollar, B. Marí, H. Ullah, **R Ullah** "Synthesis of Ternary CuGaSe₂ and CuGaS₂ Electrochemical Deposition for Photovoltaic Application", 6th International Renewable and Sustainable Energy Conference (IRSEC), 2018.
19. **R. Ullah**, N. Fisal, H. Safdar, W. Maqbool, Z. Khalid, and a. S. Khan, "Voronoi cell geometry based dynamic Fractional Frequency Reuse for OFDMA cellular networks," *IEEE Int. Conf. Signal Image Process. Appl.*, pp. 435–440, Oct. 2013.
20. **R. Ullah**, N. Fisal, H. Safdar and Z. Khalid "Interference management for irregular cell geometry heterogeneous networks," *Commun. (MICC)*, 2013 *IEEE Malaysia Int. Conf.*, no. November, pp. 523–527, 2013.

21. **R. Ullah**, N. Fisal, H. Safdar and Z. Khalid "Fractional Frequency Reuse for Irregular Cell Geometry OFDMA Systems," IEEE Int. Symp. Telecommun. Technol. (ISTT 2014), Langkawi, Malaysia.
22. **R. Ullah**, N. Fisal, H. Safdar and Z. Khalid "Fractional Frequency Reuse for Irregular Geometry Based Heterogeneous Cellular Networks," The 5th IEEE National Symposium on Information Technology: Towards Smart World. 2015, King Saud University, Riyadh, KSA.
23. Z. Khalid, N. Fisal, S. Zubair, **R. Ullah**, H. Safdar and U. Khalid "Multi-Thread based Middleware for Sensor Network Virtualization", The 5th IEEE National Symposium on Information Technology: Towards Smart World. 2015, King Saud University, Riyadh, KSA.
24. H. Safdar, N. Fisal, **R. Ullah** and Z. Khalid "Resource allocation for uplink M2M communication in multi-tier network," Commun. (MICC), 2013 IEEE Malaysia Int. Conf., no. November, pp. 538–543, 2013.
25. H. Safdar, N. Fisal, **R. Ullah**, W. Maqbool, F. Asraf, Z. Khalid, and a. S. Khan, "Resource allocation for uplink M2M communication: A game theory approach," 2013 IEEE Symp. Wirel. Technol. Appl., pp. 48–52, Sep. 2013.
26. H. Safdar, N. Fisal, and **R. Ullah**, "Distributed Resource Allocation For Spatially Distributed Irregular Cells," IEEE Int. Symp. Telecommun. Technol. (ISTT 2014), Langkawi, Malaysia.
27. Z. Khalid, N. Fisal, H. Safdar, **R. Ullah**, and W. Maqbool, "System Design in Sensor Network Virtualization for SHAAL," 5th IEEE Int. Conf. Intell. Syst. Model. Simul. Syst., 2014.
28. Z. Khalid, N. Fisal, H. Safdar, **R. Ullah**, and W. Maqbool, "Middleware Framework for Network Virtualization in SHAAL," IEEE Symp. Comput. Ind. Appl., 2014.
29. Zia M Loni, **R. Ullah**, Noor M Khan, "Analysis of fading statistics based on angle of arrival measurements", Antenna Technology (iWAT), International Workshop on, 314-319, China, 2011.

REFERENCES:

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