

# Dr. SUNDUS ALI

Updated: August 2025

PEC NO.: TELE/668

Approved PhD Supervisor, Senior Member IEEE, IEEE ComSoc, Fellow Pak. Academy of Engineering, Local Council member IEP, Advisor Cisco Community Pakistan, Chairperson Academic Industry Council, NIC Karachi and Member Syndicate NEDUET

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**GOOGLE SCHOLAR:** <https://scholar.google.com/citations?user=PDBAtuAAAAAJ&hl=en&oi=ao>

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## ACADEMIC QUALIFICATION

**PhD, Electronic Engineering** NED University of Engineering and Technology CGPA: 3.9/4.00  
December 2019

**Supervisors:** Dr. Muhammad Imran Aslam (NED UET) and Dr. Irfan Ahmed (NED UET)

**Title:** Uplink Performance of Decoupled Heterogeneous Networks in varying Pathloss Environment

**M.Engg. Telecommunication** Hamdard University CGPA: 4.00/4.00  
Engineering, October 2010 (Usman Institute of Technology) **Gold Medal Recipient**

**B.S. Telecommunication** NUCES-FAST, Karachi CGPA: 3.77/4.00  
Engineering, July, 2008 **Bronze Medal Recipient**

**PROFESSIONAL / RESEARCH INTERESTS:** Wireless Communication, Internet of Things, Analytical Modelling, Mentoring, Commercialization, Research and Academic Management

## RESEARCH EXPERIENCE

### *Funded Projects*

#### **In progress:**

- Principal Investigator, Sindh HEC funded SRSP Project: “**Mob-Air: Indigenously developed mobile air quality monitoring system for public health and safety**” worth **PKR 3.4 Million**, 2024-2026
- Co-supervisor for MoST Endowment Fund for research project, “**Analysis of Intelligent Reflective Surfaces in heterogeneous cellular network**”, **PKR 2.99 Million**, 2022

#### **Completed:**

- Co-Principal Investigator in HEC NRPU 2021 project: **NB-IoT ProSe: Proximity Services enabled NB-IoT for Reliable and Critical Communication in Low-Powered Applications**, worth **PKR 6.9 Million**, 2023-2025
- Co-Principal Investigator for British Council and HEC Going Global Partnership PAK-UK Education Gateway Mobility Partnership for Faculty Mobility Programme for Faculty members, **GBP 67,741 (Title: Mobility for bilateral stakeholder mapping for creating IoT networks for Climate Change)**, 2023
- Focal Person and manager of three **HEDP Innovator Seed Fund (ISF)** awards each worth USD 35,000 (total: USD 105,000~ PKR 22 Million) 2022-23
- Co-supervisor for PhD research project (Dr. Tahniyat Aslam), “**Performance Analysis of Terahertz Communication enabled Networks**”, **PKR 1.0 Million**, 2022-2024
- Co-supervisor for MoST Endowment Fund for research project (Dr. Syed Talib Abbas Jafri), “**Routing Reliability Improvement in IoT-based-MANET**”, **PKR 3.0 Million**, 2020-2022
- PhD research project grant from NEDUET, **PKR 1.0 Million**, 2017-2019
- Worked as PhD scholar on HEC funded NRPU-6054 project titled “**Flexible testbed for D2D communication in 5G cellular networks**”, **PKR. 6.59 Million**, 2017-2019
- NEDAASC FYDP funded projects:**
  - Development of Mobile Outdoor Air Quality Monitoring System Using LoRaWAN (Supervisor, PKR 102,000, 2024-25)
  - ML-Enhanced IoT-based Electrocardiogram (ECG) Monitoring System for Patient-Centric Solution (Supervisor, PKR 73,000, 2023-24)
  - IoT-Based Air Quality Monitoring and Control System (co-Supervisor, PKR 93,610, 2023-24)
- NGIRI IGNITE FYDP funded projects:**
  - ML-Enhanced IoT-based Electrocardiogram (ECG) Monitoring System for Patient-Centric Solution (Supervisor, PKR 73,000, 2023-24)
  - IOT Enabled Smart Vertical Farming Monitoring System (Supervisor, PKR 56,454, 2022-23)

- Adaptation of Smart contract in supply chain management using IOT (Supervisor, PKR 35,720, 2021-22)
- IoT based Air Monitoring System (co-Supervisor, PKR 40,000, 2020-21)

***Research Profile (Complete list has been provided at the end of the CV)***

Journal Publications	Conference Proceedings	h-index	i10-index
26	12	7	3

***Research Supervision/Co-supervision***

	Completed	In progress
Masters	5	1
PhD	2	2

**PROFESSIONAL EXPERIENCE**

- **Assistant Professor, Department of Telecommunications Engineering, NEDUET (17<sup>th</sup> June 2021 to date)**
- **Manager, Business Incubation Center, ORIC, NED UET (17<sup>th</sup> April 2021 to date)**
  - Chairperson, Academia Industry Council, NIC Karachi
  - Focal Person and organizer, **1<sup>st</sup> Dawlance Sustainability Hackathon**, NEDUET, January 16<sup>th</sup>-17<sup>th</sup> 2025
  - Focal Person NEDUET, **Google Career Certification Programme**, 2024-date
  - Member, BIC Steering Committee, Jinnah University for Women BIC-JUBIC (2024-2026)
  - Focal Person, **Innovator Seed Fund (ISF)** by HEDP and World Bank 2021-2023
  - Focal Person, **National Idea Lab (NIL)** by HEC, SMEDA and NEDUET 2022-date
  - Facilitator, UNIDO six-week EU funded Cluster Development Agents training under the **Poverty Alleviation and Inclusive Development Across Rural Sindh (PAIDAR)** programme, January-February 2023
  - Member, Cohort Selection Committee, National Incubation Center Karachi, Cohorts 10, 11, 12
  - Focal Person, **National Idea Bank**, 2021-date
  - Conducting timely BIC Steering Committee meetings
  - Submit HEC compliance data and scorecard on Annual basis
  - Overseeing day-to-day operation of BIC facility
  - Conducting business counseling and trainings with startups, faculty, and students
  - Evaluating and seeking potential funding sources
  - Assisting in developing and implementing policies
  - Governing the operation of the facility including meeting performance metrics and goals
- **Assistant Professor, Department of Electronic Engineering, NEDUET (7<sup>th</sup> December 2019- 16<sup>th</sup> June 2021)**
- **Lecturer, Department of Electronic Engineering, NEDUET (8<sup>th</sup> April 2010 to 6<sup>th</sup> December 2019)**

***Administrative Assignments***

- Elected Member representing Assistant Professors in Syndicate, NEDUET (May 2025-June 2027)
- Manager Business Incubation Center, ORIC, NEDUET (April 2021- date)
- Member/Secretary BIC Steering Committee, ORIC, NEDUET (April 2021-date)
- Member, Board of Review, Quality Enhancement Cell, NEDUET (January 2024-date)
- Member, Board of Review, Office of Research, Innovation and Commercialization (December 2021- date)
- Member, Committee for collection and submission of data to HEC for University Ranking (August 2023)
- Area/ISO Coordinator, Department of Telecommunications Engineering (17<sup>th</sup> June 2021- date)
- Member/Secretary, Industrial Advisory Board, Department of Telecommunications Engineering (July 2021-date)
- Member/Secretary, Board of Studies, Department of Telecommunications Engineering (July 2021-date)
- Member, Board of Faculty, Faculty of Electrical and Computer Engineering (November 2021-October 2024)
- LRQA Certified Lead Quality Auditor, Internal Lead Auditor for NED UET (2017 to date)
- Member, Departmental Outcome Based Education Team (April 2017 to October 2021)
- Class Advisor, Second Year Telecommunication Engineering (November 2019-June 2021)
- Learning Management System Facilitator Second Year Telecommunication Engineering (April' 20- June '21)
- Member Programme Team for development of SAR for MS Telecom Systems Programme (2020-2021)

### **Teaching Assignments**

**Post-graduate and Doctorate:** Next Generation Networks, Heterogeneous Cellular Networks, Smart Grid Communication, Mobile Telephony Systems, Advance Communication systems, Telecommunication Network Operations

**Undergraduate:** Next Generation Networks, Telecommunication Switching Systems, Telecommunication Management Networks, Communication Systems, Signals and Systems

- **Lecturer at National University of Computer and Emerging Sciences (01<sup>st</sup> August 2009 to 7<sup>th</sup> April 2010)**
- **Lab Engineer at National University of Computer and Emerging Sciences (01<sup>st</sup> August 2008 to 31<sup>st</sup> July 2009)**
  - Conducted Laboratory Sessions of Various Telecommunication Engineering Courses
  - Worked as Lab In-charge of two Laboratories over the tenure
  - Invigilation duties in Semester Mid-Terms and Final Examinations, Students' Evaluation for Lab Courses

### **RELEVANT SKILLS**

<b>Programming Skills</b>	<b>Application Software Skills</b>	<b>Management Skills</b>
<ul style="list-style-type: none"><li>▪ MATLAB (Advanced)</li><li>▪ LabView (Intermediate)</li><li>▪ OMNET++ (Intermediate)</li><li>▪ Communication Systems Design Suite (Intermediate)</li><li>▪ C++ (Intermediate)</li><li>▪ TCL Scripting (Basic)</li></ul>	<ul style="list-style-type: none"><li>▪ EndNote (Advance)</li><li>▪ LaTeX (Advance)</li><li>▪ Wireshark Protocol Analyzer (Medium)</li><li>▪ Cisco Packet Tracer (Medium)</li><li>▪ MRTG (Basic)</li><li>▪ MS Word, MS PowerPoint and MS Excel (Advance)</li><li>▪ Canva (Advance)</li></ul>	<ul style="list-style-type: none"><li>▪ Student Counselling</li><li>▪ Research Supervision</li><li>▪ Fund Management</li><li>▪ Project Design and Management</li><li>▪ Fund Raising for research</li><li>▪ Startup facilitation</li><li>▪ Industrial Liaison</li><li>▪ Monitoring and Evaluation</li><li>▪ Quality Audits</li></ul>

### **COMMUNITY SERVICE AND ENGAGEMENT**

#### **Events**

- Head of Finance and Marketing team, **2<sup>nd</sup> International Conference on Technology-driven Climate Action (CLIMATECH)**, NEDUET, January 16<sup>th</sup>-17<sup>th</sup> 2025
- Co-chair Finance and Marketing, **2<sup>nd</sup> NED Women Conference**, 6<sup>th</sup> and 7<sup>th</sup> November 2024
- Organizing team member, **1<sup>st</sup> Industrial Liaison Conference**, 3<sup>rd</sup> August 2024
- Conference Secretary, **1<sup>st</sup> International Conference on Technology-driven Climate Action (CLIMATECH)**, NEDUET, October 16<sup>th</sup> and 17<sup>th</sup> 2023
- Organizer, **Sindh HEC Research & Technology Showcase**, 2022, 2023
- Programme Secretary, **2<sup>nd</sup> International Conference on Emerging Trends in Electronics and Telecommunications Engineering (INTERACT)**, NEDUET, 15<sup>th</sup>-16<sup>th</sup> March 2023
- Team member, **1<sup>st</sup> International Conference on Applied Physics and Engineering (ICAPE)**, November 2021
- Head of Documentation and Content, **International Conference on Emerging Trends in Telecommunication and Electronic Engineering**, NEDUET, August 2017 to March 2018
- Faculty Head, **Career Expo 2011**, Department of Electronic Engineering, August-September 2011
- Faculty Coordinator: **TE-Links**- Official Telecom Discussion Forum of NED UET, January 2011 to 2013
- In-charge **SENTEC** (Society for the Promotion of Science and Technology), June-August 2010

#### **Trainings**

- Panelist, **Human-AI Collaboration redefining work and creativity**, 1<sup>st</sup> Annual Next Generation Awards, 7<sup>th</sup> May 2025
- Panelist, **STEM Education for Resilient Society**, organized by IEP KC Women Engineers Committee, 7<sup>th</sup> September 2024
- Panelist, **Academia Commercialization for Innovation**, Global Entrepreneurship Week, NIC Karachi, 14<sup>th</sup> November 2023
- Conducted two-day **"Entrepreneurship Bootcamp"** for Beaconhouse School A-levels students, 30<sup>th</sup>-31<sup>st</sup> July 2024
- Conducted session on **"EDI in Higher Education in Pakistan"**, UWS Scotland, UK, October 3<sup>rd</sup> 2023
- Conducted **"5 day capacity building training on Effective Data Collection, Management and submission for HEC Ranking"**, 07<sup>th</sup> -11<sup>th</sup> August 2023
- Conducted two-day boot camp on **Innovator Seed Fund Business Proposal** submission, 22<sup>nd</sup>-23<sup>rd</sup> February 2023
- Conducted faculty training on **"Startup Management and Incubation at NEDUET"**, 28<sup>th</sup> February 2022

- Conducted training on “**Assessing Data and Information Quality**”, on 12<sup>th</sup> December 2020, organized by Pakistan Academy of Engineering and Pakistan Science Foundation, Karachi.

### ***Journals, Showcases, and Conferences***

- Session chair, **4<sup>th</sup> International Biomedical and Digital Health Conference 2025**, May 2<sup>nd</sup>-3<sup>rd</sup> 2025
- Co-Editor for Book, “**Improving Quality of Life for People with Disabilities Through Smart Technologies**”, IGI Global Scientific Publishing, 2025, <https://www.igi-global.com/publish/call-for-papers/call-details/8433>
- Project Exhibitor, 3<sup>rd</sup> Sindh Higher Education Commission Research and Technology Showcase for project: “**Air Quality Monitoring and Control System**”, 1<sup>st</sup> June 2024
- Editor, MDPI Engineering Proceedings, **2<sup>nd</sup> INTERACT 2023**, 32, <https://doi.org/10.3390/engproc2023032027>
- Session Chair, **2<sup>nd</sup> NED Women Conference**, 6<sup>th</sup>-7<sup>th</sup> November 2024
- Moderator, Panel discussion on “Women-Led Social Impact and Philanthropy”, **2<sup>nd</sup> NED Women Conference**, 6<sup>th</sup>-7<sup>th</sup> November 2024
- Session Chair, **8<sup>th</sup> International Electrical Engineering Conference**, 25<sup>th</sup>- 26<sup>th</sup> August, 2023
- Session Chair, **1<sup>st</sup> International Biomedical and Digital Health Conference**, 22<sup>nd</sup>-23<sup>rd</sup> November, 2022
- Keynote speaker on “**Prospects of Cellular IoT Research and Commercialization in Pakistan**”, Third International Conference On Latest trends in Electrical Engineering and Computing Technologies (INTELLECT), 16<sup>th</sup>-17<sup>th</sup> November 2022
- Session Chair, **18<sup>th</sup> IEEE HONET Conference**, symposium on “**From 5G to 6G: Secure, Automated and Intelligent Networks**”, 11<sup>th</sup> October 2021
- Reviewer for **Wireless Communication Letters, Telecommunication Systems, Technology Forces Journal of Engineering and Sciences (2019-date)**
- Technical Program Committee member (as reviewer) in **IEEE EUROCON 2025**
- Technical Program Committee member (as reviewer) in **IEEE GLOBECOM 2018, 2019, 2020 and 2021**
- Technical Program Committee member (as reviewer) in **IEEE HONET 2024, 2023, 2022, 2021**
- Track Chair and Session Chair, **IEEE Smart Cities Conference 2021** workshop on “**5G enabled Smart Cities**”, 7<sup>th</sup> September 2021

### **PROFESSIONAL TRAININGS AND WORKSHOPS**

- QEC training on “**Modernizing Quality Assurance: Leveraging Digital Tools for Academic Excellence**”, 25<sup>th</sup> June 2025
- Sindh HEC training on “**Enabling Universities through Skilled-Based Incubation Ecosystems**”, May 20<sup>th</sup> 2025, IoBM Campus
- QEC training on “**Women in Leadership: Rise & Lead/ Conceptualizing and Navigating Women's Leadership and Leadership Development in Higher Education**”, 14<sup>th</sup> May 2025
- HEC's Editorial Team Training Workshop, April 10<sup>th</sup> 2025, NEDUET
- QEC training on “**Root Cause Analysis**” 26<sup>th</sup> June 2024
- WIPO DL-101 Course Certificate, **General Course of IP**, June 2024
- Training on “**Entrepreneurship in Higher Education**”, IBA-CED, November 16<sup>th</sup> and 17<sup>th</sup> 2023
- Participated in Pak-UK Education Gateway Mobility Partnership for Faculty: “**Mobility for Bilateral Stakeholder mapping for creating IoT networks for climate change**”, at University of the West of Scotland, UK, 25<sup>th</sup> September to 6<sup>th</sup> October 2023
- 2-day **BIC Master Trainer** by i2i and HEDP, Kinnaird College for Women, Lahore, 9<sup>th</sup> and 10<sup>th</sup> February 2023
- 3-day **BIC Training by i2i and HEDP-HEC** in Daftarkhwan, Lahore, Pakistan, 10<sup>th</sup>-12<sup>th</sup> November 2022
- 3-day **Training on incubation and business management** by GRASP, ITC, Marriott, Karachi, August 2022
- ORIC Training on: “**The Role of ORIC In Line of University & HEC Guidelines**”, 28<sup>th</sup> February 2022
- ORIC Training on: “**Writing Research Grants: National and International: Practices and Experiences**”, 28<sup>th</sup> February 2022
- ORIC Training on: “**Filing Patents and IP Policy**”, 28<sup>th</sup> February 2022
- ISF Focal Persons training on “**Innovator Seed Fund**”, HEC Islamabad, 29<sup>th</sup> December 2021
- **Entrepreneurship for Engineers**, organized by PEC (1.0 CPD), 10<sup>th</sup> March 2021
- **Learning Management System Training** sessions, March 2020 onwards
- **OBE based student evaluation**, 7<sup>th</sup> January 2020, QEC
- **Development of SAR as per PEC guidelines**, January 2020, QEC
- **Examination Paper setting as per OBE system**, 31<sup>st</sup> December 2019, QEC
- **Intellectual Property and Patents Laws in Pakistan**, November 2019, QEC
- **OBE System Design**, 29<sup>th</sup> Nov 2017, QEC
- **Awareness Session on Transition to ISO 9001: 2015**, 18<sup>th</sup> Oct 2017, ISO
- **HEI Ranking QA through IPE**, 25<sup>th</sup> July 2017, QEC
- **IRCA Registered Lead Assessor, LRQA**, conducted by Mr. Raheel Ehsan, 24<sup>th</sup>-28<sup>th</sup> April 2017, ISO
- **National Instruments, RF and Microwave Symposium**, 09<sup>th</sup> February 2017, Karachi
- **Development of Self-Assessment Report (SAR)**, 01<sup>st</sup> February 2017, QEC
- **Supply Chain Management**, 23<sup>th</sup> to 26<sup>th</sup> January 2017, ISO

- **Procedure of Assessment of SAR**, 06th March 2017, QEC
- **Quality Management, control, and assurance**, 27<sup>th</sup> -29<sup>th</sup> January 2016, QEC
- **Quality Assurance in Education**, 17th April, 2015, QEC
- **Effective Teaching Methodologies and Outcome Based Education Trainings**, QEC, 2015
- Huawei Training on **Advance GSM Equipment** (NSS and BSS), UET Lahore, July 2010
- 2-Day Training on **FPGA Programming**, Department of Electronic Engineering, June 2010

## **HONOURS AND AWARDS**

- Winner of NEDAASC Best Teacher Award 2022
- NEDUET Best Researcher Award 2022
- First Position and Academic Excellence Award Recipient, M.Engg. Telecommunications Engineering (2010)
- Third Position in BS Telecommunication Engineering (2008)
- Member of the Dean's List since 2005

## **PUBLICATIONS**

### *Journal Publications*

1. Ayesha Urooj, **Sundus Ali**, Irfan Ahmed, Muhammad Imran Aslam, **Proximity service for vehicular passengers: modeling and analyzing D2D implementation for VoIP application using vehicular mobility models**. Annals of Telecommunications. June 2025, <https://doi.org/10.1007/s12243-025-01101-4>
2. Hira Mariam, Ghulam Fiza, **Sundus Ali**, Irfan Ahmed, Muhammad Imran Aslam, Muhammad Zeeshan Shakir, **Exploiting Internet of Things to address climate change: Case study and analysis on the perception of stakeholders in Pakistan**, Journal of Climate and Community Development, 3(2), 264-285. <https://joccd.com/index.php/joccd/article/view/66>, 2025
3. Tahniyat Aslam, Irfan Ahmed, **Sundus Ali**, **Analysis of User Association in Multi-Tier, Multi-Band Heterogeneous Cellular Networks**, Telecommunication Systems, 88(8) 2024. <https://doi.org/10.1007/s11235-024-01248-w>
4. Abul Khair Muhammad Shafaat Ali, Irfan Ahmed, **Sundus Ali**, Mobin Khalid, **Gain Enhancement of Patch Antenna using Novel Glass Fiber Reinforced Polymer (GFRP) based Metasurface**, Advanced Electromagnetics, 13(3), 10–18, 2024, <https://doi.org/10.7716/aem.v13i3.2273>
5. **Sundus Ali**, Ashar Shakeel, Filza Hassan Khan, Ghulam Fiza, Khalid Kamran, Fatima Tanoli, and Muhammad Imran Aslam. **Development and Evaluation of a Sensor-Based Non-Invasive Blood Glucose Monitoring System Using Near-Infrared Spectroscopy**, Engineering Proceedings, 2024, 82, no. 1: 19. <https://doi.org/10.3390/ecsa-11-20395>
6. Syed Talib Abbas Jafri, Syeda Rabia Amin, Fariha Amanat, Tahniyat Aslam, **Sundus Ali**, Irfan Ahmed, Muhammad Imran Aslam, 2024. Development of Narrow Band Internet of Things Testbed for Proximity Services. International Journal of Innovations in Science & Technology, 6(7), 146–157., 2024. <https://journal.50sea.com/index.php/IJIST/article/view/1101>
7. Syed Talib Abbas Jafri, Irfan Ahmed, **Sundus Ali**, Jamaiah Yahaya, Faizan Qamar, Zuriani Hayati Abdullah, **Split Hop Penalty for Transmission Quality Metric in Better Approach to Mobile Ad-hoc Networking (BATMAN) for IoT-based MANET**, MDPI Symmetry, 15(5), 969. 2023; <https://doi.org/10.3390/sym15050969>
8. Fatima Haider Naqvi, **Sundus Ali**, Binish Haseeb, Namra Khan, Soomal Qureshi, Taha Sajid and Muhammad Imran Aslam, **Design and implementation of Smart Contract in supply chain management using Blockchain and Internet of Things**, Engineering Proceedings, 2023, 32(1), 3; <https://doi.org/10.3390/engproc2023032015>
9. Syed Talib Abbas Jafri, Irfan Ahmed, **Sundus Ali**, and Faizan Qamar, **Analysis of AgRED performance in LR-WPAN dense ad-hoc networks**, Engineering Proceedings, 2023, 32(1), 3; <https://doi.org/10.3390/engproc2023032005>
10. Moazzam Shah Bukhari Syed, Hafiz Muhammad Attaullah, **Sundus Ali** and Muhammad Imran Aslam, **Wireless Communications Beyond Antennas: The Role of Intelligent Reconfigurable Surfaces**, Engineering Proceedings, 2023, 32(1), 3; <https://doi.org/10.3390/engproc2023032010>
11. Fasih Ur Rehman, Hafiz Muhammad Attaullah, Faisal Ahmed and **Sundus Ali**, **Data Defense: Examine Fintech's Security and Privacy Strategies**, Engineering Proceedings, 2023, 32(1), 3; <https://doi.org/10.3390/engproc2023032003>
12. **Sundus Ali**, Muhammad Imran Aslam, Irfan Ahmed, Attaullah Khawaja, **Uplink performance of narrowband Internet-of-Things devices in Downlink Uplink Decoupled based Heterogeneous Networks**, Iranian Journal of Science Technology Transactions of Electrical Engineering, 47, 385–399, 2023. <https://doi.org/10.1007/s40998-022-00570-w>



13. Mariam, Hira, Irfan Ahmed, **Sundus Ali**, Muhammad Imran Aslam, and Ikram Ur Rehman. 2022, **Performance of Millimeter Wave Dense Cellular Network Using Stretched Exponential Path Loss Model**, Electronics, 11, no. 24: 4226.2022. <https://doi.org/10.3390/electronics11244226>
14. Syed Talib Abbas Jafri, Irfan Ahmed, and **Sundus Ali**, **Queue-Buffer Optimization Based on Aggressive Random Early Detection in Massive NB-IoT MANET for 5G Applications**, Electronics, 11, no. 18: 2955. 2022 <https://doi.org/10.3390/electronics11182955>
15. **Sundus Ali**, Muhammad Imran Aslam, Irfan Ahmed, **Impact of Fractional Power Control on DUDe based HetNets in varying Path Loss Exponent Environment**, Transactions on Emerging Telecommunications Technologies, 2022. doi: 10.1002/ett.4491
16. Syeda Messan, Asra Shahud, Amna Anis, Roma Kalam, **Sundus Ali** and Muhammad Imran Aslam, **Air-MIT: Air Quality Monitoring using Internet of Things**, Engineering Proceedings, 2022, 20(1), 45; <https://doi.org/10.3390/engproc2022020045>
17. **Sundus Ali**, Muhammad Imran Aslam, Irfan Ahmed and Tayyaba Khurshid, **Analysis of the Decoupled Uplink Downlink Technique for Varying PLE in Multi-Tier HetNet**, Telecommunication Systems, 74, 497–510 2020. <https://doi.org/10.1007/s11235-020-00661-1>
18. **Sundus Ali**, Muhammad Imran Aslam, and Irfan Ahmed. **Uplink Coverage Probability and Spectral Efficiency for Downlink Uplink Decoupled Dense Heterogeneous Cellular Network using multi-slope pathloss model**, Telecommunication Systems, vol. 72, no. 4, pp. 505-516, 2019. DOI:10.1007/s11235-019-00587-3
19. **Sundus Ali**, Muhammad Imran Aslam, and Irfan Ahmed, **Analysis of Downlink Uplink Decoupled Dense Heterogeneous Cellular Network based on User Association using Multi-Slope Pathloss Model**, Advances in Electrical and Computer Engineering, vol. 19, no. 2, pp. 45-52, 2019. DOI:10.4316/AECE.2019.02006
20. **Sundus Ali**, Syed Talib Abbas Jafri, Ghulam Fiza, Cezar Anicai, Yingbo Zhu, Muhammad Imran Aslam, Muhammad Zeeshan Shakir, et al, **IoT-enabled, real-time, remote, outdoor environment monitoring system**, EMITTER International Journal of Engineering Technology, under review since March 2025
21. Tahniyat Aslam, Irfan Ahmed, **Sundus Ali**, Faizan Qamar, **Analytical modelling and performance analysis of uplink coverage and capacity of multi-tier, multi-band HetNets incorporating Terahertz communication**, Arabian journal of Science and Engineering, under review, submitted in May 2025
22. Tanzila, **Sundus Ali**, Muhammad Imran Aslam, Irfan Ahmed, Syeda Kashaf Kulsoom, Maria Hussain, Mahnoor Asif, **Design, Development, and Evaluation of ML-IoT enabled Environment Quality Monitoring System**, International Journal on Environmental Quality, submitted in June 2025
23. Hafiz Muhammad Attaullah; **Sundus Ali**; Muhammad Imran Aslam; Irfan Ahmed; Al-Sakib Khan Pathan, **An Efficient Risk Impact and Vulnerability Assessment Framework for NB-IoT Networks**, Sukkur IBA Journal of Emerging Technologies, submitted in August 2025
24. Tanzila, **Sundus Ali**, Muhammad Imran Aslam, Irfan Ahmed, Ayesha Ahmed, Prototyping **LoRaWAN-Based Mobile Air Quality Monitoring System for Public Health and Safety**, Engineering Proceedings, submitted in August 2025
25. Syed Talib Abbas Jafri, **Sundus Ali**, Irfan Ahmed, Muhammad Imran Aslam, **SDR-based experimental evaluation of NB-IoT testbed in outdoor environment using open source software stack**, PLOS One, submitted in August 2025
26. Tahniyat Aslam, Irfan Ahmed, **Sundus Ali**, **Comparative Uplink Performance Analysis of 3D and 2D Antenna Models in THz Networks with Joint Human and Wall Blockages**, Annals of Telecommunications, submitted in August 2025

### **Conference Publications**

27. Tanzila, **Sundus Ali**, Muhammad Imran Aslam, Irfan Ahmed, **Development of a LoRaWAN-Based Mobile Air Quality Monitoring System for Public Health and Safety**, 10<sup>th</sup> International Electrical Engineering Conference (IEEC 2025), 9<sup>th</sup>-10<sup>th</sup> May 2025, IEP Centre, Karachi, Pakistan
28. **Sundus Ali**, Muhammad Imran Aslam, Zaryab Ahmed Khan, Asma Khalid, Arhamna Ayub Khan, Hania Ali Shaikh, **ML-Enhanced IoMT-based Electrocardiogram Monitoring System for Patient-Centric Solution**, 2024 26th International Multi-Topic Conference (INMIC), Karachi, Pakistan, 2024, pp. 1-5, doi: 10.1109/INMIC64792.2024.11004334
29. **Sundus Ali**, Muhammad Imran Aslam, Irfan Ahmed, Syed Talib Abbas Jafri, Tahniyat Aslam, **Development of a novel OMNET++ framework for analysis of an NB-IoT uplink network**, International Conference on Emerging Trends in Smart Technologies (ICETST), Karachi, Pakistan, 2024, pp. 1-4, doi: 10.1109/ICETST62952.2024.10737960

30. Muhammad Imran Aslam, **Sundus Ali**, Hamza Kaleem Shah, Samima Siddiq, Eisha Shoukat and Yahya Ahmed Khan, **Development and implementation of AI-enabled, remote vitals monitoring system using LoRaWAN**, 4<sup>th</sup> International Conference on Innovations in Computer Science (ICONICS), Karachi, Pakistan, 2024, pp. 1-5, doi: 10.1109/ICONICS64289.2024.10824314.
31. Tahniyat Aslam, Irfan Ahmed, **Sundus Ali** and Muhammad Imran Aslam, **“Tera Hertz Communication and Associated Challenges in 6G Cellular Networks”**, 4th International Conference on Computing & Information Sciences, November 29-30, 2021, Karachi, Pakistan, DOI: 10.1109/ICCIS54243.2021.9676382
32. Nehan Abdul Ghani, Yumna Shahid, Zahra Mubeen, Mahnoor Khursheed, **Sundus Ali** and Muhammad Imran Aslam, **“Prototype Implementation of Device-to-Device Communication”**, 4th International Conference on Computing & Information Sciences, November 29-30, 2021, Karachi, Pakistan, DOI: 10.1109/ICCIS54243.2021.9676389
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