



Dr. Uzma Ahmad (Tenured Associate Professor)
HEC Approved Supervisor

Biography

With outstanding academic achievements, Uzma Ahmad received her M.Sc. in Mathematics and M.Philosophy from Punjab University and holds the prestigious excellent results in the Department of Mathematics (first position in M.Sc. Mathematics). She subsequently received a PhD in Mathematics from the National University of computer and Emerging Sciences. (FAST).

Commencing her academic journey as a lecturer in the Department of Mathematics at the University of the Punjab in 2008, Uzma Ahmad has since progressed to the position of a tenured Associate Professor. Her expertise lies in the realms of algebraic graph theory, molecular graph theory, and fuzzy graph theory, with a prolific record of over 71 research articles published in international peer-reviewed journals,. Some of her papers have been published in high ranked journals. Her total impact factor is more than 140. Her dedication to teaching excellence earned her the prestigious departmental best teacher award from the Department of Mathematics at the University of the Punjab in 2014. Actively engaged in academic discourse, she has presented her research findings at 21 international and national conferences within her field. Dr. Uzma has successfully supervised six students to complete their Ph.D. research work, and currently oversees the academic pursuits of three Ph.D. candidates under her supervision. She is serving as a Reviewer/Referee for different International Journals. Beyond academia, she fulfills the role of a student advisor in the Department of Mathematics at the University of the Punjab. Her multifaceted contributions underscore her commitment to advancing mathematical knowledge and fostering academic growth.

Academic Qualifications

- **Doctor of Philosophy** PhD, National University of Computer and Emerging Sciences (FAST), Lahore Campus, 2013
- **Master of Philosophy** M. Phil Mathematics, University of the Punjab, 2004.
- **Master of Science** Msc. Mathematics, University of the Punjab, 2001.

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- **Bachelor of Science (B.Sc)**, University of the Punjab, 1999

Professional Experiences

- **August 25, 2020 to date:** Working as Associate Professor (Tenured) in the department of Mathematics, University of the Punjab.
- **May 2013 to August 24, 2020:** Working as an Assistant Professor in the department of Mathematics, University of the Punjab.
- **December 2008- May 2013:** Working as permanent lecturer in the department of Mathematics, University of the Punjab.
- **2003 -2006:** Working as lecturer (Visiting faculty) in National University of Computer and Emerging Sciences, Lahore Campus, Lahore.
- **2004:** working as visiting lecturer in IAS, University of the Punjab.
- **2013-2014:** Managerial Secretary, Punjab University Journal of Mathematics, Lahore, Pakistan
- **15-08-2016 to 30-07-2019:** Member, Departmental Library Committee (DLC), Punjab University, Lahore
- **04-11-2015 to 07-11-2022:** Students Advisor, Department of Mathematics, PU
- **10-07-2014 to 31-08-2016:** Coordinator for Departmental Seminar Series, June 2014 - June 2016.
- **07-06-2023 to date:** Member of Departmental Curriculum Committee
- **01-06-2023 to date:** Students Advisor, Department of Mathematics, PU
- **11-01-2021 to date:** Member of Departmental Doctoral Program Committee, DDPC.
- **11-02-2021 to date:** Member of Departmental Tenure Review Committee, DTRC
- **28-09-2020 to date:** Member of Board of Studies in Mathematics.
- **19/09/2019 to date:** Assistant Coordinator, MPhil/Ph.D. program, Department of Mathematics from September, 2019.
- **04-10-2017 to date:** Member of Departmental Disciplinary Committee
- **01-08-2019 to date:** Member of Departmental Examination Committee
- **01-08-2019 to date:** Member of Departmental Scholarship Committee

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- **2017-2020:** Member of BS Admission Committee
- **2020- 2024:** Member of M. Phil/ Ph. D Admission Committee

Special Distinctions/Awards

- Best departmental teacher award for 2013-2014
- Approved HEC supervisor
- Awarded Performance Based Increment on TTS for the years 2016, 2017, 2019, 2020, 2021, 2022
- Awarded Honorarium on TTS for the years 2020, 2021, 2022
- Awarded Travel grant by University of the Punjab, Lahore, Pakistan in 2013, 2015 and 2019 to present research articles in UK and Germany
- Awarded Travel grant by Higher Education Commission, Pakistan in 2016, 2018 to present research articles in Florida, USA and Italy, respectively.
- Awarded Travel grant by Punjab Higher Education Commission, Pakistan in 2017 to present research articles in Florida, USA.
- 3rd position (M-Phil) in Department of Mathematics, University of the Punjab
- 1st position (MSc) in Department of Mathematics, University of the Punjab.
- Awarded UGC, Talent farming scholarship at MSc level.
- Awarded HEC Indigenous Scholarship for PhD.

Teaching Experiences

- Applied Calculus
- Discrete Mathematics
- Probability and Statistics
- Linear Algebra
- Optimization Theory

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- Group Theory
- Mathematical Statistics
- Rings and Vector Space
- Topology
- Functional Analysis
- Graph Theory
- Operations Research
- Advanced analysis
- Set Theory
- Measure Theory
- Advanced Group Theory

Formal Trainings

- One-day Training on “Use of Generative artificial Intelligence in Higher Education” organized by Higher Education Commission, Pakistan held in University of the Veterinary & Animal Sciences (UVAS) Lahore (January 11, 2024)
- Indigenous on- Campus Training Program for Management Team organized by University of the Punjab (December 15-19, 2014).
- HRDC Faculty Orientation Program 2009 organized by University of the Punjab (June 22-26, 2009).

Research Interests

- Spectral Graph Theory
- Molecular Graph Theory
- Fuzzy Graph Theory
- Decision-making Techniques

Research Experiences

- The research project on ‘Eigenvalue Properties of Simple Graphs’ funded by University of the Punjab, 2022-2023

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- The research project on “The study of certain graph invariants on Nanotubes and Nanotori” funded by University of the Punjab 2017-2018
- The research project on “The digraphs arising by power maps of finite non-abelian groups” funded by University of the Punjab 2014-2015
- The research project on “Power digraphs of Finite groups” funded by University of Punjab 2013-2014.
- PhD Thesis under the supervision of Prof. Dr. S.M. Husnine , University of computer and Emerging Sciences
- M-Phil Thesis under the supervision of Prof. Dr. Shoaib-ud -Din, University of the Punjab, Lahore

Publications

Year 2024

1. Z. Akram, **U. Ahmad**, J.C. R. Alcantud, Multi-Criteria Decision-Making for the Selection of Best Airport Ground Access Mode with a New Fuzzy Rough-Entropy Based Method, Engineering Applications of Artificial Intelligence, 2024, **135**, 108843 **(Impact factor: 8)**
2. S Akhter, G Muhiuddin, S Hameed, **U Ahmad**, A New Family of Graphs and Strong Antireciprocal Eigenvalue Property, Journal of Mathematics, 2024, **vol 2024**, Article ID 8849362, 12 pages, <https://doi.org/10.1155/2024/8849362>
(Impact factor 1.3)
3. Y Rao, R Chen, H. Ahmad, **U Ahmad**, Reverse Zagreb Indices and Their Application in the Evaluation of Physiochemical Properties of Anticancer/Antibacterial Drugs, ACS Omega, 2024, 9, 28, 31056–31080
4. **U. Ahmad**, A. Khan, S. Shahazadi, Extended ELECTRE I method for decision-making based on 2-tuple linguistic q-rung picture fuzzy sets, Soft Computing, 2024 <https://doi.org/10.1007/s00500-023-09544-4> **(Impact factor: 4.1)**
5. **U. Ahmad**, S. Akhter, S. Hameed, On Graphs With Anti-Reciprocal Eigenvalue Property, Transactions On Combinatorics, 2024, 13(1) : 17-30. **(Y-category)**

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6. M. Akram, **U. Ahmad**, M. M. Ali Al-Shamiri, A. Shareef, Algorithms for computing Pythagorean fuzzy average edge connectivity of Pythagorean fuzzy graphs, Journal of Applied Mathematics and Computing, 2024, **70**, 375–416, <https://doi.org/10.1007/s12190-023-01970-9>
(Impact factor: 2.196)
7. S. Hameed, **U. Ahmad**, S. Ullah and A. G. Shah, Cubic fuzzy bridges and its application to traffic flow problem, 2023, Journal of Intelligent & Fuzzy Systems, 2024, 46: 2629-2647
(Impact factor: 2)
8. A. Khan, **U. Ahmad**, Multi-criteria group decision-making based on 2-tuple linguistic q-rung picture fuzzy sets, Granular Computing, 2024, 9(1), Article No.8
(Impact factor: 5.5)
9. Y. Rao, R. Chen, **U. Ahmad**, A. G. Shah, Generalized Connectivity in Cubic Fuzzy Graphs With Application in Trade Deficit Problem, Frontiers in Physics, 2024, 11: 1328116. doi: 10.3389/fphy.2023.1328116
(Impact factor: 3.718)
10. T. Batool, **U. Ahmad**, A new approximation technique based on central bodies of rough fuzzy directed graphs for agricultural development, Journal of Applied Mathematics and Computing, 2024, **70**, 1673–1705 <https://doi.org/10.1007/s12190-024-02032-4>
(Impact factor: 2.196)
11. M. A. Al-Shamir, **U. Ahmad**, A. Maryam, M. Akram, Application of Cubic Directed Graph in IT Company Selection, Journal of Journal of Applied Mathematics and Computing, 2024, **70(3)**, 2169-2196, <https://doi.org/10.1007/s12190-024-02046-y> **(Impact factor: 2.196)**

Year 2023

12. **U. Ahmad**, N.K. Khan, A. B. Saeid, Fuzzy topological indices with application to cybercrime problem. Granul. Comput., 2023, **8**, 967–980 <https://doi.org/10.1007/s41066-023-00365-2>
(Impact factor: 5.5)

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13. **U. Ahmad**, M. Sabir, Multicriteria Decision Making based on the Degree and Distance Based Indices of Fuzzy Graphs, *Granular Computing*, 2023, **8**, 793–807
<https://doi.org/10.1007/s41066-022-00354-x> **(Impact factor: 5.5)**
14. **U. Ahmad**, M. Imran, A. M. Alanazi, R. Yousaf, and S. Hameed, On distance-based indices of regular dendrimers using automorphism group action, *Main Group Metal Chem.* **46** (1), 2023, 20220028. <https://doi.org/10.1515/mgmc-2022-0028>
(Impact factor: 1.8)
15. **U. Ahmad**, I. Nawaz, S. Broumi, Connectivity Index of Directed Rough Fuzzy Graphs and its Application in Traffic Flow Network, *Granular Computing.*, 2023, **8**: 1561–1582
<https://doi.org/10.1007/s41066-023-00384-z> **(Impact factor: 5.5)**
16. **U. Ahmad**, A. Khan and A. B. Saeid, Integrated multi-criteria group decision-making methods based on q-rung picture fuzzy sets, *Soft Computing*, 2023,
<https://doi.org/10.1007/s00500-023-08154-4> **(Impact factor: 4.1)**
17. **U. Ahmad**, S. Hameed, S. Akhtar, On weighted noncorona graphs with properties R and –SR, *Kuwait Journal of Science*, 50 (2A), 2023, 1-12. **(Impact factor: 0.481)**
18. **U. Ahmad**, T. Batool, Domination in rough fuzzy digraphs with application, *Soft Computing*, **27**(2023): 2425–2442.
<https://doi.org/10.1007/s00500-022-07795-1> **(Impact factor: 4.1)**
19. **U. Ahmad**, I. Nawaz, Wiener Index of a Directed Rough Fuzzy Graph and Application to Human Trafficking, *Journal of Intelligent & Fuzzy Systems*, 44, 2023, 1479–1495
DOI:10.3233/JIFS-221627 **(Impact factor: 2.0)**
20. Z. Akram, **U. Ahmad**, A multi-criteria group decision-making method based on fuzzy rough, number for optimal water supply strategy, *Soft Computing*, 2023
<https://doi.org/10.1007/s00500-023-08942-y> **(Impact factor: 4.1)**
21. I. Nawaz and **U. Ahmad**, Certain Concepts in Directed Rough Fuzzy Graphs and its Application to Mergers of Companies, *Fuzzy Information and Engineering*, 2023, **15**(3), 248–273. **(Impact factor: 0.667)**

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22. S. Hameed, **U. Ahmad**, Z. Batool, Total Perfect and Total Efficient Domination in Intuitionistic Fuzzy Graphs, *Int. J. Appl. Comput. Math*, 2023, **9**, Article 60
<https://doi.org/10.1007/s40819-023-01538->
23. G. Fang, **U. Ahmad**, A. Rasheed, A. Khan, J. Shafi, Planarity in Cubic Intuitionistic Graphs and its Application to Control Air Traffic on a Runway, *Front. Phys. Sec. Statistical and Computational Physics*, 2023, **11**: Article No 1254647. doi: 10.3389/fphy.2023.1254647 **(Impact factor: 3.718)**
24. G. Fang, **U. Ahmad**, S. Ikhtlaq, L. Asgharsharghi, Multi-Attribute Group Decision Making based on Spherical Fuzzy Zagreb Energy, *Symmetry* 2023, **15**, 1536.
<https://doi.org/10.3390/sym15081536> **(Impact factor: 2.7)**
25. A. Shareef, **U. Ahmad**, S. Siddique and M. M. Ali Al-Shamiri, Pythagorean fuzzy incidence graphs with application in illegal wildlife trade, *AIMS Mathematics*, 2023, **8(9)**, 21793–21827. **(Impact factor: 2.739)**
26. A. Khan, **U. Ahmad**, S. Shahzadi, A new decision analysis based on 2-tuple linguistic q-rung picture fuzzy ITARA–VIKOR method, *Soft Computing*, 2023,
<https://doi.org/10.1007/s00500-023-08263-0> **(Impact factor: 4.1)**
27. D. A. Alrowaili, **U. Ahmad**, S. Hameed, M. Javaid, Graphs with Mixed Metric Dimension three and Related Algorithms, *AIMS Mathematics*, 2023 **8 (7)**, 16708-16723.
(Impact factor: 2.739)
28. A. Khan, **U. Ahmad**, A. Farooq, M. M. A. Al-Shamiri, Combinative Distance based Assessment Method for Decision Making with 2-Tuple Linguistic q-Rung Picture Fuzzy Sets, *AIMS Mathematics*, 2023, **8(6)**, 13830-13874. doi: 10.3934/math.2023708
(Impact factor: 2.739)
29. S. Xiaolong, S. Kosari, **U. Ahmad**, S. Hameed, S. Akhter, Evaluation of Various Topological Indices of Flabellum Graphs, *Mathematics*, 2023, **11(19)**: Article No 4167.
(Impact factor: 2.592)
30. R. Ismail, S. Hameed, **U. Ahmad**, K. Majeed, M. Javaid, Unbalanced Signed Graphs with Eigenvalue Properties, *AIMS Mathematics*, 2023, **8(10)**: 24751-24763. doi: 10.3934/math.20231262
(Impact factor: 2.739)

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31. S. Akhter, S. Hameed, and **U. Ahmad**, Signed graphs with strong anti-reciprocal eigenvalue property, Communications in Algebra, 2023, 51(10), 4271–4279
<https://doi.org/10.1080/00927872.2023.2204357> (Impact factor: 0.61)
32. M. Akram, A. Khan, **U. Ahmad**, Extended MULTIMOORA method based on 2-tuple linguistic Pythagorean fuzzy sets for multi-attribute group decision-making, Granular Computing, 2023, 8, 311–332 <https://doi.org/10.1007/s41066-022-00330-5>
 (Impact factor: 5.5)
33. A. Khan, M. Akram, **U. Ahmad** and M. M. A. Al-Shamiri, A new multi-objective optimization ratio analysis plus full multiplication form method for the selection of an appropriate mining method based on 2-tuple spherical fuzzy linguistic sets, Mathematical Biosciences and Engineering, 2023, 20(1): 456–488. (Impact factor: 2.194)

Year 2022

34. **U. Ahmad**, I. Nawaz, Directed rough fuzzy graph with application to trade networking, Computational and Applied Mathematics, 2022, 41:366 (pages 1-26)
<https://doi.org/10.1007/s40314-022-02073-0> (Impact factor: 2.998)
35. **U. Ahmad**, S. Akbari, S. Hameed, M. A. Nematollahi, F. Saeed, Addendum to "Spectral characterizations of signed cycles", Linear Algebra and its Applications, 2022, 651, 83-89.
 (Impact factor: 1.307)
36. **U. Ahmad**, S. Ahmed, M. Javaid, M. N. Alam, Computing Fault-tolerant Metric Dimension of Connected Graphs, Journal of Mathematics, Volume 2022, Article ID 9773089, 6 pages
<https://doi.org/10.1155/2022/97730892022> (Impact factor: 1.55)
37. S. Hameed, **U. Ahmad**, Inverse of the adjacency matrices and strong anti-reciprocal eigenvalue property, Linear and Multilinear Algebra, 2022, 70(14), 2739-2764
 (Impact factor: 1.178)
38. M. Akram, **U. Ahmad**, Rukhsar, S. Samanta, Threshold Graphs Under Pythagorean Fuzzy Information, Journal of Multiple-Valued Logic and Soft Computing, 2022, 35(5-6), 547-574.
 (Impact factor: 0.779)

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39. M. Akram, **U. Ahmad**, Rukhsar, Threshold graphs under picture Dombi fuzzy information, *Granular Computing* 2022, **7**, 691–707 <https://doi.org/10.1007/s41066-021-00291-1>
40. M. Akram, A. Khan, **U. Ahmad**, J. C. R. Alcantud, M. M. A. Al-Shamiri, A new group decision-making framework based on 2-tuple linguistic complex q -rung picture fuzzy sets, *Mathematical Biosciences and Engineering*, 2022, 19(11): 11281–11323, DOI: 10.3934/mbe.2022526 **(Impact factor: 2.914)**
41. M. Imran, S. Akhtar, **U. Ahmad**, S. Ahmad, A. Bilal, On Extremal Graphs of Degree Distance Index by Using Edge-Grafting Transformations Method, *Combinatorial Chemistry & High Throughput Screening*, 2022, **25(3)**, 560 - 567 <https://doi.org/10.2174/1386207323666201224123643> **(Impact factor: 1.8)**
42. M. Akram, **U. Ahmad**, Rukhsar, F. Karaaslan, Complex Pythagorean fuzzy threshold graphs with application in petroleum replenishment, *Journal of Applied Mathematics and Computing*, 2022, **68**, 2125-2150 **(Impact factor: 2.196)**
43. M. Javaid, M. Ibraheem, E. Bonyah, **U. Ahmad** and S. Wang, First General Zagreb Co-Index of Graphs under Operations, *Journal of Mathematics*, Volume **2022**, Article ID 5094929, 11 pages, <https://doi.org/10.1155/2022/5094929> **(Impact factor: 1.55)**
44. S. Hameed, A. Alamer, M. Javaid and **U. Ahmad**, An estimation of HOMO-LUMO gap for a class of molecular graphs, *Main Group Metal Chem.* 2022, **45**:100–105. **(Impact factor: 1.917)**
45. G. Muhiuddin, S. Hameed, A. Rasheed, **U. Ahmad**, Cubic Planar Graphs with Application to Road Network, *Journal: Mathematical Problems in Engineering*, Volume **2022**, Article ID 5251627, 12 pages, <https://doi.org/10.1155/2022/5251627> **(Impact factor: 1.43)**
46. G. Muhiuddin, S. Hameed, A. Maryam and **U. Ahmad**, Cubic Pythagorean Fuzzy Graphs, *Journal of Mathematics*, 2022, Volume **2022**, Article ID 1144666, <https://doi.org/10.1155/2022/1144666> **(Impact factor: 1.55)**

Year 2021

47. **U. Ahmad**, S. Hameed, S. Jabeen, Noncorona graphs with strong anti-reciprocal eigenvalue property, *Linear and Multilinear Algebra*, 2021, **69(10)**, 1878-1888.

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- (Impact factor: 1.736)**
48. S. Siddique, U. **Ahmad**, M. Akram, A Decision-Making Analysis with Generalized m-Polar Fuzzy Graphs, Journal of Multiple-Valued Logic and Soft Computing, 2021, **37**, 409-436
(Impact factor: 0.85)
49. S. Siddique, U. **Ahmad**, M. Akram, .A study on generalized graphs representations of complex neutrosophic information. J. Appl. Math. Comput., 2021, **65**, 481–514
(Impact factor: 1.686)
50. M. Javaid, M. Ibraheem, U. **Ahmad**, J. Liu, Sharp Bounds of First Zagreb Coindex for - Sum Graphs, Journal of Mathematics, vol. **2021**, Article ID 9984412, 19 pages, 2021.
<https://doi.org/10.1155/2021/9984412>. **(Impact factor: 0.971)**
51. M. Akram, S. Siddique, U. **Ahmad**, Mengers Theorem for m-Polar Fuzzy Graphs and Application of m-Polar Fuzzy Edges to Road Network, Journal of Intelligent & Fuzzy Systems, 2021, **41**, 1553 – 1574. **(Impact factor: 1.739)**
52. M. Javaid , M. Ibraheem, U. **Ahmad**, Q. Zhu, Computing Bounds for Second Zagreb Coindex of Sum Graphs, Mathematical Problems in Engineering, Volume 2021, Article ID 4671105, 19 pages, <https://doi.org/10.1155/2021/4671105> **(Impact factor: 1.305)**

Year 2020

53. U. **Ahmad**, S. Hameed and S. Jabeen, Class of weighted graphs with strong anti-reciprocal eigenvalue property, Linear and Multilinear Algebra, 2020, **68(6)**, 1129-1139.
(Impact factor: 1.12)
54. U. **Ahmad**, M. Arooj, Combinatorial Properties of Power Graphs of Finite Groups of Prime Order Elements, Communications in Algebra, 2020, **48(2)**, 708-716.
(Impact factor: 0.501)
55. S. Siddique, U. **Ahmad**, W. Salam, M. Akram, F. Smarandache, Representation of Competitions by Complex Neutrosophic Information, Journal of Intelligent & Fuzzy Systems, 2020, **39**, 7881–7897
(Impact factor: 1.739)

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56. J. Wei, **U. Ahmad**, S. Hameed and J. Hanif. Locating-Total Domination Number of Cacti Graphs, *Mathematical Problems in Engineering* Volume 2020, Article ID6197065, 10 pages, <https://doi.org/10.1155/2020/6197065> (Impact factor: 1.10)

Year 2019

57. S. Hameed, **U. Ahmad**, Extremal values in a class of basic peri-condensed benzenoids with respect to VDB topological indices, *Ars Combinatoria: A Canadian Journal of Combinatorics*, 2019, **145**, 367-376. (Impact factor: 0.192)

58. S. Hameed, **U. Ahmad**, Minimal Energy Tree with 4 Branched Vertices, *Open Chemistry*, 2019, **17**, 198-205 (Impact factor: 1.512)

59. J. Xu, J. Liu, A. Bilal, **U. Ahmad**, H. M. A. Siddiqui, B. Ali, M. R. Farahani, Distance Degree Index of Some Derived Graphs, *Mathematics* 2019, **7(3)**, 283 <https://doi.org/10.3390/math7030283> (Impact factor: 1.105)

Year 2018

60. **U. Ahmad**, S. Hameed, Bounds of HOMO-LUMO gap for certain nanotubes and nanotori, *Journal of Informatics and Mathematical Sciences*. **10(3)** (2018), 391-398

61. **U. Ahmad**, S. M. Husnine, The Power Digraphs of finite groups, *Utilitas Math* **106** (2018), 319-339 (Impact factor: 0.228)

Year 2017

62. **U. Ahmad**, M. Moeen, The digraphs arising by the power maps of generalized Quaternion groups, *Journal of algebra and its applications*, **16(9)** 1750179 (2017) [12 pages], DOI: 10.1142/S0219498817501791 (Impact factor: 0.600)

63. **U. Ahmad**, A. Sarfraz, R. Yousaf, Computation of Zagreb and Atom bond connectivity Indices of Certain Families of Dendrimers by using Automorphism Group Action, *J. Serb. Chem.Soc.* **82(2)** (2017), 151-162. (Impact factor: 0.797)

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Year 2016

64. **U. Ahmad**, M. Moeen The classification of finite groups by using iteration digraphs, Czechoslovak Math. J, **66(4)** (2016), pp. 1103-1117 **(Impact factor: 0.364)**
65. **U. Ahmad**, S. M. Husnine, The Power Digraphs of Safe Primes, Bull. Iranian Math. Soc., **42(3)** (2016), 749-759 **(Impact factor: 0.287)**
66. S. Ahmad, **U. Ahmad**, M. Imran and N. Farah, The Omega and Sadhana polynomials of nanotube TUC4[p,q], Can. J. Chem. **94** (2016), 490–493 **(Impact factor: 1.66)**
67. Y. Huo, J. Liu, S. Ahmad, N. Farah, **U. Ahmad**, M. R. Farahani, M. Imran, “On certain topological indices of TUC5C8 nanotubes” Journal of Computational and Theoretical Nanoscience, **13** (2016), 9158-9161. **(Impact factor: 1.080)**

Years 2012- 2015

68. **U. Ahmad**, The Power Digraphs Associated with Generalized Dihedral Groups, Discrete Mathematics, Algorithms and its Applications, 7(4)(2015), 1550057(14 pages) DOI: 10.1142/S1793830915500573
69. **U. Ahmad**, S.Husnine, On the heights of Power Digraphs modulo n , Czechoslovak Math. J **62**, 2 (2012), 541 - 566. **(Impact factor: 0.364)**
70. **U. Ahmad**, S. Husnine, Characterization of Power Digraphs modulo n , Coment. Math. Univ. Carolin, **52**, 3 (2011), 359 - 367.
71. S. Husnine, **U. Ahmad**, L. Somer, On Symmetries of Power Digraphs, Utilitas Mathematica **85** (2011), 257 - 271. **(Impact factor: 0.261)**

Conferences/ Workshops /Seminar

1. Invited speaker in Seminar Series held in University of Education, Bank Road Campus, (March 21, 2024)
2. Invited speaker in 7th UMT International conference on Pure and Applied Mathematics (December 04-05, 2023)
3. Attended PU-NMS International schools Series for Students and Faculty held in Department of Mathematics, University of the Punjab, Lahore (February 14-18, 2022)

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4. Talk delivered in Departmental Seminar Series (33) , Department of Mathematics, University of the Punjab, Lahore (January 26, 2022)
5. Talk delivered in Departmental Seminar Series (31) , Department of Mathematics, University of the Punjab, Lahore (November 18, 2020)
6. Talk presented in National Workshop on Recent advances in Graph theory and Combinatorics 2019, held in Department of Mathematics, RIPHAH Institute of Computing and Applied Sciences, Lahore, December 14-15, 2019.
7. Paper presented in 38th meeting of the conference Colloquium on Combinatorics held at Paderborn University, November 8-9, 2019, Paderborn, Germany. (Travel grant approved by University of the Punjab, Pakistan)
8. Paper presented in 20th International Pure Mathematics Conference 2019 (20th IPMC 2019) on Algebra, Analysis and Geometry held in Islamabad from 23-25 August 2019 organized by Advanced Institute of Mathematical Sciences, Pakistan Mathematical Society and Allama Iqbal Open University Islamabad.
9. Paper presented in 5th UICPAM-2019 held at Centre For Mathematics and its Applications (CMAP) University of Management and Technology (UMT) (March 29-31, 2019)
10. Invited speaker in 1st UMT International Symposium on Graph Theory and Combinatorics organized by Khwarizmi Mathematical Society, Department of Mathematics, UMT, Lahore, October 26, 2019.
11. Invited speaker in One Day Symposium on Algebra & Number Theory held in COMSATS, Lahore, October 13, 2018.
12. Paper presented in the conference COMBINATORICS 2018 being held in, Arco, Italy on June 03-09, 2018. (Travel grant approved by Higher Education Commission, Pakistan)
13. Paper presented in 4th UICPAM-2018 held by Centre For Mathematics and its Applications (CMAP) University of Management and Technology (UMT) (March 31-April 02, 2018)
14. Talk delivered in Seminar Series 2018, Department of Mathematics, University of the Punjab, Lahore (January 17, 2018)

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15. Invited speaker in RICAS Research Seminar, RIPHAH international University, Lahore Campus
16. Paper presented in 48th Southeastern International Conference on Combinatorics, Graph Theory and Computing, Florida, USA, March 6-10, 2017 (Travel grant approved by Punjab Higher Education Commission, Pakistan)
17. Paper presented in 47th Southeastern International Conference on Combinatorics, Graph Theory and Computing, Florida, USA, March 7-11, 2016, (Travel grant approved by Higher Education Commission, Pakistan)
18. Paper presented in 25th British Combinatorial Conference International Workshop on Discrete Structures 2015 held at University of Warwick, Coventry, United Kingdom from July 6-10. (Travel grant approved by University of the Punjab, Lahore, Pakistan)
19. Workshop on modern aspect of algebra and graph theory held at department of Mathematics, CIIT, Lahore campus during March 27-28, 2015
20. Paper presented in International Workshop on discrete structures 2014, National University of Science and Technology (NUST), Islamabad, 05 - 07 Mar 2014
21. CASM Workshop on Recent Advances in Commutative Algebra with Algebraic Geometry 2014, Lahore University of Management Sciences (LUMS), Lahore, May 16-18, 2014
22. Paper presented in 24th British Combinatorial Conference 2013, Royal Holloway, June 30-July 05, 2013 University of London, London. (Travel grant approved by University of the Punjab, Lahore, Pakistan)
23. Paper presented in 5th world conference on 21st century mathematics, Abdus salam school of Mathematical Sciences, GC University, Lahore, February 9-13, 2011.
24. Paper presented in Computational Complexities, Innovations and Solutions, TechnoMoot 2010, COMSATS Institute of Information Technology, Abbotabad, May 10-11, 2010.
25. Participated in 4th world conference on 21st century Mathematics, Abdus salam school of Mathematical Sciences, GC University, Lahore, March 05-07, 2009.

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Supervision of PhD/M.Phil Theses

PhD students

1. Ms. Saira Hameed (Title: Spectral and Topological Properties of Graphs, 2019)
2. Miss Saba Siddique (Title: Connectivity Of Specific Fuzzy Graphs, 2022)
3. Mr. Muhammad Ibraheem (Title: Analysis of Topological Indices and Coindices for Resultant Graphs, 2022)
4. Ayesha Khan (Decision-making methods based on 2-tuple linguistic q-rung picture fuzzy sets, 2020- 2023)
5. Iqra Nawaz (Connectivity of Directed Rough Fuzzy Graphs, 2020-2023)
6. Sadia Akhtar (Spectral Characteristics of Simple Graphs, 2020-2023).
7. Tahira Batool(Graph Invariants in Rough Fuzzy Hybrid Networks), in progress.

M. Phil Thesis Supervised

1. Miss Muqadas Moeen (Title: Analysis and Characterization of finite groups by means of iteration digraphs, 2014-2015)
2. Miss Rabia Yousaf (Title: The study of of topological indices of molecular graphs by using group theoretical methods, 2015-2016)
3. Miss Qanitah Ama -Tul- Mughani (Title: The Symmetry of V-Phenylenic Nanotubes and Modified Schultz Index for Certain Subdivision Operators, 2016-2017)
4. Mr Ahsan Bilal, (Title: On Extremal Graphs with respect to Certain Topological Indices, 2016-2017)
5. Miss Shaista Jabeen, (Title: Anti-Reciprocal Eigenvalue Properties of Weighted Graphs, 2017-2018)
6. Miss Misbah Arooj, (Title:Characterization of Finite Groups using Power Graphs, 2017-2018)
7. Miss Sara Ahmed (Title: Mixed Metric Generator of Graphs, 2018-2019)

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8. Miss Faiza Saeed (Title: Spectra of Signed Cycle Graphs, 2018-2019)
9. Miss Memona Bebi (Title: Enhanced Power Graphs of finite Groups having unique Dominating vertex, 2018-2019)
10. Miss Tehreem Fatima (Title: Mixed Metric Dimension for Product of Graphs, 2018-2019)
11. Miss Javeria Hanif (Title: Upper Bounds Of Locating Total Dominating Set of Graphs, 2019-2020)
12. Miss Javeria Ibrahim (Title: On Lower Bounds Of Locating Total Dominating Set of Graphs, 2019-2020)
13. Miss Sadia (Title: Mixed Metric Dimension of Graphs, 2019-2020)
14. Miss Rukhsar (Title: Complex Pythagorean Fuzzy Threshold Graphs, 2020-2021)
15. Miss Afeefa Maryam (Title: Cubic Pythagorean Fuzzy Graphs, 2021-2022)
16. Miss Ayman Rasheed (Title: Cubic Planar Graphs, 2021-2022)
17. Miss Khadija Majeed (Title: Spectra Of Signed Graphs, 2021-2022)
18. Miss Zarash Batool (Title: Domination On Fuzzy Graphs, 2021-2022)
19. Mr. Imdad Hussain (Title: Wiener Energies Of Fuzzy Graphs, 2021-2022)
20. Mr. Nasir Kaleem Khan (Title: Randic and Harmonic Indices of Fuzzy Graphs, 2021-2022)
21. Mr. Muhammad Sabir (Title: Degree-Distance Indices Of Fuzzy Graphs, 2021-2022)
22. Miss Zainab Akram (Title: Decision Making Models Based on Fuzzy Rough Numbers, 2022-2023).
23. Miss Sobia Ikhtlaq (Title: Zagreb Energy of Spherical Fuzzy Graphs, 2022-2023)
24. Miss Ayesha Shareef (Title: Connectivity in Pythagorean Fuzzy Incidence Graphs, 2022-2023).
25. Mr. Abdul Ghafar Shah (Title: Connectivity Measures in Cubic Fuzzy graph, 2022-2023)
26. Mr. Hammad Ahmad (Title: Applications of Topological Indices in Evaluation of Physio-Chemical Properties of Chemical Compounds, 2023-2024).
27. Mr. Areeba Maqbool (Title: Decision Making Models Based on Cubic Fuzzy Graphs, 2023-2024).
28. Mr. Sana (Title: Complex Cubic Fuzzy Graphs, 2023-2024).

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Evaluation of M.Phil/PhD Theses as External Examiner

PhD Theses

1. Ph.D Thesis: Antimagic Valuations and Complexity of Graphs, (UMT, Lahore), 2024
2. Ph.D Thesis: Novel Computations of Closed Forms of Some Degree Based Topological Descriptors via M-Polynomial, (University of Lahore,Lahore), 2023
3. Ph.D Thesis: Metric-Based Fractional Dimensions of Connected Graphs, (UMT, Lahore), 2023
4. PhD Thesis: Fractional Metric Dimensions and Antimagic Valuations of Graphs, (UMT, Lahore), 2022

M.Phil Theses

1. Computing Connection Zagreb Indices of Titanium oxide Nanotube Structures (UMT, Lahore) 2024
2. Decision-Making Framework: Promethee And Vikor Methods In Hesitant Fuzzy N-Soft Model(University of Education) 2024
3. Topological Aspects of Some Chemical Graphs via Direct and Neighborhood M-Polynomial Method (University of Lahore) 2024.
4. Degree-Based Fuzzy Topological Indices of some Chemical Graphs for Industry (University of Lahore) 2024.
5. Computation of Metric Dimension of Certain Hyper Graphs (UMT, Lahore)2023
6. Computing Sharp Bounds of Metric Based Fractional Dimensions for the Line Graph of Sierpinski Networks, (UMT, Lahore) 2023
7. Computing Local Fractional Metric Dimension of Certain Connected Networks, (UMT, Lahore), 2023
8. Properties of Fibonacci Sequence and Fibonacci Graphs (Riphah International University, Lahore), 2023

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9. Some Results on Strong Product of Fuzzy Graph Structures With Application, (UMT, Lahore) 2023
10. Topological study of hierarchical hypercube network and optics transpose interconnection system biswapped network, (University of Lahore) 2023.
11. Topological analysis of the chemical structure of Heptacene, (University of Lahore) 2023.
12. Vertex Edge $V E(G)$ and Edge Vertex $E V(G)$ Degree Based Topological Indices of Some Molecular Structures, (University of Lahore) 2023.
13. Connection Topological Indices of Polycyclic Aromatic Hydrocarbon Structures, (UMT, Lahore), 2023.
14. Computing Bounds of Lanzhou Index for the Unicyclic Graph, (UMT, Lahore), 2023.
15. On Local Fractional Metric Dimension of Harary Graphs (UMT, Lahore), 2022.
16. Properties of Rook Polynomials in Two and Higher Dimensions, Riphah Institute of Computing & Applied Sciences, Riphah International University Lahore) 2022
17. Zagreb Indices of Dendrimer Nanostars using Connection Numbers (UMT, Lahore), 2022.
18. Fixed Points of Geraghty Type Quasi Contraction in Quasi Ordered Metric Spaces (UET, Lahore) 2021
19. Properties of Spectral Radius of some family of Graphs(Riphah Institute of Computing & Applied Sciences, Riphah International University Lahore) 2021
20. A few Applications of Graphs and their line graphs (Riphah Institute of Computing & Applied Sciences, Riphah International University Lahore) 2021
21. Fixed Point Results For Rational Type Contractions Using Ordered Structure(UET, Lahore) 2021
22. Connection Number Based Topological Indices Of Silicate And Oxide Networks (University of Management and Technology, Lahore Campus, Lahore) , 2021
23. Computing Local Fractional Metric Dimension of Prism Related Graphs (University of Management and Technology, Lahore Campus, Lahore), 2021
24. A Study of Topological Indices of Aramids, (National Textile University, Faisalabad), 2020
25. Viscous Dissipation Effects on MHD Boundary Layer of Sisko Fluid over a Non-Linear Stretching Sheet, (National Textile University, Faisalabad), 2020

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26. Application of Hardy-Littlewood Maximal Operator on Networking and Utility Graphs, (National Textile University, Faisalabad), 2020
27. Topological Properties of Subdivided Carbon Nanosheets (University of Management and Technology, Lahore Campus), 2020
28. Antimagic Total labeling on a Class of Acyclic Graphs (University of Management and Technology, Lahore Campus), 2020
29. Modeling of the Comfort Properties of Woven Fabrics Using Genetic Algorithm (National Textile University, Faisalabad), 2020
30. Frequency Analysis of Fluid-filled Bi-Layered FGM Cylindrical Shells (National Textile University, Faisalabad), 2020
31. Frequency Analysis of Bi-layered FGM Cylindrical Shells based on Elastic Foundation in Boiler (National Textile University, Faisalabad), 2020
32. Anti-magic Labeling on a Class of Acyclic Graphs (University of Management and Technology, Lahore Campus), 2019
33. Topological Indices of Complete t-Partite Graphs with Applications in Neural Networks (University of Management and Technology, Lahore Campus), 2019
34. Second minimizing graph in the graphs whose complements are unicyclic (Second minimizing graph in the graphs whose complements are unicyclic, GC University, 2018)
35. Co-Irregularity of Different types of Graph Products (University of Management & Technology, Sialkot Campus), 2017
36. Co-Irregularity of Some Graph Operations (University of Management & Technology, Sialkot Campus), 2017

Reviewing Research Articles

- Linear and Multilinear Algebra, Taylor and Francis
- Mathematical Reviews, American Mathematical Society
- Journal of Applied Mathematics and Computing., Springer
- Bulletin of Malaysian Mathematical Society, Springer
- Journal of Algebra and its Applications, World Scientific

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- Journal of Intelligent & Fuzzy Systems, IOS press
- Iranian Journal of Fuzzy Systems, University of Sistan & Baluchestan
- Open Chemistry, De Gruyter
- Discrete Mathematics, Elsevier
- Main Group Metal chemistry, De Gruyter
- Mathematical Problems in Engineering, Hindawi

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