

CURRICULUM VITAE

Dr. Tahir Mahmood

S/O

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D.O.B: **March 17, 1975**

Marital Status: **Married**

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Scopus:

<https://www.scopus.com/authid/detail.uri?authorId=57206168189>

JOB OBJECTIVE

An ambitious, qualified, committed, and enthusiastic academic with a range of teaching experience, aiming to broaden horizons in the field of Algebra.

ACADEMIC QUALIFICATION

Degree/ Certificate	Institution	Session	Major Courses/Division
Ph.D. (Mathematics)	Quid-i-Azam University, Islamabad	2006-2012	Spectral Theory of Hilbert spaces, Homological Algebra-I, Theory of Semirings, Fuzzy Algebra, General Relativity
Ph.D. Research Thesis Title: “Some Characterizations of Hemirings by the Properties of Their Fuzzy Ideals”			
M.Phil (Mathematics)	Quid-i-Azam University, Islamabad	2003-2005	Semigroup Theory, Near Rings, Theory of Group Acts, Theory of Group Graphs, Theory of Complex Manifolds, Banach Algebra, Ring Theory-I, Ring Theory-II. / 1 st Div
M.Sc. (Mathematics)	Govt. Post Graduate College Asghar Mall, Rawalpindi	1995-1997	1 st Div
B.A.	Govt. Degree College, Talagang.	1992-1994	1 st Div
F.A.	Govt. Degree College, Fteh Jang.	1990-1992	2 nd Div
SSC	Govt. High School, Chakwal.	1988-1990	1 st Div

Affiliation:

Associate Professor,
Department of Mathematics and Statistics,
Faculty of Sciences,
International Islamic University Islamabad, Pakistan.

Research Profile:

Metrics

	WoS	Scopus	Researchgate	Google Scholar
H-Index	48	49	53	57
Citations	9600+	9550+	11900+	13000+

Research Interests:

Mathematics, Fuzzy Algebra, Fuzzy Sets and Their Generalizations, Soft Sets, Rough Sets, Fuzzy Decision Making, Algebraic Structures.

Total Impact Factor: 974.024

Publications	Published	Accepted	Total
Total Publications	377	13	390
Total International Publications	358	13	371
Impact Factor Publications	286	13	299
HEC Recognized (W, X & Y)	315	13	328

Conference Papers	04
Books Contributed	08

Students Supervised	BS	MS	Ph.D.
Degree Completed	02	60	10
Degree Continued	Nil	02	05
Conferences Attended	17		
Conferences Organized	03		

Awards:

- 1) Won Mathematics Olympiad in 2005 organized by Federal Directorate of Education Islamabad.
- 2) Won NRPU project "Similarity measures of picture hesitant fuzzy sets and their applications" at total cost of Rs.1382383/-, numbered No: 5833/Federal/NRPU/R&D /HEC/2016
- 3) Won NRPU project "Group generalized q-rung orthopair fuzzy soft sets and their applications in decision making problems" of Rs. 3748500/- numbered 20-14662/NRPU/R&D/HEC/2021 2021 as Co-PI.
- 4) Awarded Rs. 70,000/- Research Incentive Award from International Islamic University Islamabad in the Year 2016.
- 5) Awarded Rs. 60,000/- Research Incentive Award from International Islamic University Islamabad in the Year 2017.

- 6) Awarded Rs. 60,000/- Research Incentive Award from International Islamic University Islamabad in the Year 2018.
- 7) Included in top 2% scientists of the world as per Stanford University USA list in 2021, 2022, 2023, 2024 and 2025.
- 8) Ranked at No. 2 as best scientist in the field of Mathematics in Pakistan as per ScholarGPS (https://scholargps.com/highly-ranked-scholars?year=2024&ranking_duration=LAST_5_YEARS&field=Physical+Sciences+and+Mathematics&country%5B0%5D=Pakistan) for the year 2024.
- 9) Ranked at No. 6 as best scientist in the field of Mathematics in Pakistan as per Research.Com (<https://research.com/scientists-rankings/mathematics/pk>) for the year 2024.
- 10) Ranked at No. 7 as best scientist in the field of Mathematics in Pakistan as per Research.Com (<https://research.com/scientists-rankings/mathematics/pk>) for the year 2024.
- 11) Ranked at No. 9 as best scientist in the field of Computer Science in Pakistan as per Research.Com (<https://research.com/scientists-rankings/computer-science/pk>) for the year 2024.
- 12) Ranked at No. 6 as best scientist in the field of Computer Science in Pakistan as per Research.Com for the year 2023.

Departmental Duties (Other than Teaching):

- In charge Academic Affairs (Department Level) June 2022 – September 2025
- In charge Academic Affairs (Faculty Level) September 2025 - todate
- Time Table in charge: 2005-2021
- Member Time Table Committee: 2021-todate
- Member and convener of Examination committee: 2005-todate
- Member and convener of Admission committee: 2006-todate
- Convener of space allocation committee of FBAS: 2017-2021
- Convener of Examination committee of FBAS: 2017-2021
- Convener of Seminar Committee since December: 2019- 2022.
- Secretary of Departmental Graduate Research Committee: 2021- todate
- Secretary of Departmental Board of Studies: 2021- todate

Editorial Board Responsibilities:

1. Lead guest editor of the special issue “Decision Making Based on Intuitionistic Fuzzy Sets and their Generalizations” in the Journal “Journal of Mathematics” in 2020.
2. Former Member editorial board: Scientific Reports (**Impact Fcator Journal**)
3. Former Member editorial board: Plos One (**Impact Fcator Journal**)
4. Member editorial board: Journal of Intelligent and Fuzzy Systems (**Impact Fcator Journal**)
5. Member Editorial Board: Smart Multi-Criteria Analytics and Reasoning Technologies

6. Editor-in-Chief: Journal of Innovative Research in Mathematical and Computational Sciences (**HEC Recognized Journal**)

Book Chapters:

1. Qaisar Khan, **Tahir Mahmood**, Khizar Hayat, Muhammad Arif, Valentina Emilia Balas, and Oana Geman. *Application of Single-Valued Neutrosophic Power Maclaurin Symmetric Mean Operators in MADM*. In: Balas V., Jain L., Balas M., Shahbazova S. (eds) *Soft Computing Applications*. SOFA 2018. *Advances in Intelligent Systems and Computing*, vol 1222. Springer, Cham. **(Published)**.
2. **Tahir Mahmood**, Qaisar Khan, Kifayat Ullah, Naeem Jan. *Single valued neutrosophic finite state machine and switchboard state machine*, *New Trends in Neutrosophic Theory and Applications*, Volume II, Brussels, Belgium, EU, 2018. **(Published)**.
3. **Tahir Mahmood** and Zeeshan Ali, *Schweizer–Sklar Muirhead Mean Aggregation Operators Based on Pythagorean Fuzzy Sets and Their Application in Multi-Criteria Decision-Making*, *Pythagorean Fuzzy Sets: Theory and applications*, Springer, (2021) 235-259, (2021) 235-259, **(Published)**.
4. **Tahir Mahmood** and Zeeshan Ali, *Multi-Granulation Single-Valued Neutrosophic hesitant fuzzy rough sets*, *DECISION MAKING WITH NEUTROSOPHIC SET: THEORY AND APPLICATIONS IN Knowledge management*, Nova Science Publisher. **(Published)**.
5. Said Broumi, Kifayat Ullah, **Tahir Mahmood**, Mohamed Talea, Assia Bakali, Florentin Smarandache, D. Nagarajan, and M. Lathamaheswari, *Trends on Extension and Applications of Neutrosophic Graphs to Robots, Toward Humanoid Robots: The Role of Fuzzy Sets*, Springer, 2021, **(Published)**.
6. Zeeshan Ali, **Tahir Mahmood**, Florentin Smarandache, *Three-Way Decisions with Single-Valued Neutrosophic Uncertain Linguistic Decision-Theoretic Rough Sets Based on Generalized Maclaurin Symmetric Mean Operators*, *Neutrosophic Operational Research*, Springer, (2021) 71-101, **(Published)**.
7. Said Broumi, Kifayat Ullah, Assia Bakali, Mohamed Talea, Prem Kumar Singh, **Tahir Mahmood**, Florentin Smarandache, Ayoub Bahnasse, Santanu Kumar Patro and Angelo de Oliveira, *Novel System and Method for Telephone Network Planing based on Neutrosophic Graph*, *Collected Papers (on Neutrosophic Theory and Applications) Volume VI*.
8. Ajoy Kanti Das, **Tahir Mahmood**, Rakhal Das, and Suman Das, Das, A. K., Mahmood, T., Das, R., & Das, S. (2025). *Optimizing Inventory Levels in Retail: Fuzzy Logic-Based Decision Support Systems for Adaptive Inventory Management*. In *Applications of Fuzzy Logic in Decision Making and Management Science* (pp. 131-143). Springer, Cham.

Conference Papers:

1. Faisal Mehmood, Khizar Hayat, **Tahir Mahmood** and Muhammad Arif, Cubic Hesitant Fuzzy Heronian Mean Operators and Their Application in Multi Criteria Decision Making, Soft Computing Applications, Proceedings of the 8th International Workshop Soft Computing Applications (SOFA 2018), Vol. II, Springer.
2. Kifayat Ullah, **Tahir Mahmood**, Naeem Jan, Some averaging aggregation operators for t-spherical fuzzy sets and their applications in multi-attribute decision making. In Proceedings of the International Conference on Soft Computing & Machine Learning (ICSCML), Wuhan, China, 26–28 April 2019.
3. Said Broumi, Mohamed Talea, Assia Bakali, Guennoun Asmae, **Tahir Mahmood**, Florentin Smarandache and Kifayat Ullah, NSPP: A Novel algorithm for neutrosophic shortest path problem , 2020 International Conference on Computer and Information Sciences, October 13-15, Aljouf, Kingdom of Saudi Arabia.
4. **Tahir Mahmood**, Hafiz Muhammad Waqas and Ubaid ur Rehman, Prioritizing Advanced Bioenergy Technologies for Sustainable Fuel Using Hesitant Bipolar Fuzzy Hamacher Prioritized Approach. In: Kahraman, C., et al. Intelligent and Fuzzy Systems. INFUS 2025. Lecture Notes in Networks and Systems, vol 1531. Springer, Cham. https://doi.org/10.1007/978-3-031-98304-7_76

Published Papers:

- 1) Muhammad Shabir and **Tahir Mahmood**, Hemirings characterized by the properties of their fuzzy ideals with thresholds, Quasi s and Related Systems (ISSN: 1561-2848), 18 (2010), 195 - 212. **(HEC Recognized)**.
- 2) Asghar Khan, Young Bae Jun and **Tahir Mahmood**, Generalized Fuzzy Interior Ideals in Abel Grassmann's Groupoids, Int. J. of Mathematics and Mathematical Sciences, (ISSN: 0161-1712), Volume 2010 (2010) Article ID 838392, 14 pages, **(HEC Recognized)**.
- 3) Muhammad Shabir and **Tahir Mahmood**, Characterizations of Hemirings by Interval Valued Fuzzy Ideals, Quasigroups and Related Systems, (ISSN:1561-2848), 19 (2011), 317-329. **(HEC Recognized)**.
- 4) Muhammad Shabir and **Tahir Mahmood**, On Interval Valued (α, β) -Fuzzy Ideals of Hemirings, East Asian Mathematical Journal, (ISSN:1226-6973), 27 (2011), No. 3, pp. 349-372.
- 5) Muhammad Shabir and **Tahir Mahmood**, Characterizations of Hemirings by $(\epsilon, \epsilon \vee q_k)$ -Fuzzy Ideals, Computers and Mathematics with Applications, (ISSN:0898-1221), 61 (2011) 1059-1078. **I. F. 2.670**.
- 6) Muhammad Shabir, Yasir Nawaz and **Tahir Mahmood**, Characterizations of Hemirings by $(\bar{\epsilon}, \bar{\epsilon} \vee \bar{q})$ -Fuzzy Ideals, Neural Computing and Applications, (ISSN:0941-0643), 21 (Suppl 1) (2012) S93–S103. **I. F. 1.168**.
- 7) Muhammad Shabir and **Tahir Mahmood**, Hemirings Characterized by Interval Valued $(\bar{\epsilon}, \bar{\epsilon} \vee \bar{q})$ -Fuzzy k -Ideals, Mathematica Aeterna,

(ISSN:1314-3344), 2 (1) (2012) 1 - 19.

- 8) **Tahir Mahmood** and Muhammad Shabir Characterizations of h -hemiregular and h -semisimple Hemirings by interval valued fuzzy h -ideals, *World Applied Science Journal*, (ISSN:1818-4952), 17 (2012) 1821-1827.
- 9) Muhammad Shabir and **Tahir Mahmood**, Spectrum of $(\epsilon, \epsilon \vee q)$ -fuzzy prime h -ideals of a hemiring, *World Applied Science Journal*, (ISSN:1818-4952), 17 (2012) 1815-1820.
- 10) Muhammad Shabir, Noshin Malik and **Tahir Mahmood**, On Interval Valued Fuzzy h -ideals in Hemirings, *East Asian Mathematical Journal*, (ISSN:1226-6973), 28 (1) (2012) 49-62.
- 11) Muhammad Shabir, Noshin Malik and **Tahir Mahmood**, Characterizations of hemirings by the properties of their interval valued fuzzy ideals, *Annals of Fuzzy Mathematics and Informatics*, (ISSN:2093-9310), 3 (2) (2012) 229- 242.
- 12) Muhammad Shabir, Noshin Malik and **Tahir Mahmood**, On Interval Valued Fuzzy ideals in Hemirings, *Annals of Fuzzy Mathematics and Informatics*, (ISSN:2093-9310), 4(1) (2012) 49- 62.
- 13) **Tahir Mahmood**, New Types of Interval Valued Fuzzy h -Ideals of Hemirings, *World Applied Science Journal*, (ISSN:1818-4952), 18 (2012) 1883-1889.
- 14) **Tahir Mahmood** and Muhammad Shabir Ideals Redefined to Characterize Hemirings, *World Applied Science Journal*, (ISSN:1818-4952), 18 (2012) 1870-1882.
- 15) **Tahir Mahmood** and Muhammad Aslam, On interval-valued $(\epsilon_\gamma, \epsilon_\gamma \vee q_\delta)$ -fuzzy k -ideals in hemirings, *Neural Computing & Applications*, (ISSN:0941-0643), 21 (1)(2012) 231-244. **I. F. 1.168.**
- 16) Muhammad Shabir, **Tahir Mahmood** and Saqib Hussain, Hemirings Characterized by Interval Valued $(\epsilon, \epsilon \vee q)$ -Fuzzy k -Ideals, *World Applied Sciences Journal*, (ISSN:1818-4952) 20(12)(2012) 1678-1684.
- 17) **Tahir Mahmood**, Hemirings Characterized by the properties of their $(\bar{\epsilon}, \bar{\epsilon} \vee \bar{q}_k)$ -fuzzy ideals, *Iranian Journal of Science and Technology*, (ISSN:1028-6276), 37 (2013) 265-275. **I. F. 0.217.**
- 18) **Tahir Mahmood** and Muhammad Munir, On Bipolar Fuzzy Subgroups,, *World Applied Sciences Journal*, (ISSN:1818-4952), 27(12)(2013) 1806-1811.
- 19) **Tahir Mahmood**, Characterizations of h -Hemiregular and h -Semisimple Hemirings by Interval Valued $(\bar{\epsilon}, \bar{\epsilon} \vee \bar{q})$ -Fuzzy h -Ideals, *The Nucleus*, (ISSN:0029-5698), 51(1)(2014) 19-27. **(HEC Recognized).**
- 20) Muhammad Shabir, Yasir Nawaz and **Tahir Mahmood**,

Characterizations of Hemirings by $(\in, \in \vee q)$ -Fuzzy Ideals, *East Asian Mathematical Journal*, (ISSN:1226-6973), 31(2015) 001-018.

- 21) **Tahir Mahmood** and Khizar Hayat, Characterizations of Hemi-Rings by their Bipolar-Valued Fuzzy h -Ideals, *Information Sciences Letter*, (ISSN:2090-9551), 4(2) (2015) 51-59.
- 22) **Tahir Mahmood** and Usman Tariq, Generalized k -Ideals in Semirings using Soft Intersectional Sets, *International Journal of Algebra and Statistics*, (ISSN:2314-4548), 4(1) (2015) 20-38.
- 23) Muhammad Irfan Ali, **Tahir Mahmood**, M. Muti ur Rahman and M. Fahim Aslam, On lattice ordered soft sets, *Applied Soft Computing*, (ISSN:1568-4946) 36 (2015) 499-505 **I. F. 2.857**.
- 24) **Tahir Mahmood** and Asim Ejaz, On Bipolar Valued Fuzzy k -Ideals in Hemirings, *The Nucleus*, (ISSN:0029-5698), 52 (3) (2015) 115-122. **(HEC Recognized)**.
- 25) **Tahir Mahmood**, Ayesha Waqas and M. A. Rana, Soft Intersectional Ideals in Ternary Semirings, *Science International*, (ISSN:1013-5316), 27 (5) 2015, 3929-3934.
- 26) **Tahir Mahmood** and Khizar Hayat, Applications of Soft Intersection Set in B -Algebra via SI - B - Ideals, *International Journal of Algebra and Statistics*, (ISSN:2314-4548), 4(2) (2015) 57-62.
- 27) **Tahir Mahmood**, Saleem Abdullah and Qaisar Khan, Regular Cubic Language and Regular Cubic Expression, *Advances in Fuzzy Sets and Systems*, (ISSN:0973-421X), 20(2) (2015) 97-132.
- 28) Saleem Abdullah, Wafa S. Al Shammakh, **Tahir Mahmood** and Muhammad Shahzad, Fuzzy soft set over a fuzzy topological space, *International Journal of Machine Learning and Cybernetics*, (ISSN:1868-8071), 7 (2016) 491-499. **I. F. 1.699**.
- 29) Khizar Hayat and **Tahir Mahmood**, Some Applications of Bipolar Soft Set: Characterizations of Two Isomorphic Hemi-Rings via BSI - h -Ideals, *British Journal of Mathematics and Computer Science*, (ISSN:2231-0851), 13 (2) (2016) 1-21.
- 30) **Tahir Mahmood**, Qaisar Khan and Mohsin Ali, Q-Single Valued Neutrosophic Sets, *Journal of New Theory*, (ISSN:2149-1402), 13 (2016) 10-25.
- 31) **Tahir Mahmood**, Faisal Mehmood and Qaisar Khan, Cubic Hesitant Fuzzy Sets and Their Applications to Multi Criteria Decision Making, *International Journal of Algebra and Statistics*, (ISSN:2314-4548), 5 (1) (2016) 19-51.
- 32) Khizar Hayat, Bing-Yuan Cao, **Tahir Mahmood** and Kalim Ul-Haq Tariq, Applications of double-framed soft ideals in BE -algebras, *New Trends in Mathematical Sciences*, (ISSN:2147-5520), 4(2) (2016) 285-295.

- 33) **Tahir Mahmood**, Saleem Abdullah, Muhammad Bilal and Saeed ur Rashid, Multi Criteria Decision Making Based on Bipolar Valued Fuzzy Sets, *Annals of Fuzzy Mathematics and Informatics*, (ISSN:2093-9310), 11(6)(2016) 1003-1009.
- 34) **Tahir Mahmood** and Qaisar Khan Interval Neutrosophic finite switchboard state machine, *Afrika Matematika*, (ISSN:1012-9405),. 27 (2016) 1361-1376.
- 35) **Tahir Mahmood**, Ayesha Waqas, Muhammad Afzal Rana and Usman Tariq, Generalized Soft Intersectional Ideals in Ternary Semirings, *Journal of Advance Research in Mathematics and Mathematical Sciences*, (ISSN:2208-2409), 1(4) (2016) 1-9.
- 36) **Tahir Mahmood**, Faisal Mehmood and Qaisar Khan, Some Generalized Aggregation Operators for Cubic Hesitant Fuzzy Sets and Their Applications to Multi Criteria Decision Making, *Punjab University Journal of Mathematics*, (ISSN:1016-2526), 49 (1) (2017) 31-49 (**HEC Recognized**).
- 37) **Tahir Mahmood**, Jun Ye and Qaisar Khan, Multiple Attribute Decision-Making Method under Hesitant Single Valued Neutrosophic Uncertain Linguistic Environment, *Journal of Inequalities and Special Functions*, (ISSN:2217-4303), 2 (2017) 1-17.
- 38) **Tahir Mahmood**, Jun Ye and Qaisar Khan, Vector Similarity Measures for Simplified Neutrosophic Hesitant Fuzzy Set and Their Applications, *Journal of Inequalities and Special Functions*, (ISSN:2217-4303), 7 (4) (2016) 176-194.
- 39) Khizar Hayat, **Tahir Mahmood** and Bing-Yuan Cao, On Bipolar Anti Fuzzy h -Ideals in Hemi-rings, *Fuzzy Information and Engineering*, (ISSN:1616-8658), 9 (2017) 1-19.
- 40) **Tahir Mahmood**, Saleem Abdullah, Saeed ur Rashid and Muhammad Bilal, Multicriteria Decision Making Based on Cubic sets, *Journal of New Theory*, (ISSN:2149-1402), 16 (2017) 1-9.
- 41) Peide Liu, **Tahir Mahmood** and Qaisar Khan, Multi-Attribute Decision-Making Based on Prioritized Aggregation Operator under Hesitant Intuitionistic Fuzzy Linguistic Environment, *Symmetry*, (ISSN:2073-8994), 9(11) (2017) 270. **I. F. 1.457.**
- 42) Saqib Hussain, Janusz Sokol, Umer Farooq, Maslina Darus and **Tahir Mahmood**, APPLICATIONS OF CONVOLUTION AND SUBORDINATION TO CERTAIN p -VALENT FUNCTIONS, *Bulletin of the Iranian Mathematical Society*, (ISSN: 1018-6301), 43 (6) (2017) 1739-1749. **I. F. 0.287.**
- 43) Murad Ullah, **Tahir Mahmood**, Muhammad Bilal Khan, Kifayat Ullah, On Twisted Soft Ideal of Soft Ordered Semigroups, *Journal of Information Communication Technologies and Robotic Applications*, (ISSN:2523-5729), 8(2) (2017) 74-85. (**HEC Recognized**).
- 44) **Tahir Mahmood**, Kifayat Ullah, Murad Ullah Khan, Naeem Jan, Irfan

Deli, Qaisar Khan, Some Aggregation Operators for Bipolar-Valued Hesitant Fuzzy Information based on Einstein Operational Laws, *Journal of Engineering and Applied Sciences*, (ISSN:2518-4571), 36(2)(2017) 63-72. **(HEC Recognized).**

- 45) Muhammad Irfan Ali, **Tahir Mahmood** and Azmat Hussain, A study of generalized roughness in $(\epsilon, \epsilon \vee q_k)$ -fuzzy filters of ordered semigroups, *Journal of Taibah University for Science*, (ISSN:1658-3655), 12(2)(2018) 163-172. **I. F. 1.640.**
- 46) Peide Liu, **Tahir Mahmood** and Qaisar Khan, Group Decision Making Based on Power Heronian Aggregation Operators Under Linguistic Neutrosophic Environment, *International Journal of Fuzzy Systems*, (ISSN:1562-2479), 20(3) (2018) 970-985, **I. F. 3.085.**
- 47) **Tahir Mahmood**, Peide Liu, Jun Ye and Qaisar Khan, Several hybrid aggregation operators for triangular intuitionistic fuzzy set and their application in multi-criteria decision making, *Granular Computing*, (ISSN:2364-4974), 3 (2018) 153-168.
- 48) Kifayat Ullah, **Tahir Mahmood**, Naeem Jan, Similarity Measures for T-Spherical Fuzzy Sets with Applications in Pattern Recognition, *Symmetry*, (ISSN:2073-8994), 10 (2018) 193, **I. F. 2.143.**
- 49) **Tahir Mahmood**, Muhammad Irfan Ali, Azmat Hussain, Generalized roughness in fuzzy filters and fuzzy ideals with thresholds in ordered semigroups, *Computational & Applied Mathematics*, (ISSN:2238-3603), 37(2018) 5013-5033, **I. F. 1.260.**
- 50) Qaisar Khan, Peide Liu and **Tahir Mahmood**, Some Generalized Dice Measures for Double-Valued Neutrosophic Sets and Their Applications, *mathematics*, (ISSN 2227-7390) 6 (2018) 121. **I. F. 1.105.**
- 51) **Tahir Mahmood**, Muhammad Irfan Ali, Muhammad Aamir Malik, Waseem Ahmad, On Lattice Ordered Intuitionistic Fuzzy Soft Sets, *International Journal of Algebra and Statistics*, (ISSN:2314-4548), 7 (2018) 46-61.
- 52) Qaisar Khan, Nasruddin Hassan and **Tahir Mahmood**, Neutrosophic Cubic Power Muirhead Mean Operators with Uncertain Data for Multi-Attribute Decision Making, *Symmetry*, (ISSN:2073-8994), 10 (2018) 444 (24 pages), **I. F. 2.143.**
- 53) Peide Liu, Qaisar Khan, Jun Ye and **Tahir Mahmood**, Group Decision-Making Method Under Hesitant Interval Neutrosophic Uncertain Linguistic Environment, *International Journal of Fuzzy Systems*, (ISSN:1562-2479), 20(7)(2018) 2337-2353 **I. F. 3.085.**
- 54) Qaisar Khan, Peide Liu, **Tahir Mahmood**, Florentin Smarandache and Kifayat Ullah, Some Interval Neutrosophic Dombi Power Bonferroni Mean Operators and Their Application in Multi Attribute Decision Making, *Symmetry*, (ISSN:2073-8994), 10(2018) 459 (31 pages), **I. F. 2.143.**

- 55) **Tahir Mahmood**, Zia Ur Rehman and Aslihan Sezgin, Lattice Ordered Soft Near Rings, Korean Journal of Mathematics, (ISSN:1976-8605), 26(3) (2018) 503-517.
- 56) Shahzaib Ashraf, **Tahir Mahmood**, Saleem Abdullah and Qaisar Khan, Picture Fuzzy Linguistic Sets and Their Applications for Multi-Attribute Group Decision Making Problems, The Nucleus, (ISSN:0029-5698), 55 (2) (2018) 66-73. **(HEC Recognized)**.
- 57) Kifayat Ullah, **Tahir Mahmood**, Naeem Jan, Said Broumi and Qaisar Khan, On Bipolar-Valued Hesitant Fuzzy Sets and Their Applications in Multi-Attribute Decision Making, The Nucleus, (ISSN:0029-5698), 55(2) (2018) 93-101. **(HEC Recognized)**.
- 58) Harish Garg , Muhammad Munir, Kifayat Ullah, **Tahir Mahmood**, Naeem Jan, Algorithm for T-Spherical Fuzzy Multi-Attribute Decision Making Based on Improved Interactive Aggregation Operators, Symmetry, (ISSN:2073-8994), 10(2018) 670 (24 pages) **I. F. 2.143**.
- 59) Muhammad Iftikhar and **Tahir Mahmood**, Some results on lattice ordered double framed soft semirings, International Journal of Algebra and Statistics, (ISSN:2314-4548), 7(2018)123-140.
- 60) Shahzaib Ashraf, Saleem Abdullah and **Tahir Mahmood**, GRA method based on spherical linguistic fuzzy Choquet integral environment and its application in multi-attribute decision making problems, Mathematical Sciences, (ISSN:2008-1359), 12 (2018) 263-275.
- 61) **Tahir Mahmood** and Naveed Ahmad Shah, Lattice Ordered Fuzzy Soft Groups, Honam Mathematical Journal, (ISSN:2288-6176), 40 (2018) 457-486.
- 62) Kifayat Ullah, **Tahir Mahmood**, Naeem Jan and Zeeshan Ali, A Note on Geometric Aggregation Operators in Spherical Fuzzy Environment and its Application in Multi-Attribute Decision Making, Journal of Engineering and Applied Sciences, (ISSN:1023-862X) 37(2) (2018) 75-86, **(HEC Recognized)**.
- 63) Kifayat Ullah, Zeeshan Ali, Naeem Jan, **Tahir Mahmood** and Shahid Maqsood, Multi-Attribute Decision Making Based on Averaging Aggregation Operators for Picture Hesitant Fuzzy Sets, Technical Journal UET Taxila, (ISSN: 1813-1786), 23 (4) (2018) 84-95, **(HEC Recognized)**.
- 64) Muhammad Bilal Khan, Vildan Cetkin, **Tahir Mahmood**, Naeem Jan, Kifayat Ullah and Halis Aygun Near, Rings in the View of double Framed Soft Fuzzy Sets, Sigma Journal of Engineering and Natural Sciences, (ISSN:1304-7191), 37(1) (2019) 175-186.
- 65) Naeem Jan, Lemnaouar Zedam, **Tahir Mahmood**, Kifayat Ullah, Zeeshan Ali, Multiple Attribute Decision Making Method Under Linguistic Cubic Information, Journal of Intelligent & Fuzzy Systems, (ISSN:1064-1246, 0868-4952), 36 (2019) 253-269. **I. F. 1.851**.
- 66) Peide Liu, Qaisar Khan and **Tahir Mahmood**, Application of Interval Neutrosophic Power Hamy Mean Operators in MAGDM, INFORMATICA,

(ISSN:1822-8844), 30(2) (2019) 293-325, **I. F. 3.312**.

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Accepted Papers:

- 1) Naeem Jan, Lemnaouar Zedam, **Tahir Mahmood**, Kifayat Ullah, Bijan Davvaz and Zeeshan Ali, An Improved Clustering Algorithm for Picture Fuzzy Graphs and its Applications in Human Decision Making, *International Journal of Fuzzy Systems*, (ISSN:1562-2479) (**WoS Ranking: Q2, I. F.: 3.2, SCIE**)
- 2) Talal Al-Hawary, **Tahir Mahmood**, Naeem Jan, Kifayat Ullah, Azmat Hussain, On Intuitionistic Fuzzy Graphs and Some Operations on Picture Fuzzy Graphs, *Italian Journal of Pure and Applied Mathematics*, (ISSN:1126-8042). (**WoS Ranking: Q4, I. F.: 0.2, ESCI**)
- 3) **Tahir Mahmood**, Zeeshan Ali and Ronnason Chinram, Multi-Attribute Decision-Making Problem Based on Complex q-Rung Orthopair Fuzzy 2-Tuple Linguistic Muirhead Mean Aggregation Operators, *Journal of Intelligent & Fuzzy Systems*, (ISSN:1064-1246), (**WoS Ranking: Q3, I.F: 1.7, SCIE**)
- 4) **Tahir Mahmood**, Jabbar Ahmmad, Ronnason Chinram and Thammarat Panityakul, Enterprise Performance Assessment under the environment of Picture Fuzzy Soft Interaction Aggregation Operators, *Journal of Intelligent & Fuzzy Systems*, (ISSN:1064-1246), (**WoS Ranking: Q3, I.F: 1.7, SCIE**)
- 5) Jabbar Ahmmad and **Tahir Mahmood**, Classifications of Artificial Intelligence Trading Systems by Using WASPAS Approach Based on Picture Fuzzy Soft Aggregation Operators, *Sigma Journal of Engineering and Natural Sciences*, (ISSN: 1304-7205), (**WoS Ranking: Q3, I. F.: 0.6, ESCI**)
- 6) Hafiz Muhammad Waqas, **Tahir Mahmood** and Ubaid ur Rehman, Classification of Cluster Analysis Techniques by Using Hesitant Bipolar Complex Fuzzy Multi-Attribute Decision-Making Approach Based on Dombi

Prioritized Aggregation Operators, Sigma Journal of Engineering and Natural Sciences, (ISSN: 1304-7205), (WoS Ranking: Q3, I. F.: 0.6, ESCI)

- 7) Zeshan Ali and **Tahir Mahmood**, Archimedean Interaction Aggregation Operators Based on Complex Pythagorean Fuzzy Uncertainty and Their Applications in Multi-Attribute Decision-Making, *Soft Computing, (ISSN: 1432-7643), (2025), (WoS Ranking: Q2, I. F.: 3.1, SCIE)*
- 8) Ubaid ur Rehman, **Tahir Mahmood**, Jabbar Ahmmad and Khizar Hayat, Lattice Ordered N-Soft Sets and Their Applications in Decision Making, *Journal of Intelligent & Fuzzy Systems, (ISSN:1064-1246), (WoS Ranking: Q3, I.F: 1.7, SCIE)*
- 9) Walid Emam, Ubaid ur Rehman, **Tahir Mahmood** and Faisal Mehmood, A Study and Evaluation of Network Security by Employing Decision-Making Approach Based on Bipolar Complex Fuzzy Yager Aggregation Operators, *CAAI Transactions on Intelligence Technology, (ISSN:2468-2322), (2025) (WoS Ranking: Q1, I.F: 7.3, SCIE)*
- 10) Ubaid ur Rehman and **Tahir Mahmood**, Bipolar Complex Fuzzy EDAS Methodology for Green Supplier Selection in the Logistics and Transportation Industry, *International Journal of Knowledge-Based and Intelligent Engineering Systems, (ISSN: 1327-2314), (2025) (WoS Ranking: Q4, I.F: 1.5, ESCI)*
- 11) **Tahir Mahmood**, Hafiz Muhammad Waqas and Jabbar Ahmmad, Classification of Advanced Data Mining Techniques for High-Density Data Management in E-Commerce via CHF Frank Power Approach, *Evolutionary Intelligence, (ISSN: 1864-5909), (WoS Ranking: Q3, I.F: 2.6, ESCI)*
- 12) Jabbar Ahmmad, **Tahir Mahmood** and Muhammad Aslam, *Ain Shams Engineering Journal, (ISSN: 2090-4479) (15 Pages), (WoS Ranking: Q1, I. F.: 5.9, SCIE)*
- 13) Ubaid ur Rehman, **Tahir Mahmood**, Hafiz Muhammad Waqas, Jabbar Ahmmad and Dragan Pamucar, Blockchain Framework Selection for Supply Chains Using Bipolar Fuzzy Rough Multi-Criteria Decision-Making Based on Dombi Operators, *European Journal of Pure and Applied Mathematics, (ISSN: 1307-5543) (WoS Ranking: Q2, I.F: 0.8, ESCI)*

Refereeing and Reviewing

- 1) *IEEE Transactions on Fuzzy Systems*
- 2) *Information Sciences*
- 3) *Computers and Mathematics with Applications*
- 4) *Neural Computing and Applications*
- 5) *International Journal of Intelligent Systems*
- 6) *Computational & Applied Mathematics*

- 7) *Journal of Intelligent & Fuzzy Systems*
- 8) *Journal of Intelligent System*
- 9) *IEEE ACCESS*
- 10) *Heliyon*
- 11) *Journal of Mathematics (Hindawi)*
- 12) *Journal of Applied Mathematics and Computing*
- 13) *Complexity (Hindawi)*
- 14) *Mathematical Problems in Engineering*
- 15) *AIMS Mathematics*
- 16) *Journal of Functions Spaces*
- 17) *World Applied Sciences Journal*
- 18) *International Journal of Algebra and Statistics*
- 19) *The Nucleus*
- 20) *African Journal of Mathematics and Computer Science Research*
- 21) *Cogent Mathematics*
- 22) *Springer Plus*
- 23) *TWMS Journal of Applied and Engineering Mathematics*
- 24) *Asian Journal of Mathematics and Computer Research*
- 25) *Journal of Statistics and Mathematical Sciences*
- 26) *International Journal of System Sciences*
- 27) *Complex & Intelligent Systems*
- 28) *Annals of Fuzzy Mathematics and Informatics*
- 29) *Songklanakarin Journal of Science and Technology*
- 30) *Technical Journal, UET Taxila.*
- 31) *CAAI Transactions on Intelligence Technology*

Thesis Supervision of Ph. D. Students:

Sr.	Name of Student	Title of Thesis	Status
1	Qaisar Khan	Generalizations of Neutrosophic Sets with Applications in Decision Making	Completed in March 2019
2	Kifayat Ullah	Generalizations of Intuitionistic Fuzzy Set And their Comparative Study	Completed in July 2020
3	Naeem Jan	Generalizations of Intuitionistic Fuzzy Set And Their Applications in Graph Theory	Completed in July2020
4	Muhammad Munir	Some Generalizations of Picture Fuzzy Set and Their Applications	Completed in December 2020
5	Azmat Hussain	Some Contributions to Orthopair Fuzzy Sets and Their Applications	Completed in December 2020
6	Muhammad Naeem	Analysis and applications of Convolution And Subordination in Geometric Function Theory	Completed in December 2020
7	Zeeshan Ali	Analysis and Applications of Complex Fuzzy Sets and Their Generalizations	Completed in July2023
8	Ubaid ur Rehman	Analysis and Applications of Bipolar Complex Fuzzy Sets	Completed in December 2023
9	Jabbar Ahmmad	Analysis of Picture Fuzzy Soft Sets and Their Generalizations	Completed in January 2024
10	Abdul Jaleel	Aggregation Operators and Similarity Measures in the Framework of Bipolar Complex Fuzzy Soft sets	Completed in August 2025
11	Hafiz Muhammad Waqas	Aggregation Operators in the Framework Of Hesitant Bipolar Complex Fuzzy Sets	In progress
12	Ahmad Idrees	Complex Intuitionistic Fuzzy Rough Sets and Their Applications in Aggregation Theory	In progress
13	Azam	Roughness of Bipolar Complex Fuzzy Sets and their Applications in Decision Making	In progress
14	Muhammad Iftikhar	Title is not yet approved by BASR (Decision Support Systems for Domain Based Bipolar Fuzzy Rough Sets)	In progress
15	Imran Khan	Title is not yet finalized (Circular Bipolar Fuzzy Set)	In progress

Thesis Supervision of MS Students:

Sr.	Name of Student	Title of Thesis	Year
1	Qaisar Khan	Cubic Finite Automata and Cubic Language	2014
2	Muhammad Muti Ur Rehman	Study of Soft Sets with Ordered Set of Parameters	2014
3	Asim Ejaz	Bi-Polar Valued Fuzzy k-Ideals of Hemirings	2014
4	Muhammad Fahim Aslam	Study of fuzzy soft sets with some order on set of parameters	2014
5	Khizar Hayat	Bipolar valued fuzzy h-ideals in hemirings	2015

6	Muhammad Naeem	Interval valued fuzzy ideals in ternary semirings	2015
7	Usman Tariq	Ideal Theory in Semiring Based on Soft Sets	2015
8	Muhammad Bilal	Decision Making Based on Bipolar Valued Fuzzy Sets	2015
9	Muhammad Saeed ur Rashid	Decision Making Based on Cubic Sets	2015
10	Muhammad Munir	On Bipolar Valued Fuzzy Ideals in Ternary Semirings	2015
11	Ayesha Anum	Soft Intersectional Ideals in Ternary Semirings	2015
12	Azhar Rauf Khan	A Study of Soft Matrices	2016
13	Mohsin Ali Khan	Some Extensions of Q-Fuzzy Soft Sets	2016
14	Asim Zamir	Characterizations of Ternary Semirings by their Soft Intersectional Ideals	2016
15	Kifayat Ullah	Decision Making Based on Bipolar Valued Hesitant Fuzzy Sets	2016
16	Naeem Jan	On Lattice Ordered Soft Groups	2016
17	Muhammad Mubashar Rafique Abbasi	Some Contribution in Lattice Ordered Soft Semigroups	2016
18	Faisal Mehmood	Decision Making Based on Cubic Hesitant Fuzzy Sets	2016
19	Shahzaib Ashraf	Some Contribution in Generalization of Fuzzy Sets	2017
20	Naveed Ahmed Shah	Some Contribution in Lattice Ordered Fuzzy Soft Sets	2017
21	Zia Ur Rehman	On Lattice Ordered Soft Near Rings	2017
22	Muhammad Aamir Malik	On Lattice Ordered Intuitionistic Fuzzy Soft Sets	2017
23	Zulekha Parveen	Normal and Non-Normal Pairs of Coxeter Groups	2017
24	Abdul Jaleel	Roughness of Soft Ideals of Rings	2018
25	Arsalan Ahmed	Roughness of Soft Ideals of Ordered Semigroups	2018
26	Muhammad Bilal Khan	Some Contributions in Soft Semigroups	2018
27	Mohsin Khan	Some Results in Lattice Ordered Fuzzy Soft Near Rings	2018
28	Chaudhry Sami Ullah Khan	On Lattice Ordered Soft Vector Spaces	2018
29	Umar Ashfaq	A Study of Rough Soft Groups	2018
30	Muhammad Nadeem Qureshi	A Study of Lattice Ordered Soft Modules	2018
31	Ajllal Ahmad	A Study of Neutrosophic Soft Semigroups with Ordered Set of Parameters	2018
32	Zeeshan Ali	A Study of Picture Fuzzy Sets	2018
33	Muhammad Iftikhar	A Study of Double Framed Soft Semirings	2018
34	Muhammad Umer	On Lattice Ordered Soft Expert Sets	2019
35	Haider Faizan	Application of Intuitionistic Fuzzy Values in Multicriteria Decision Making	2019
36	Imran Mahmood	A Study of Intuitionistic Fuzzy Sets in Decision Making Problems	2019
37	Jasim Tariq	A Study of Double Framed Soft Rings with	2019

		Ordered Set of Parameters	
38	Muhammad Saad	A Study of Single Valued Neutrosophic Hesitant Fuzzy Graphs	2019
39	Shahzaib Shahbaz	Roughness of (α', β') -Fuzzy Filters in Ordered Semigroups	2019
40	Iftexhar Ahmad	A Study of Picture Fuzzy Sets and their Applications	2019
41	Zeeshan Ahmad	Similarity Measures of Picture Hesitant Fuzzy Sets	2019
42	Muhammad Ilyas	Analysis and Applications of Similarity Measures for Spherical Fuzzy Sets	2020
43	Jabbar Ahmmad	Some Aggregation Operators for Intuitionistic Fuzzy and Their Generalizations	2020
44	Wajid Ali	Aggregation Operators and Similarity Measures for Intuitionistic Hesitant Fuzzy Sets	2020
45	Muhammad Ahsen	Some Contributions in Picture Hesitant Fuzzy Sets	2020
46	Ubaid ur Rehman	A Study of Complex Hesitant Fuzzy Sets	2020
47	Mudassir Ali Khan	A Study of Aggregation Operators for Spherical Fuzzy Sets	2021
48	Hafiz Muhammad Waqas	Some Contribution in Picture Fuzzy Sets and Their Generalizations	2021
49	Muhammad Saad Warraich	A Study of Picture Fuzzy sets and Their Generalizations	2021
50	Muhammad Rizwan Azmi	Some Contributions to Hesitant Fuzzy Sets and Their Generalizations	2021
51	Izatmand	A Study of Aggregation Operators in Linear Diophantine Fuzzy Sets	2022
52	Hamza Iftikhar	Aggregation Operators for Complex Fuzzy Sets and Their Generalizations	2022
53	Hafiz Muhammad Tahir Hafeez	Aggregation Operators for Picture Fuzzy Sets and Their Generalizations	2022
54	Kashif Hussain	A Study of Bipolar Soft Sets and Their Generalizations	2022
55	Abdul Mateen	Some Contributions in Bipolar Complex Fuzzy Sets	2023
56	Azam	A Study of Aggregation Operators in the Environment of Bipolar Complex Fuzzy Sets	2023
57	Zamran Ali	Some Contributions in Bipolar Complex Fuzzy Sets and Their Applications	2023
58	Muhammad Nusrallah	A Study of Similarity Measures in Bipolar Complex Fuzzy Sets	2023
59	Muhammad Asif	Some Contributions in semigroups in the Framework of Bipolar Soft sets	2024
60	Raja Zohaib Hayat	A Study of Aggregation Operators in Complex Hesitant Fuzzy Sets	2024
61	Muhammad Hamza Farooq	A Study of Decision Making Techniques in Complex Hesitant Fuzzy Sets	2024
62	Muhammad Rehan Ali	A Study of Similarity Measures Based on Complex Hesitant Fuzzy Sets	2024

63	Abdul Touheed	On Complex Fuzzy Rough Sets with Applications	In Progress
64	Zaeem Tahir	On Complex hesitant fuzzy sets with Applications	In Progress
65	Muhammad Sajid	Some Contributions in Aggregations Operators Based on Complex Fuzzy Rough Sets	In Progress
66	Khuram Ali	Title is not yet approved	In Progress

Project Supervision of BS Students:

Sr.	Name of Student	Title of Project	Year
1	Muhammad Munir	On Bipolar Fuzzy Subgroups	2013
2	Abdus Subhan	On Soft Topological Spaces	2013

Seminars Delivered:

- 1) Department of Mathematics, Quaid-i-Azam University Islamabad Seminar Series, January 12, 2010.
- 2) Department of Mathematics, Quaid-i-Azam University Islamabad Seminar Series, April 14, 2010.

CONFERENCES ATTENDED

- 1) 5th International Pure Mathematics Conference 2004
- 2) 6th International Pure Mathematics Conference 2005
- 3) 8th International Pure Mathematics Conference 2007
- 4) 9th International Pure Mathematics Conference 2008
- 5) 10th International Pure Mathematics Conference 2009
- 6) 11th International Pure Mathematics Conference 2010
- 7) 12th International Pure Mathematics Conference 2011
- 8) All Pakistan Mathematical Conference 2011
- 9) Recent Trends in Mathematical Sciences-II, 2019
- 10) Recent Trends in Mathematical Sciences-III, 2020
- 11) Math Unit First Symposium, Dhofar University Oman, 2021
- 12) International Conference on Classical and Constructive Nonassociative Algebraic Structures: Foundations and Applications – CaCNAS:FA 2021, Serbia.
- 13) 21st International Pure Mathematics Conference 2021
- 14) 22nd International Pure Mathematics Conference 2022
- 15) 23rd International Pure Mathematics Conference 2023
- 16) 24th International Pure Mathematics Conference 2024
- 17) 7th UMT International Conference on Pure and Applied Mathematics 2023
- 18) 6th International Conference on Pure and Applied Mathematics 2023
- 19) 7th UMT International Conference on Pure and Applied Mathematics 2025

CONFERENCES ORGANIZED

- 1) Two Days Conference on Mathematical Sciences (IIUI) 2013
- 2) Two Days Conference on Mathematical Sciences (IIUI) 2017
- 3) 22nd International Pure Mathematics Conference 2022
- 4) 24th International Pure Mathematics Conference 2024

Teaching and Research Experience

Lecturer (Mathematics)	Pakistan Advanced College of Excellence (PACE), Rawalpindi Cantt.	Aug 03, 1998 - Sep 25, 2000	Taught Maths of F.Sc. and of BS (Calculus, Discrete Mathematics, Numerical Analysis)
Lecturer (Mathematics)	Federal Directorate of Education, Islamabad	Sep 26, 2000 – Oct 01, 2005	Mathematics
Lecturer (Mathematics)	International Islamic University, Islamabad	Oct 03, 2005 – Jun 25, 2007	Teaching Maths of BS and M.Sc. (Calculus, Real Analysis, Group Theory, Linear Algebra, Topology, Numerical Analysis)
Assistant Professor (Mathematics)	International Islamic University, Islamabad	Jun 26, 2007 – Jun 09, 2022	Teaching Maths of BS and M.Sc. (Calculus, Real Analysis, Group Theory, Linear Algebra, Topology, Numerical Analysis, Rings and Fields) and MS, Ph.D. (Fuzzy Algebra, Theory of Semirings, Near Rings, LA-Semigroups, Semigroup Theory)
Associate Professor (Mathematics)	International Islamic University, Islamabad	Jun 10, 2022 – todate	As Above
Total Teaching Experience:			26+ Years (Continued)
Post Graduate & University Teaching Exp.:			23+ Years (Continued)

REFERENCES

Dr. Muhammad Shabir Professor, Department of Mathematics, Quaid-i-Azam University, Islamabad, Pakistan	Dr. Nasruddin Hassan Professor, School of Mathematical Sciences, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, UKM Bangi, Selangor DE 43600, Malaysia
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