



DR MEHTAB KHAN

Ph.D in Mathematics

ABOUT ME

I am a highly capable individual with exceptional work ethics, adept at multitasking. My strengths lie in teamwork, problem-solving, and organizational skills. I am always ready to take on any challenge to support my team. Furthermore, I am a dependable and committed team player, known for my diligent and resourceful approach. I have actively participated in research endeavors with diverse groups, both locally and globally. Additionally, I have supervised two students in their M. Phil Mathematics studies.

INTERESTS

- Algebraic Graph Theory
- Spectral Graph Theory
- Non-Associative Algebra

SKILLS

MS Office



Latex



Group Alogorithm Programme



Matlab



Critical Thinking



Time Management



Communication



WORK EXPERIENCE

Assistant Professor | 2023-till date

Pakistan Global Institute (PGI) Rawat, Rawalpindi
(South Korean Institute in Pakistan)

Lecturer of Mathematics | 2021 - 2023

Air University Aerospace & Aviation Campus, Kamara

Assistant Professor (IPFP) | 2018 - 2019

Department of Mathematics & Statistics, Bacha Khan
University, Charsadda, KPK, Pakistan

Lecturer | 2015 - 2017

National University of Sciences & Technology (NUST),
Islamabad, Pakistan

Lecturer | 2012 - 2013

Intermediate classes at St. Mary's College Rawalpindi

Lecturer | 2008 - 2010

Intermediate and undergraduate classes at Civil College
of Commerce Rawalpindi



LANGUAGES

Urdu

English

PROJECTS

Post doc Thesis
Hermitian Spectra of Mixed graphs

Ph.D Thesis
Energy of Digraphs and Signed Digraphs

M. Phil Thesis
On Loops and AG-Groupoids

REFERENCES

Dr. Rashid Farooq
Professor, National University
of Sciences and Technology,
Islamabad, Pakistan
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Phone: +92519085 5580

Dr. Matloob Anwar
Professor, National University
of Sciences and Technology,
Islamabad, Pakistan
Email: matloob_t@yahoo.com
Phone: +92 51 9085 5583

EDUCATION

Postdoc (Hermitian Spectra of Mixed graphs) | 2019- 2021
Anhui University Hefei, China

Ph. D (Mathematics, Spectral Graph Theory) | 2013 - 2017
National University of Sciences and Technology (NUST),
Islamabad, Pakistan

M. Phil (Mathematics, Algebra) 2010 - 2012
Quaid-i-Azam University (QAU), Islamabad, Pakistan

M. Sc (Mathematics) | 2005 - 2008
University of Peshawar, Pakistan

B. Sc (Mathematics, Chemistry) | 2003 - 2005
University of Peshawar, Pakistan

Intermediate | 2001 - 2003

B.I.S.E Mardan, Pakistan

Matriculation | 1999 - 2001

B.I.S.E Peshawar, Pakistan

Publications

1. Mehtab Khan, Rashid Farooq, Azad Akhter Siddiqui, On the extremal energy of bicyclic digraphs, Journal of Mathematical Inequalities, 9(3) (2015), 799-810.
2. Rashid Farooq, Mehtab Khan, Yasir Masood, Energy of bicyclic digraphs with two linear subdigraphs, Kragujevac Journal of Mathematics, 40(1) (2016), 79-89.
3. Mehtab Khan, Rashid Farooq, Juan Rada, Complex adjacency matrix and energy of digraphs, Linear and Multilinear Algebra, 65(11) (2017), 2170-2186.

4. Rashid Farooq, Mehtab Khan, Faiz Ahmad, Extremal iota energy of bicyclic digraphs, *Applied Mathematics and Computation*, 303 (2017), 24-33.
5. Mehtab Khan, Rashid Farooq, On the energy of bicyclic digraphs, *Journal of Mathematical Inequalities*, 11(3) (2017), 845-862.
6. Amir Khan, Mehtab Khan, Hidayat Ullah Khan, Gul Zaman, On left alternative loops, *Matrix Science Mathematics*, 1(2) (2017), 04-05.
7. Rashid Farooq, Mehtab Khan, Sarah Chand, On iota energy of Signed digraphs, *Linear and Multilinear Algebra*, 67(4) (2019) 705-724.
8. Rashid Farooq, Sarah Chand, Mehtab Khan, Iota energy of bicyclic Signed digraphs, *Asian European Journal of Mathematics*, 12(5) (2019) 1950078.
9. Sumaira Hafeez, Mehtab Khan, On iota energy of weighted digraphs, *Transaction on Combinatorics*, 7(3) (2018), 55--73.
10. Fareeha Jamal, Mehtab Khan, Extremal iota energy of a subclass of tricyclic digraphs and signed digraphs, *Matrix Science Mathematics*, 2(2) (2018), 40-49.
11. Sumaira Hafeez, Rashid Farooq, Mehtab Khan, Bicyclic signed digraphs with maximal energy, *Applied Mathematics and Computation*, 347 (2019), 702—711.
12. Sumaira Hafeez, Mehtab Khan, Computing extremal energy of a class of bicyclic weighted digraphs, *Asian European Journal of Mathematics*, 13(5) (2020).
13. Mehtab Khan, Amir Khan, Construction of mono Associative Quasigroups, *Quasigroups And Related Systems*, 27 (2019) 77-80.
14. Fareeha Jamal, Mehtab Khan, Extremal iota energy of a subclass of bicyclic digraphs and signed digraphs, *Asian European Journal of Mathematics*, 13(7) (2020).
15. Mehtab Khan, Rashid Farooq, Juan Rada, Corrigendum to ‘Complex adjacency matrix and energy of digraphs’, *Linear and Multilinear Algebra*, 68(1) (2020), 220-22.
16. Mehtab Khan, Amir Khan, Muhammad Uzair Khan, Cancellative Elements in Finite AG-groupoids, *Journal of New Theory*, 30(2020), 53-56.
17. Sumaira Hafeez, Mehtab Khan, Total energy of signed digraphs, *Computer Science Journal of Moldova*, 29(1), (2021).
18. Mehtab Khan, A new notion of energy of digraphs, *Iranian Journal of Mathematical Chemistry*, 12(2) (2021), 111-125.
19. Mehtab Khan, Khushal Khan, Syad Ishfaq Ahmad, On extremal p-energy of bicyclic digraphs, *Polycyclic Aromatic Compounds*, 42(10), (2022), 7100-7113.
20. Mehtab Khan, Abdul Hamid Ganie, On the Characteristic polynomial and energy of Hermitian (quasi-)Laplacian Matrix of mixed graphs, *Asian European Journal of Mathematics*, Vol. 16, No. 07, 2350116 (2023), <https://doi.org/10.1142/S1793557123501164>.
21. Shehnaz Akhter, Farhana Yasmeen, Muhammad Shahid and Mehtab Khan, Polynomials and Chemical Structures, Under review.
22. Mehtab Khan, Rashid Farooq, Sumaira Hafeez, Total energy of digraphs, Under review.
23. Mehtab Khan, Yi Zheng Fan, Yi Wang, On equienergetic and special switching equivalence classes of mixed graphs, preprint.

Research Talks/Seminars

2020	Hermitian Laplacian Spectra of Mixed Graphs, Department of Mathematics, School of Natural Sciences, National University of Sciences & Technology (NUST), Islamabad
2017	An Introduction to C-Loop, Department of Mathematics, School of Natural Sciences, National University of Sciences & Technology (NUST), Islamabad
2016	Complex adjacency matrix and energy of digraphs Théorie, Spectrale des Graphes et des Variétés Kairouan, Tunisia (Organized by Centre International de Mathématiques Pures et Appliquées, France)
2016	On Sum and Product Connectivity indices of Graphs, Department of Mathematics, School of Natural Sciences, National University of Sciences & Technology (NUST), Islamabad
2015	On Right Bol Quasigroup, Department of Mathematics, School of Natural Sciences, National University of Sciences & Technology (NUST), Islamabad

Participation in Conferences / Research Schools

2017	NUST Conference on recent trends in Mathematical Sciences
2016	CIMPA-Tunisia research school on " Théorie Spectrale des Graphes et des Variétés" held in Kairouan, Tunisia (Organized by Centre International de Mathématiques Pures et Appliquées, France)
2016	17th International Pure Mathematics Conference, Margala Hotel Islamabad
2015	15th,16th International Pure Mathematics Conference, Margala Hotel Islamabad
2014	Symmetries, Differential Equations and Applications, SNS –NUST, Islamabad, Pakistan
2014	International Workshop on Discrete Structures (IWODS 2014), SNS – NUST, Islamabad, Pakistan (Speaker and one of the organizers)