

CURRICULUM VITAE

Personal Information

Name: **Muhammad Imran Khalid**
Father's Name: Mushtaq Ahmad
Religion: Islam
Date and Place of Birth: April 01, 1978 (Hasilpur, Punjab)
Marital Status: Married
Nationality: Pakistani
Home Address: Chak No. 18/F.W, Tehsil Hasil Pur District Bahawal Pur.
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Academic Record

| Institution | Degree | Year | Division | Major | Area of Research |
|---|---------------|-------------|-----------------|-----------------------------|---------------------------|
| Bahauddin Zakariya University, Multan Pakistan | Ph.D | 2022 | | Mathematics | Graph Theory |
| Bahauddin Zakariya University, Multan Pakistan. | MPhil | 2005 | 1 st | Mathematics | Mathematical Inequalities |
| Islamia University Bahawalpur, Pakistan. | M.Sc. | 2002 | 1 st | Mathematics | — |
| Islamia University Bahawalpur, Pakistan. | B.Sc. | 2000 | 1 st | Mathematics (A & B Courses) | Statistics |

Employment Record

| Post | Department / Organization | Dates |
|---------------------------|--|---|
| Lecturer (BPS-18) | Centre for Advanced Studies in Pure and Applied Mathematics, Bahauddin Zakariya University, Multan, Pakistan | 19-12-2007 to 13-10-2010 (Contract) |
| Lecturer (BPS-18) | -do- | 14-10-2010 to 16-07-2023 (Permanent) |
| Assistant Professor (OPS) | -do- | 17-07-2023 to todate (Permanent) |

Research

Ph.D. Thesis Title: Study of Some Topological Indices in Graphs.
Research Supervisors:
(1) Dr. Faisal Ali, CASPAM, Bahauddin Zakariya University, Multan
(2) Dr. Muhammad Salman,

**Department of Mathematics, Islamia University, Bahawalpur,
Pakistan. In progress**

Areas of Research Interest:

- (1) Graph Theory
- (2) Cryptography(Encryption & Decryption Teechniques)
- (3) Mathematical Inequalities
- (4) Numerical Analysis
- (5) Algebra

Research Papers Published/ Accepted for Publication

Research Papers Published/Accepted for Publication in HEC Recognized Foreign Journals

1. Imran Khalid, Faisal Ali and Muhammad Salman, On the Metric Index of Circulant Networks-An Algorithmic Approach, *IEEE Access*, **7**, 58595-58601, (2019).
2. Fawaz E. Alsaadi, Muhammad Salman, Faisal Ali, Imran Khalid, Jinde Cao, Madini Obad Alassafi and Masood ur Rehman, An Algorithmic Approach to Compute the Metric Index of Chordal Ring Networks *IEEE Access*, **8**, 80427-80436, (2020).
3. Zheng-Qing Chu, Muhammad Salman, Asia Munir, Imran Khalid, Masood ur Rehman, Jia-Bao Liu and Faisal Ali, Some topological indices of dendrimers determined by their Banhatti polynomials, *Hetrocyclic Communications*, **26**, 99-111, (2020).
4. Jia-Bao Liu, Imran Khalid, Mohammad Tariq Rahim, Masood Ur Rehman, Faisal Ali and Muhammad Salman, Eccentric topological properties of a graph associated to a finite dimensional vector spaces, *Main Group Metal Chemistry*, **43**, 164-176, (2020).
5. Faisal Ali, Waqas Aslam, Imran KLhalid and Akbar Nadeem, Iteration methods with an auxiliary function for nonlinear equations, *Journal of Mathematics*, 2020, Article ID: 7356408, (2020).
6. Fawaz E. Alsaadi, Faisal Ali, Imran Khalid, Masood ur Rehman, Muhammad Salman, Madini Obad Alassafi and Jinde Cao, Quantifying some distance topological properties of the non-zero component graph, *AIMS Mathematics*, 6(4), 3512–3524, (2021).
7. Muhammad Salman, Faisal Ali, Masood ur Rehman and Imran Khalid, Some Valency oriented molecular invariants of certain networks, *Combinatorial Chemistry & High Throughput Screening*, **25(3)**, 462–475, (2022).
8. Tanveer Iqbal, Muhammad Rafiq, Muhammad Naeem Azhar, Imran Khalid and Muhammad Salman, On the edge resolvability of double generalized Petersen graphs, *Journal of Mathematics*, 2022, 1-14, (2022).

Research Activities

M.Phil, M.Sc. and BS Projects Supervision

| Sr. No. | Students of Class | TITLE | Status |
|---------|-------------------|---|-------------|
| 1 | M.Phil | Study of Zagreb indices of some subdivision graphs. | Completed |
| 2 | M.Phil | Data Encryption and Decryption Using Graph-Theoretic Approaches for Secure Communication. | In Progress |
| 3 | M.phil | Distance Version of Forgotten Topological Index of Some Wheel-Related Social Graphs. | In Progress |
| 4 | M.phil | Some Topological Descriptors and Polynomials of Certain Nanotubes. | In Progress |

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|----|--------|--|-------------|
| 5 | M.phil | QSPR-Based Machine Learning Prediction of Antibiotic Drug Properties Used in Pneumonia Treatment Using Distance-Based Topological Indices. | In Progress |
| 6 | M.Phil | An Advanced Cryptographic Model Combining Wheel-Graph Structures and Multilayer Linear Algebra for High-Security Image Encryption. | In Progress |
| 7 | M.Sc. | An appraisal of point set topology and its implementation approaches for digital machines. | Completed |
| 8 | M.Sc. | Report on Fuzzy sets and their applications. | Completed |
| 9 | BS | Total irregularity strength of some new families of convex polytopes. | Completed |
| 10 | BS | An exposition of Soft set theory. | Completed |
| 11 | BS | Report on upper bounds of metric dimensions of generalized Petersen graph $(n, 3)$. | Completed |
| 12 | BS | Report on upper bounds of metric dimensions of generalized Petersen graph $(n, 4)$. | Completed |
| 13 | BS | Application of simplex method in solving linear programming problems. | Completed |
| 14 | BS | Vertex- based topological indices of double and strong double graph of Dutch windmill graph. | Completed |
| 15 | BS | Some new topological indices of graphs. | Completed |
| 16 | BS | On the edge metric dimension of certain polyphenyl chain. | Completed |
| 17 | BS | On topological indices for the new classes of benes network. | Completed |
| 18 | BS | Some graph based on encryption Scheme. | Completed |
| 19 | BS | On domatic number of some rotationally symmetric graphs. | Completed |

References

1. Dr. Faisal Ali, CASPAM Bahauddin Zakariya University, Multan, Pakistan.
2. Dr. Muhammad Salman, Department of Mathematics, Islamia University, Bahawalpur, Pakistan.

Participation in Conferences

- 2007 1st Mathematics Conference at CASPAM, Bahauddin Zakariya University, Multan, Pakistan.
- 2017 CASPAM International Conference on Mathematics and Applications.

Training

- 2025 International Workshop on Generative AI for Higher Education and Research at CASPAM, Bahauddin Zakariya University, Multan, Pakistan.