

Asfand Fahad

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ResearchGate: <https://www.researchgate.net/profile/Asfand-Fahad>

Web of Science: <https://www.webofscience.com/wos/author/record/AAS-7976-2020>

Summary:

- Currently working as an Assistant Professor at Center for Advanced Studies in Pure & Applied Mathematics (CASPAM), BZU, Pakistan
- Over 7 years teaching experience in multiple universities including COMSATS University Islamabad, Vehari Campus.
- Completed **Funded Projects** from Higher Education Commission of Pakistan and COMSATS University Islamabad.
- Currently, working as a PI in an **international project** funded by the Zhejiang Normal University, China. The project is worth 100,000 CNY (equivalent to 4 M PKR).
- Currently, working as a CO PI in an **international project** funded by the Chinese Government. The project is worth 83000 USD.
- Published over **50 research articles** (Research Gate link), over 40 publications during last 5 years with h-index 9.
- Currently working in multiple directions including mathematical analysis and applications, mathematical inequalities, information recognizing/optimizing problems. Carries expertise in exploring different research areas of mathematics and establishing research connections between mathematics and other sciences. The work is recognized by well reputed multidisciplinary journals.
- Supervised over 25 M. Phil scholars for their theses and currently supervising PhD scholars as well.

QUALIFICATION

PhD Mathematics (2016): Abdus Salam School of Mathematical Sciences, GC University Lahore, Pakistan.

M.Phil. Mathematics (2013): Abdus Salam School of Mathematical Sciences, GC University Lahore, Pakistan.

BS Mathematics (2010): Bahauddin Zakariya University, Multan, Pakistan, Pakistan.

PUBLICATIONS

1. **A. Fahad**, S.I. Butt, J. Pečarić, M. Praljak, M. (2023). Generalized Taylor's Formula and Steffensen's Inequality. *Mathematics*, 11(16), 3570.
2. D. Sun, H. Liu, Y. Yang, L. Li, H. Zhang, **A. Fahad**, (2023). Enumeration Of Subtrees Of Two Families Of Self-Similar Networks Based On Novel Two-Forest Dual Transformations. *The Computer Journal*, bxad090.
3. J. Zhang, **A. Fahad**, M. Mukhtar, A. Raza, (2023). Characterizing Interconnection Networks in Terms of Complexity via Entropy Measures. *Symmetry*, 15(10), 1868.
4. **A. Fahad**, S. I. Butt, B. Bayraktar, M. Anwar, M., Y. Wang, (2023). Some new Bullen-type inequalities obtained via fractional integral operators. *Axioms*, 12(7), 691.
5. A. Rani, **A. Fahad**, I. F. Hussain, U. Ali, M. Ashraf, M. (2023). A comparison between certain graph parameters of biswapped networks and their maximal twin-preserving subgraphs with applications in determining complexity. *Measurement Science and Technology*, 35(1), 015603.
6. L. Li, Y. Yang, Z. Hui, N. Jin, H. Wang, **A. Fahad**, Zhang, H. (2024). Algorithms for enumerating multiple leaf-distance granular regular α -subtree of unicyclic and edge-disjoint bicyclic graphs. *Applied Mathematics and Computation*, 462, 128334.
7. **A. Fahad**, Ayesha, Y. Wang, S. I. Butt, Jensen–Mercer and Hermite–Hadamard–Mercer Type Inequalities for GA- h -Convex Functions and Its Subclasses with Applications, *Mathematics*, 2023, 11, 278
8. J. Yang, **A. Fahad**, M. Mukhtar, M. Anees, A. Shehzad, Z. Iqbal, Complexity Analysis of Benes Network and Its Derived Classes via Information Functional Based Entropies, *Symmetry*, 2023, 15, 761.
9. W. Wang, H. Arshad, **A. Fahad**, I. Javaid, On Some Ev-Degree and Ve- Degree Dependent Indices of Benes Network and Its Derived Classes, *Computer Modelling in Engineering and Sciences* 2023, 135 (2), 1685-1699
10. W. Wang, A. Nisar, **A. Fahad**, M. I. Qureshi, A. Alameri, Modified Zagreb Connection Indices for Benes Network and Related Classes, 2022, Article ID 8547332, 8 pages
11. Y. Hu, Z. Zhu, P. Wu, Z. Shao, **A. Fahad**, On investigations of graphs preserving the Wiener index upon vertex removal, *AIMS Mathematics*, Accepted for publication. (Impact factor 1.427)
12. J. R. Lee, A. Hussain, **A. Fahad**, A. Raza, M. I. Qureshi, A. Mahboob, C. Park, *Computer Modelling in Engineering & Sciences*, Accepted for publication 2021. (Impact factor 1.593)
13. A. Zafar, M. Raheel, A. Bekir, **A. Fahad**, M. I. Qureshi, Analytical study of two nonlinear schrodinger equations via optical soliton solutions, *International Journal of Modern Physics B*, accepted for publication 2021. (Impact factor 1.219)
14. R. Tang, S. Rehman, A. Farooq, M. Kamran, M. I. Qureshi, **A. Fahad**, J. B. Liu, A comparative study of natural convection flow of fractional maxwell fluid with uniform heat flux radiation, *Complexity*, 2021, article ID 9401655, 16 pages. (Impact factor 2.833)
15. S. Ding, M. I. Qureshi, S. F. Shah, **A. Fahad**, M. K. Jamil, J. B. Liu, Face index of nano tubes and regular hexagonal lattices, *international journal of Quantum Chemistry*, e26761, 2021. (Impact factor 2.444)
16. D. Zhao, M. A. Zahid, R. Irfan, M. Arshad, **A. Fahad**, Z. Ahmad, L. Li, Banhatti, revan and hyper-indices of silicon carbides $Si_2 C_3$ -III[m.n], *Open chemistry*, 2021, 19: 646-652. (Impact Factor 1.554)

17. Y. Rao, A. Kanwal, R. Abbas, S. Noureen, **A. Fahad**, M.I.Qureshi, Some degree-based topological indices of carboxy-terminated dendritic macromolecule, *Main Group metal chemistry*, 2021, 44, 165-172. (Impact factor 1.068)
18. Y. M. Chu, M. Abid, M.I. Qureshi, **A. Fahad**, A. Aslam, Irregular topological indices of certain metal organic frameworks. *Main Group metal chemistry*, 2021, 44, 73-81. (Impact factor 1.068)
19. A. Hussain, M. Nauman, N. Naz, S. I. Butt, A. Aslam, **A. Fahad**, On Topological indices for new classes of Benes Networks, *Journal of Mathematics*, 2021, Article ID 6690053, 7 pages. (Impact factor 0.971)
20. X. Li, **A. Fahad**, X. Zhou, H. Yang, Exact values for some size Ramsey numbers of paths and cycles, *Frontiers in Physics*, 8, 350, 2020. (Impact factor 3.560)
21. Y. Rao, A. Zafar, A. Korkmaz, **A. Fahad**, M. I. Qureshi, On Tzitzeica type non linear equations for multiple soliton solutions in nonlinear optics, *AIMS Mathematics*, 5, no. 6, 2020, 6580-6593. (Impact factor 1.427)
22. X. Zhang, A. Raza, **A. Fahad**, M. K. Jamil, M. A. Chaudhry, Z. Iqbal, On Face index of Silicon Carbides, *Discrete Dynamics in nature and Society*, 2020, Article ID 6048438, 8 pages. (Impact factor 1.348)
23. A. Ye, A. Javed, M. K. Jamil, K. A. Sattar, A. Aslam, Z. Iqbal, **A. Fahad**, On Computation of Face Index of Certain Nanotubes, *Discrete Dynamics in nature and Society*, 2020, Article ID 3468426, 6 pages. (Impact factor 1.348)
24. C. Wan, Z. Shao, N. Dehgardi, R. Khoeilar, M. Soroudi, **A. Fahad**, Mixed domination and 2-independence in trees, *AIMS Mathematics*, 5, no. 6, 5564-5571. (Impact factor 1.427)
25. L. Luo, N. Dehgardi, **A. Fahad**, Lower Bounds on the Entire Zagreb Indices of Trees, *Discrete Dynamics in nature and Society*, 2020, Article ID 8616725, 8 pages. (Impact factor 1.348)
26. M. A. Chaudhary, **A. Fahad**, Y. Rao, M. I. Qurehi, S. Gulzar, Branchwise solid generalized BCH-algebras, *AIMS Mathematics*, 5 no. 3, 2020, 2424-2432. (Impact factor 1.427)
27. **A. Fahad** and J. Pecaric, Generalized Steffensen's Inequality by Montgomery Identity and Green Function, *Mathematical Inequalities & Applications*, 22 no. 04 (2019), 1301-1317. (Impact Factor 1.250)
28. D. Zhao, Z. Iqbal, R. Irfan, M. A. Chaudhry, M. Ishaq, M. K. Jameel, **A. Fahad**, Comparison of irregularity indices of several dendrimers structures, *Processes*, 7 no. 10 (2019), 1-14. (impact factor 2.847)
29. S. I. Butt, **A. Fahad**, A. Naseer, J. Pecaric, Generalized Steffensen's Inequality by Montgomery Identity, *Journal of Inequalities and Applications*, (2019): 2019 199. (Impact Factor 2.491)
30. J. Zheng, Z. Iqbal, **A. Fahad**, A. Zafar, A. Aslam, M. I. Qureshi, R. Irfan, Some Eccentricity Based Topological Indices and Polynomials of Poly (EThylene AminoAmide)(PETAA) Dendrimers, *Processes*, 7 no. 7 (2019), 1-14. (impact factor 2.847)
31. **A. Fahad**, S. I. Butt and J. Pecaric, Generalized Steffensen's Inequality by Fink's Identity, *Mathematics*, 7 (2019) no. 4, 329, 18 pages. (Impact Factor 2.258)
32. **A. Fahad**, J. Jaksetic and J. Pecaric, On Rabier's result and nonbounded Montgomery's identity, *Mathematical Inequalities & Applications*, 22 (2019) no. 01, 175-180. (Impact Factor 1.250)
33. A. Ye, M. I. Qureshi, **A. Fahad**, M. K. Jameel, A. Aslam, A. Zafar, R. Irfan, Zagreb Connection Number Index of Nanotubes and Regular Hexagonal Lattice, *Open Chemistry*, 17 (2019), 75-80. (Impact Factor 1.554)
34. **A. Fahad**, J. Pecaric, M. I. Qureshi, Generalized Steffensen's Inequality by Lidstone Interpolation and Montgomery's Identity, *J. Inequal. Appl.* 2018, 237 (2018). (Impact Factor 2.491)

35. **A. Fahad**, J. Pecaric, M. Praljak, Hermite Interpolation of composition function and Steffensen-type Inequalities, *J. Math. Ineq.* 10 (2016), no. 4, 1051-1062. (impact Factor 1.225)
36. **A. Fahad**, J. Pecaric, M. Praljak, Generalized Steffensen's Inequality, *J. Math. Ineq.* 9 (2015), no. 2, 481-487. (Impact Factor 1.225)
37. M. I. Qureshi, **A. Fahad**, M. K. Jamil, S. Ahmad, Zagreb Connection Index of Drugs Related Chemical Structures, *Biointerface Research in Applied Chemistry*, 2021, 11(4), 11920-11930. (SCIE)
38. **A. Fahad**, M. I. Qureshi, S. Noureen, Z. Iqbal, A. Zafar, M. Ishaq, Topological Descriptors of Poly Propyl Ether Imine (PETIM) Dendrimers, *Biointerface Research in Applied Chemistry*, 2021, 11(3), 10968-10978
39. **A. Fahad**, A. Aslam, M. I. Qureshi, M. K. Jamil, A. Jaleel, Zagreb Connection Indices of Some Classes of Networks, *Biointerface Research in Applied Chemistry*, 2021, 11(3), 10074-10081.
40. A. Zafar, B. Khalid, A. Fahad, H. Rezazadeh, A. Bekir, Analytical Behaviour of Travelling Wave Solutions to the Van der Waals Model, *International Journal of Applied and Computational Mathematics*, 6, no. 5 (2020), 1-16.
41. A. Fahad and J. Pecaric, Generalized Steffensen-type Inequalities by Abel Gontscharoff Interpolation, *Journal of Mathematical Analysis*, 10, no. 4 (2019), 11-25.
42. O. Reinov, A. Fahad, On Dentability in locally convex vector spaces, *International Journal of Advanced Research in Mathematics*, 10 (2017), 14-19. (Non-ISI)
43. O. Reinov, A. Fahad, Geometric Characterization of RN-Operators between locally convex vector spaces, *Advances in Mathematics and Statistical Sciences, Proceedings of 3rd International Conference on Mathematical, Computational and Statistical Sciences*, February 22-24, 2015. (Conference Paper)
44. M. A. Chaudhry, **A. Fahad**, M. Arshad, Some Results about Generalized BCH-algebras, *International Journal of Algebra*, 11 (2017), no. 5, 231-246. (Non-ISI)
45. X. L. Wang, J. B. Liu, M. K. Jamil, M. I. Qureshi, **A. Fahad** and M. R. Farahani, Zagreb connection index of drugs related chemical structures, *Turkish Journal of Medical Sciences*, Accepted for Publications 2018. (impact factor 0.641)
46. **A. Fahad**, J. Pecaric, J. Jaksetic, Applications of Exponential Convexity, *Journal of Orissa Mathematical Society*, 35 (2016), no. 1-2, 47-64. (Non-ISI)

RESEARCH PROJECTS

- Title: On Some integral and Discrete Inequalities and their Applications, Funding Agency: Zhejiang Normal University, Jinhua, China: 1 years, Worth 100,000 CNY (Ongoing)
- Title: Henan International Joint Laboratory for multidimensional topology and carcinogenic characteristics analysis of atmospheric fine particulate matter PM 2.5, Funding Agency: Department of Science and Technology, Pingdingshang University, Science and Technology Technology Bureau of Pingdingshan, Henan Province, China; Duration: 3 years, Worth 83831 USD (Ongoing)
- Title: On Steffensen's Inequality and Montgomery's Identity, Funding Agency: Higher Education Commission of Pakistan, PI, Duration: 1 year, Worth: 0.426 Million PKR. (Completed).
- Title: Topological properties of Molecular Structures, Funding Agency: ORIC COMSATS University Islamabad, Co-PI, Duration 2 years, Worth: 0.2 Million PKR. (Completed).

Reviewing Services for Journals and other Research Organizations:

- Journal of Inequalities and Applications
- Mathematical Reviews/MathSciNet
- Symmetry
- Heliyon
- IEEE Access
- Discrete Dynamics in Nature and Society
- Open Journal of Discrete Applied Mathematics
- Journal of Mathematics

CONFERENCE / SCHOOL / RESEARCH SEMINAR TALKS DELIVERED

1. On Inequalities for Interval-Valued Functions and Their Applications, Invited Speaker, 2023 International Conference on Mathematical Analysis, Applications and Computational Simulation, Shanghai, China, November 22-26, 2023.
2. Generalization of Hermite-Hadamard Mercer Inequalities for Certain Interval-valued functions, The 10th International Congress on Industrial and Applied Mathematics, Waseda University, Tokyo, Japan, August 20 – 25, 2023.
3. Generalized Steffensen's Inequality by Montgomery's Identity and Green's Functions, Mathematical Inequalities and Application Conference 2018, July 4-8, Zagreb, Croatia.
4. 1st Workshop on Teaching Undergraduate Mathematics August 28, 2017 at Bahauddin Zakariya University Multan.
5. Presented the work in CICMA 2017: International Conference on Mathematics and Applications 2017 November 6-7, 2017. Bahauddin Zakariya University Multan.
6. Participated in First Winter Workshop on Advanced Topics in Mathematics: Commutative Algebra and Banach Space December 26-29, 2017 at National Center for Mathematics Pakistan & Abdus Salam School of Mathematical Sciences, GC University, Lahore.
7. Generalized Steffensen Inequality, RAMMMA 16, Lahore School of Economics, 9-10 April, 2016.
8. Lidstone interpolation of composition function and Steffensen's-type inequalities, Abstract Published in Abstract book of conference on Mathematical Inequalities and Applications (MIA 2015) Mostar, Bosnia (2015).
9. Generalization of Steffensen Inequality by way of two-point Taylor Form, Presented (by co-author) and part of abstract book of V Congress of Mathematicians of Macedonia, Ohrid, R. Macedonia (2014).
10. On Dentability in locally convex vector spaces, Presented (by co-author) and part of abstract book of 22th Summer St. Petersburg Meeting in Mathematical Analysis, Euler International Mathematical Institute (St. Petersburg, Russia) (2013).
11. On Dentability in locally convex vector spaces, Presented and part of the abstract book of 6th World Conference on 21st Century Mathematics, Abdus Salam School of Mathematical Sciences (2013).

WORK / TEACHING EXPERIENCE

- **Assistant Professor**
Bahauddin Zakariya University, Multan

January 2022-Present
Responsibilities: Teaching and Research.

- **Assistant Professor**
COMSATS University Islamabad – Vehari Campus, Pakistan
Sep 2016- January 2022
Responsibilities: Teaching and Research.
- **Assistant Professor**
Institute of Southern Punjab, Multan, Pakistan.
July 2016 - Aug 2013
Responsibilities: Teaching and Research.
- **Lecturer**
Institute of Southern Punjab, Multan, Pakistan.
April 2016 - June 2016.
Responsibilities: Teaching and Research.
- **Research Associate**
Bahauddin Zakariya University, Multan,
Responsibilities: To Provide Assistance in Research
November 2010-May 2011.

RESEARCH INTERESTS

- Functional Analysis, Mathematical Inequalities, Graph Theory.

PhD SUPERVISOR

Professor **Dr. Josip Pecaric**

Dissertation Title: Generalization of Steffensen's Inequality and Related Results.

M. Phil. SUPERVISOR

Professor **Dr. Oleg Reinov**

Dissertation Title: Dentability and Radon Nikodym Property in Locally Convex Vector Spaces

COMPUTER SKILLS

Latex, MATLAB, Maple Scientific Workplace.

References:

1) Professor Josip Pecaric, Croatian Academy of Sciences and Arts, Zagreb, Croatia,
Email: pecaric@element.hr

2) Professor Shigeru Furuichi, Nihon University, Japan
Email: furuichi.shigeru@nihon-u.ac.jp