Dr Naila Rafiq
D/o Muhammad Rafiq
Assistant Professor(Mathematics)
Department of Accounting & Finance,
Faculty of MS, National University of Modern Languages, Islamabad.
Cell no: +923085203316

Email: nrafique@numl.edu.pk

https://scholar.google.com/citations?user=yAdd_sMAAAAJ&hl=en
https://orcid.org/0000-0002-6474-045X

"Mathematics may not teach us how to add love or minus hate. But it gives every reason to hope that every problem has a solution."

I. ACADEMIC QUALIFICATIONS

Degree	Year	Institution	Specialization
Ph.D. (Numerical Analysis)	2014	Centre for Advanced Studies in Pure and Applied Mathematics, B. Z. University, Multan, Pakistan	Nonlinear Dynamics, Iterative Methods
M.Phil. in Mathematics	2006	Centre for Advanced Studies in Pure and Applied Mathematics, B. Z. University, Multan, Pakistan.	Pure Mathematics
M.Sc. in Mathematics	2002	Centre for Advanced Studies in Pure and Applied Mathematics, B. Z. University, Multan, Pakistan.	Pure Mathematics
B.Sc.	1998	B. Z. University, Multan, Pakistan.	Maths A & B, Statistics

II. Academic Position Held

Job Title	Institution	Period
Assistant Professor (TTS)	Faculty of Management Sciences, National University of Modern Languages, Islamabad.	**March 2023, to Till**
Assistant Professor (TTS)	Faculty of Engineering and Computer Sciences, National University of Modern Languages, Islamabad.	06 Feb, 2018 to Mach 2023
Assistant Professor Mathematics	Department of Mathematics, Preston University, ISLAMABAD Campus. Kohat.	June, 2016 to Feb, 2018
Assistant Professor Mathematics (IPFP)	Department of Mathematics, International Islamic University, ISLAMABAD, Pakistan.	Feb, 2015 to May, 2016
Assistant Professor Mathematics (Visiting)	Department of Mathematics and Statistics International Islamic University, ISLAMABAD, Pakistan	Sep, 2014 to Dec, 2014
Visiting lecturer of Mathematics	Department of Mathematics International Islamic University, ISLAMABAD, Pakistan.	Sep, 2010 to Aug, 2014
Visiting lecturer of Mathematics	Bahauddin Zakariya University, Multan Pakistan.	June, 2003 to June, 2004

III. FIELD OF RESEARCH INTEREST

- ✓ Numerical Analysis
- ✓ Development of new iterative methods which find solution of nonlinear equations with analysis of convergence
- ✓ Numerical solutions of ODE's and PDE's,

IV. RESEARCH PUBLICATIONS

INTERNATIONAL JOURNALS /HEC-RECOGNISED ABSTRACTED JOURNALS

Sr No	Journal Publications Details	Year	I.F	Cat
1.	Mudassir Shams, **Naila Rafiq**, Bruno Carpentieri And Nazir Ahmad Mir, "A New Approach To Multiroot Vectorial Problems: Highly Efficient Parallel Computing Schemes", Fractal And Fractional, Vol. 8, No. 3, Pp. 1 - 27, 2024.	2024	4.4	W
2.	Mudassir Shams, **Naila Rafiq**, Nasreen Kausar, Nazir Ahmad Mir, Ahmad Alalyani, "Computer Oriented Numerical Scheme For Solving Engineering Problems", Computer Systems Science & Engineering, Vol. 42, No. 2, Pp. 689 - 701, 2022.	2022	1.486	Y
3.	Nazir Ahmad Mir, Maria Anwar, Mudassir Shams, **Naila Rafiq**, Saima Akram, "On Numerical Schemes For Determination Of All Roots Simultaneously Of Non-Linear Equation", Mehran University Research Journal Of Engineering And Technology, Vol. 41, No. 2, Pp. 208 - 218, 2022.	2022	0.0	Y
4.	Mudassir Shams, **Naila Rafiq**, Nasreen Kausar, Praveen Agarwal, Nazir Ahmad Mir And Yong-Min Li, "On Highly Efficient Simultaneous Schemes For Finding All Polynomial Roots", Fractals, Vol. 30, No. 10, Pp. 1 - 10, 2022.	2022	4.555	W
5.	Mudassir Shams, **Naila Rafiq**, Nasreen Kausar, Praveen Agarwal, Nazir Ahmad Mir And Nasser El-Kanj, "On Inverse Iteration Process For Finding All Roots Of Nonlinear Equations With Applications", Fractals, Vol. 30, No. 10, Pp. 1 - 14, 2022.	2022	4.555	W
6.	Mudassir Shams , **Naila Rafiq** , Babar Ahmad And Nazir Ahmad Mir, "Inverse Numerical Iterative Technique For Finding All Roots Of Nonlinear Equations With Engineering Applications", Journal Of Mathematics, Vol. 2021, Pp. 1 - 10, 2021.	2021	0.712	Y
7.	Samreen Sheriff, Nazir Ahmad Mir, Shakeel Ahmad And **Naila Rafiq**, "Porosity And Dissipative Effects In Peristalsis Of Hydro-Magneto Nanomaterial: Application Of Biomedical Treatment", Advances In Mechanical Engineering, Vol. 13, No. 4, Pp. 1 - 13, 2021.	2021	1.161	W
8.	Aisha Anjum, Sadaf Masood, Muhammad Farooq, **Naila Rafiq** And Muhammad Yousaf Malik, "Investigation Of Binary Chemical Reaction In Magnetohydrodynamic Nanofluid Flow With Double Stratification", Advances In Mechanical Engineering, Vol. 13, No. 5, Pp. 1 - 10, 2021.	2021	1.161	W
9.	Mudassir Shams, **Naila Rafiq**, Nazir Ahmad Mir, Babar Ahmad, Saqib Abbasi, Mutee-Ur-Rehman Kayani, "On Computer Implementation For Comparison Of Inverse Numerical Schemes For Non-Linear Equations", Computer Systems Science And Engineering, Vol. 36, No. 3, Pp. 493 - 507, 2021.	2021	1.486	Y
10.	**Naila Rafiq**, Saima Akram, Mudassir Shams And Nazir Ahmad Mir, "Computer Geometries For Finding All Real Zeros Of Polynomial Equations Simultaneously", Computers, Materials & Continua, Vol. 69, No. 2, Pp. 2635 - 2651, 2021.	2021	3.772	W
11.	Ahmed Elmoasry, Mudassir Shams, Naveed Yaqoob, Nasreen Kausar, Yaé Ulrich Gaba And **Naila Rafiq**, "Numerical Scheme For Finding Roots Of Interval-Valued Fuzzy Nonlinear Equation With Application In Optimization", Journal Of Function Spaces, Vol. 2021, Pp. 1 - 15, 2021.	2021	1.807	X
12.	Mudassir Shams; **Naila Rafiq**; Nasreen Kausar; Praveen Agarwal; Choonkil Park; Nazir Ahmad Mir;, "On Highly Efficient Derivative-Free Family Of Numerical Method For Solving Polynomial Equation Simultaneously", Advances In Difference Equations, Vol. 2021, No. 465, Pp. 1 - 10, 2021.	2021	2.803	W

13.	**Naila Rafiq**, Naveed Yaqoob, Nasreen Kausar, Mudassir Shams, Nazir Ahmad Mir, Yaé Ulrich Gaba And Naveed Khan, "Computer-Based Fuzzy Numerical Method For Solving Engineering And Real-World Applications", Mathematical Problems In Engineering, Vol. 2021, Pp. 1 - 13, 2021.	2021	1.305	X
14.	Mudassir Shams, **Naila Rafiq**, Nasreen Kausar, Praveen Agarwal, Choonkil Park And Nazir Ahmad Mir, "On Iterative Techniques For Estimating All Roots Of Nonlinear Equation And Its System With Application In Differential Equation", Advances In Difference Equations, Vol. 2021, No. 480, Pp. 1 - 18, 2021.	2021	2.803	W
15.	Mudassir Shams, **Naila Rafiq**, Nasreen Kausar, Praveen Agarwal, Choonkil Park & Shaher Momani, "Efficient Iterative Methods For finding Simultaneously All The Multiple Roots Of Polynomial Equation", Advances In Difference Equations, Vol. 2021, No. 495, Pp. 1 - 11, 2021.	2021	2.803	W
16.	**Naila Rafiq** , Mudassir Shams , Nazir Ahmad Mir , And Yae´ Ulrich Gaba, "A Highly Efficient Computer Method For Solving Polynomial Equations Appearing In Engineering Problems", Mathematical Problems In Engineering, Vol. 2021, Pp. 1 - 22, 2021.	2021	1.305	X
17.	Mudassir Shams, **Naila Rafiq**, Nasreen Kausar, Shams Forruque Ahmed, Nazir Ahmad Mir, And Suvash Chandra Saha, "Inverse Family Of Numerical Methods For Approximating All Simple And Roots With Multiplicity Of Nonlinear Polynomial Equations With Engineering Applications", Mathematical Problems In Engineering, Vol. 2021, Pp. 1 - 9, 2021.	2021	1.305	X
18.	Ahmed Elmoasry, Mudassir Shams, Naveed Yaqoob, Nasreen Kausar, Yaé Ulrich Gaba And **Naila Rafiq**, "Numerical Scheme For Finding Roots Of Interval-Valued Fuzzy Nonlinear Equation With Application In Optimization", Journal Of Function Spaces, Vol. 2021, No. 1, Pp. 1 - 16, 2021.	2021		X
19.	Saif-Ur-Rehman, Nazir Ahmad Mir, Muhammad Farooq, **Naila Rafiq**, Shakeel Ahmad,, "Analysis Of Thermally Stratified Radiative Flow Of Sutterby Fluid With Mixed Convection", Proceedings Of The Institution Of Mechanical Engineers, Part C: Journal Of Mechanical Engineering Science, Vol. 236, No. 2, Pp. 932 - 944, 2021.	2021	1.9	W
20.	Yuming Chu, **Naila Rafiq**, Mudassir Shams, Saima Akram, Nazir Ahmad Mir Andhumaira Kalsoom, "Computer Methodologies For The Comparison Of Some Efficient Derivative Free Simultaneous Iterative Methods For Finding Roots Of Non-Linear Equations", Computers, Materials & Continua, Vol. 66, No. 1, Pp. 275 - 290, 2020.	2020	4.890	W
21.	**Naila Rafiq** , Saima Akram , Nazir Ahmad Mir, Mudassir Shams,, "Study Of Dynamical Behavior And Stability Of Iterative Methods For Nonlinear Equation With Applications In Engineering", Mathematical Problems In Engineering, Vol. 2020, Pp. 1 - 20, 2020.	2020	1.009	W
22.	Mudassir Shams , Nazir Ahmad Mir, **Naila Rafiq**, A. Othman Almatroud And Saima Akram, "On Dynamics Of Iterative Techniques For Non-Linear Equation With Applications In Engineering", Mathematical Problems In Engineering, Vol. 2020, Pp. 1 - 17, 2020.	2020	1.009	W
23.	Nazir Ahmad Mir , Mudassir Shams, **Naila Rafiq**, S. Akram, M. Rizwan, "Derivative Free Iterative Simultaneous Method For Finding Distinct Roots Of Polynomial Equation", Alexandria Engineering Journal, Vol. 59, No. 3, Pp. 1629 - 1636, 2020.	2020	2.460	W
24.	Saima Akram, Mudassir Shams, **Naila RafiQ,** Nazir Ahmad Mir, "On The Stability Of Weierstrass Type Method With King's Correction For Finding All Roots Of Non-Linear Function With Engineering Application", Applied Mathematical Sciences, Vol. 14, No. 10, Pp. 461 - 473, 2020.	2020	0.0	Y
25.	Nazir Ahmad Mir, Mudassir Shams, **Naila Rafiq**, Saima Akram, Rafiq Ahmed, "On Family Of Simultaneous Method For Finding Distinct As Well As Multiple Roots Of Non-Linear Equation", Punjab University Journal Of Mathematics, Vol. 52, No. 6, Pp. 31 - 44, 2020.	2020	0.0	X
26.	Aisha Anjum, N.A. Mir, M. Farooq, S. Ahmad And **Naila Rafiq**, "Optimization Of Entropy Generation In Thermally Stratified Polystyrene-Water/Kerosene Nanofluid Flow With Convective Boundary Condition", European Physical Journal Plus, Vol. 134, No. 4, Pp. 1 - 13, 2019.	2019	3.228	W
27.	**Naila Rafiq**, Nazir Ahmad Mir, Optimal fourth order homotopy analysis methods for nonlinear equations, J. Appl. Environ. Biol. Sci., 5(7) 367-370, 2015.	2015		
28.	Nazir Ahmad Mir, Khudija Bibi, **Naila Rafiq**, Three-step methods for finding multiple root ofnonlinear equation, Life Science Journal, 2014;11(7s):387-389	2014	0.165	X

29.	Nazir Ahmad Mir, **Naila Rafiq**, Quadrature based higher order families of iterative methods for non-linear equations, Sci. Res. Essays , Vol.9(17), pp.752-757, 15 sept, 2014.	2014		
30.	Nazir Ahmad Mir, Saher Akmal Khan, **Naila Rafiq**, Nusrut Yasmin, Some families of Higher Order three Step Iterative Technique, Life Science Journal 2013; 10(2s):43-53	2013	0.165	X
31.	**Naila Rafiq**, Nazir Ahmad Mir, Nusrut Yasmin, Some simultaneous methods for determining all the roots of a nonlinear equation, Life Science Journal 2013; 10(2s):54-59.	2013	0.165	X
32.	Nazir Ahmad Mir, **Naila Rafiq**, Some New Efficient Iterative Methods for Solving Nonlinear Equations, WASJ, 27(12),1664-1668, 2013.	2013		
33.	Nazir Ahmad Mir, **Naila Rafiq**, Nusrat Yasmin, Quadrature based three-step iterative method for non-linear equations, General Mathematics, Vol. 18(4), 2010, 31-42.	2010		
34.	Nazir Ahmad Mir, **Naila Rafiq**, Saima Akram, An efficient three-step iterative method for non-linear equations, International Journal of Mathematical Analysis Vol 3(37-40), 2009, 1989-1996.	2009		
35.	Nazir Ahmad Mir, **Naila Rafiq**, Nusrat Yasmin, Quadrature based two-step iterative methodsfor non-linear equations, General Mathematics, Vol.16(1), 2008, 33-45.	2008		
36.	Nazir Ahmad Mir, Nusrat Yasmin and **Naila Rafiq** , An eighth order three-step iterative method for non-linear equations, Global Journal of Pure and Applied Mathematics, Vol 4(2), 2008,73-79.	2008		
37.	Nazir Ahmad Mir, **Naila Rafiq**, Nusrat Yasmin, Some improved iterative methods for solving non-linear equations, International Journal of Pure and Applied Mathematics, Vol. 48(1),2008, 11-19.	2008		
38.	**Naila Rafiq**, Nazir Ahmad Mir, Nusrat Yasmin, A quadrature based variant of Newton's method for non-linear equations, International Journal of Pure and Applied Mathematics, Vol. 41(8),2007, 1187-1195.	2007		
39.	N. A. Mir, **Naila Rafiq**, Fourth order two-step iterative methods for determining multiple zeros of non- linear equations, International Journal of Computer Mathematics, Vol. 84(7), 2007,971-977	2007	1.600	W
40.	N. A. Mir, **Naila Rafiq**, Third order and fourth order iterative methods for finding multiple and distinct zeros of non- linear equations, Applied Mathematics and Computation, Vol. 190(1),2007, 432-440.	2007	3.472	W

V. Supervision Experience

M.Phil /MS Thesis Supervision:
- o Supervised (**09**) completed theses
- o Currently supervising (**01**) student

VI. FORMAL TRAININGS/ EDUCATION:

Sr#	Name /Institution/Year
1.	IEEE Learning & Research for Pakistan students & researchers: An Overview of IEEE Xplore Digital Library on June 24, 2025
2.	Two-days experiential workshop on "AI & Digital Technology Adoption in Higher Education" organized by Executive Development Centre, 19-20 May 2025
3.	Training Program on Research Grants & Consultancy Management organized by NUML R&SI, August 28 - 30, 2024
4.	Preparing your research paper for publication: An IEEE Perspective Training Session, Manager Client Services for Asia - IEEE (Online) 26 oct, 2023
5.	3-Day Training of Phd / Mphil Supervision, FDP Level III, organized by Professional Development Centre on July 23.
6.	One hour Training session on "From Research to Publication: An overview on IEEE Publication process (Manager Client Services for Asia IEEE), 05 April, 2023.
7.	One hour Training session on "Power User in Locating Technical Resources: An in depth dive with IEEE Xplore digital Library," (Manager Client Services for Asia IEEE), 23 Feb, 2023.

8.	Faculty Development Program (Level-I) on Academic Planning, Academic education, Academic management, Research and project, University Ethics and Policies organized by Executive Development Centre on 15-19 August, 2022.
9.	Training on Effective Communication in English by Faculty of Arts and Humanities on 2-5 August, 2022.
10.	Faculty Development Program, ORIC, NUML, Islamabad 2020.
11.	Faculty Development Program, ORIC, NUML, Islamabad 2018.
12.	Post Graduate Diploma in Business Mathematics and Computer Programming from CASPAM, B. Z. University, Multan, 2003.

VII. Conferences/Seminars/Workshops (National / International)

1. Step-by-Step Guide to Publishing Your Research, Researcher Academy (ELESVIER), 29 July, 2025.
2. Understanding Open Access publishing, and the open future" Wiley Research Training, 22 Jul,2025.
3. Author Workshop: Publishing Open access with Wiley-HEC, Wiley Research Training, 08 Jan, 2025.
4. Speaker in Seminar titled "From Equations to Solutions: The Transformative Power of Numerical Analysis" Organized by Department of Mathematics, Rawalpindi Women University, Conference Hall, Sheikh Rasheed Block, RWU, 24 Dec, 2024.
5. Webinar on "Web of Science & InCites 2024 updates" , Clarivate, Dec 3rd, 2024.
6. Invited speaker talk on "The Future of Numerical Analysis: Trends, Challenges, and Opportunities" at Two-Days 3rd International Conference on Recent Development in Pure and Applied Mathematics, GC Women University Faisalabad, Dec 18-19, 2024.
7. 3rd International Conference of Sciences on Revamped outlook of 21st century, 2024, Rawalpindi Women University, Rawalpindi, Nov 14, 2024.
8. Webinar on "What is the graph of a dynamical system?" Organized by Nonlinear Dynamics, an International Journal of Nonlinear Dynamics and Chaos in Engineering Systems, Nov 12, 2024.
9. Webinar on "How They can Help Researchers and How to be successful in your publication process-HEC", Wiley Research Training, Nov11, 2024.
10. Webinar on "Trends in Open Research", Wiley Research Training, Oct 30, 2024.
11. Author Workshop: Essential of writing a research article for high impact journals at HEC Pakistan (ELSEVIER), Oct 22, 2024.
12. Webinar on "Choosing the Right Journal: Leveraging Journal Citation Reports to Boost Research Impact", In partnership with Higher Education Commission & Clarivate, Oct 18, 2024.
13. Webinar on "Maximizing Research Impact: Enhancing Efficiency and Effectiveness with Web of Science Data and Tools", In partnership with Higher Education Commission & Clarivate, Oct 17, 2024.
14. Webinar on "Open Science Webinar", organized by Clarivate, Oct 17, 2024.
15. Webinar on "How Generative AI changing information Discovery", Wiley Research Training, Oct 15, 2024.
16. Webinar on "Navigating Peer Review", Wiley Research Training, Oct 09, 2024.
17. Webinar on "The Future of Timekeeping: Embracing Nonlinearity for Improved Precision", Organized by Nonlinear Dynamics, an International Journal of Nonlinear Dynamics and Chaos in Engineering Systems, Oct 1, 2024
18. Webinar on "Author Workshop: How to find high impact journals to read & publish in at HEC Pakistan", organized by HEC Pakistan, Sep 27, 2024.
19. Webinar on "How to effectively use Mendeley in Research Cycle at Higher Education Commission, Pakistan", Researcher Academy On Campus by ELSEVIER, Nov 21, 2023.
20. International Conference on Science and Technology, ICST-23, Bhakkar, The University of Bhakkar, (Participant), Nov 9-10, 2023.
21. Webinar on "Navigating the pathways of publishing in High-quality journals by using Scopus", Researcher Academy, 10 Oct, 2023.
22. International Workshop on Combinatorial Image Analysis (IWCIA), Italy, 13-15 July, 2022.
23. 1st International Conference On Mathematics and Applied Sciences (2022), Mehran University, Mir Pur (Speaker), 23-25 March, 2022.
24. 2nd National Conference On Engineering Computing Sciences (NCECT,2022), NUML, Islamabad, (Organizer), March, 2022.

25. International Conference On Mathematical Advances and Applications, QAU, Islamabad, 07-09 September, 2022.
26. 1st International Conference On Engineering Computing Sciences (ICECT,2021), NUML, Islamabad, Co-Chair/ reviewer, 20 Nov, 2021.
27. 1st International Multidisciplinary DIGITAL CONFERENCE ON Social, Engineering and Environmental issue, (Digital), 14-15 Nov, 2020.
28. 6th UMT Inter Conference on Pure and Applied Mathematics, UMT, Lahore, Pakistan, 21-23 Feb, 2020.
29. 17th International Pure Mathematics Conference, Pakistan Mathematical Society, Islamabad, 5-7 Aug 2016.

VIII. COURSES TAUGHT

- **Business Mathematics, Quantitative Analysis, Statistics and Probability, Statistical Inference** (Faculty of Management Sciences, NUML, Islamabad)
- **Advance Numerical Analysis, Numerical Solution of PDE's, Advance Functional Analysis, Numerical Analysis-I&II, Real Analysis, Discrete Mathematics, Set Theory** (Dept of Math, NUML, Islamabad)
- **Discrete Mathematics** (Faculty of Computing, RIPHAH International University)
- **Mathematical Statistics/Statistics and Probability** (Faculty of Basic Sciences, RIPHAH International University/ Faculty of Basic & Applied Sciences, IIUI)
- **Number Theory**(Faculty of Basic & Applied Sciences, IIUI)
- **Multivariate Calculus/Advanced Calculus**(Dept of CS, NUML, Department of Mathematics, Preston University/ Faculty of Basic & Applied Sciences, IIUI)
- **Numerical Analysis I & II** (Faculty of Basic & Applied Sciences, IIUI/Department of Mathematics, Preston University)
- **Linear Algebra**(Department of Electronics Engineering, IIUI)
- **Functional Analysis** (Faculty of Basic & Applied Sciences, IIUI)
- **Numerical Solution of ODEs**(Faculty of Basic & Applied Sciences, IIUI/Department of Mathematics, Preston University)
- **Operations Research**(Preston University)
- **Group Theory**(CASPAM, B.Z. University)

IX. DISTINCTION AND AWARDS

- Research Award by NUML
- Punctuality and Efficiency award from Preston University
- Indigenous fellowship award for PhD from Higher Education Commission
- Secured 4th Position in (MSc Mathematics 2000-2002) B. Z. University, Multan.

X. Member of Professional Organizations/Committees

- Member of Curriculum Committee (BS and MS Mathematics program) of Mathematics Department, FE&CS, NUML.
- Member of Curriculum Committee of Mathematics subject of NTS (March 2017)
- Member of Self Assessment Report Committee in Preston University.
- Member of Examination Committee in Faculty of Basic and Applied Sciences, IIU Islamabad (2015-2016).

XI. REFERENCE

1. Prof. Dr. Nazir Ahmad Mir,
   Former Head, Department of Basic Sciences, RIPHAH
   International University, Islamabad.
2. Dr Khalid Saif Ullah
   Professor, Director,
   Centre for Advanced Studies in Pure and Applied Mathematics, B. Z.
   University, Multan.
3. Dr. Ambreen Afsar Khan,
   Associate Professor, Department of Mathematics and Statistics,
   International Islamic University, Islamabad.