Dr. Sania Qureshi

Associate Professor

Date of birth: 02 April 1982

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+92 33 22255536

Marital status: Married

Department of Basic Sciences and Related Studies, Mehran University of Engineering and Technology, Jamshoro, Pakistan.

Publons
Google Scholar
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Education

Postdoc: Department of Mathematics, Mathematical Research Center, Faculty of Arts and Sciences, Near East Boulevard, ZIP: 99138 Nicosia, TRNC Mersin 10 – Turkey.

Ph.D.: Institute of Mathematics and Computer Science, University of Sindh, Jamshoro, Pakistan. PCD No. 22035 (HEC, Pakistan).

Technical Skills

–SPSS 28
–Wolfram Mathematica 12.1
–Maple 2020
–C++
–MATLAB R2020a

Areas of Expertise

–Applied Fractional Calculus
–Mathematical Epidemiology
–Mathematical Modeling
–Ordinary Differential Equations
– Numerical Techniques for Singular, Singularly Perturbed and Stiff IVPs

Experience

10 Jan, 2022– Associate Professor of Mathematics: Department of Basic Sciences and Related Studies, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

2021– Quality Coordinator: Department of Basic Sciences and Related Studies, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

2015–2022 Assistant Professor of Mathematics: Department of Basic Sciences and Related Studies, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

2008-2015 Lecturer of Mathematics: Department of Basic Sciences and Related Studies, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

2005-2008 Research Assistant of Mathematics: Department of Basic Sciences and Related Studies, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

Awards

2022 Awarded with BEST PRESENTATION CERTIFICATE on the topic An Optimized Hybrid Block Method with at least Fifth-order Convergence under Fixed and Adaptive Stepsize Formulation during the conference INTERNATIONAL SYMPOSIUM ON APPLIED MATHEMATICS AND ENGINEERING held on January 21-23, 2022, Biruni University Istanbul-Turkey

2020 Awarded with WEN CHEN AWARD in Testimony of the High Regard of My Achievements in the Area of Fractional Calculus and its ApplicationsThe First Online Conference on Modern Fractional Calculus and its Applications, Biruni University, Istanbul, Turkey, December 4–6, 2020

2018 Awarded with Scholarship to participate in a training school titled "Advantages of the fractional models in dealing with real world problems supported by COST Action 15225 held at Istanbul Gelisim University, Engineering and Architecture Faculty, Istanbul, Turkey in the period of October 8-12, 2018.

2018 Awarded with HEC Scholarship titled "International Research Support Initiative Program, 2018" for the period from 1st August, 2018 to 30th January, 2019 in Institute of Computational Mathematics, Technische Universitaet Braunschweig, Germany.

2016 Awarded with British Council Scholarship titled "Pakistan Scottish PhD Research Travel Grants for Women, 2016" for the period from 15th September, 2016 to 15th December, 2016 in Division of Mathematics, University of Dundee, Scotland, UK.

Research Metrics

- Total Research Publications: 78 Scopus/Web of Science/Others
- Total Google Scholar Citations: 2127 on July 03, 2022
- Google Scholar h-index: 24 and i10-index: 45

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–Ordinary Differential Equations
– Numerical Techniques for Singular, Singularly Perturbed and Stiff IVPs

Scientific Activities

1. Associate Editor (From April 28, 2022 to date): Statistical and Computational Physics (specialty section of Frontiers in Physics and Frontiers in Applied Mathematics and Statistics). Scopus, WoS & X category of HEC.
2. Served as a Guest Editor for the Special Issue on Mathematical and Statistical Aspects in Health Sciences for the Research Journal: Computational and Mathematical Methods in Medicine with Publisher Hindawi from January 1, 2022 to July 08, 2022. Scopus, WoS & W category of HEC.
3. Associate Editor (From October 20, 2021 to date): Beni-Suef University Journal of Basic and Applied Sciences, SPRINGER NATURE, CAMPUS, 4 CRINAN ST, LONDON, ENGLAND, N1 9XW. ISSN / eISSN: 2314-8535 / 2314-8543
Web of Science Core Collection: Emerging Sources Citation Index
Additional Web of Science Indexes: Biological Abstracts | BIOSIS Previews | Zoological Record.
4. Served as a Lead Guest Editor for the Special Issue on Biophysics with Classical and Modern Fractional Calculus for the Research Journal: Journal of Applied Mathematics and Computational Mechanics from June 1, 2021 to December 31, 2021. WoS & Y category.
5. Regional Editor: SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI. May 05, 2021 – .
Publisher: YILDIZ TECHNICAL UNIV, YILDIZ CAMPUS, BESIKTAS, ISTANBUL, TURKEY, 34349
ISSN / eISSN: 1304-7205 / 1304-7191
Web of Science Core Collection: Emerging Sources Citation Index
6. International Editorial Advisory Board Member: Journal of Applied Mathematics and Computational Mechanics. March 07, 2021 – .
Publisher: CZESTOCHOWA UNIV TECHNOLOGY, INST MATHEMATICS , ARMII KRAJOWEJ 21, CZESTOCHOWA, POLAND, 42-200.
ISSN / eISSN: 2299-9965 / 2353-0588
Web of Science Core Collection: Emerging Sources Citation Index
7. Editorial Team Member: Journal of Fractional Calculus & Nonlinear System. December, 2020–.
8. Editorial Team Member: Journal of Mathematical Analysis and Modeling. December, 2020–
9. Review Editor: Mathematical and Statistical Physics, Frontiers. 2020–
10. Book Chapter: Fractional Order Analysis: Theory, Methods and Applications. Publisher: John Wiley & Sons. 01 September, 2020.
11. Book Chapter: Applications of Fractional Calculus to Modeling in Dynamics and Chaos. Publisher: CRC Press, Taylor & Francis Group. January, 2021.
12. Conducted one-day workshop titled "Scientific Publishing" at the Department of Basic Sciences and Related Studies, Mehran University of Engineering and Technology on December 09, 2021.
13. Webinar: Participated in the webinar titled "Dissecting the scholarly publishing process. An overview and guidance on publishing" on Wednesday 27, January, 2021.
Presented by BenSibbett, Managing Editor,
Molecular Ecology and Molecular Ecology Sources.
WILEY.
14. Workshop: Attended Elsevier-HEC Workshop on Journal indexing in Scopus. Higher Education Commission of Pakistan on Thursday 21, January, 2021. It was presented by Wim Meester,
Head- Scopus Product Management @Elsevier, and
Tracy Chen, Scopus Product Manager.

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–Ordinary Differential Equations
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15. Conference: Presented a Lecture in Online Conference on Modern Fractional Calculus and its Applications. Biruni University, Istanbul, Turkey, December 4–6, 2020.
16. Training School: Advantages of the fractional models in dealing with real world problems, Istanbul, Turkey, October 8-12, 2018. European Cost Action CA15225.

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Review Activities

1	Chaos Solitons & Fractals. (Publisher: Elsevier)
2	Journal of Computational and Applied Mathematics. (Publisher: Elsevier)
3	Physica A: Statistical Mechanics and its Applications. (Publisher: Elsevier)
4	Fuzzy Sets and Systems (Publisher: Elsevier)
5	Journal of Taibah University for Science. (Publisher: Elsevier)
6	Turkish Journal of Mathematics. (Publisher: TUBITAK)
7	Mathematical Control and Related Fields. (Publisher: AIMS)
8	Discontinuity, Nonlinearity, and Complexity. (Publisher: L & H Scientific Publishing)
9	Discrete and Continuous Dynamical Systems - Series S. (Publisher: Americam Institute of Mathematical Sciences)
10	Computational and Applied Mathematics. (Publisher: Springer Nature)
11	International Journal of Applied and Computational Mathematics. (Publisher: Springer Nature)
12	Environmental Monitoring and Assessment. (Publisher: Springer Nature)
13	Advances in Difference Equations. (Publisher: Springer)
14	Chaos: An Interdisciplinary Journal of Nonlinear Science. (Publisher: American Institute of Physics)
15	International Journal of Modern Physics B. (Publisher: World Scientific Publishing)
16	Mathematical Methods in the Applied Sciences. (Publisher: WILEY , 111 RIVER ST, HOBOKEN, USA, NJ, 07030-5774)
17	Frontiers in Physics. (Publisher: Frontiers)
18	Asian Journal of Mathematics and Computer Research. (Publisher: International Knowledge Press)
19	Advanced Science, Engineering and Medicine. (Publisher: American Scientific)
20	Journal of Applied Mathematics and Computational Mechanics. (Publisher: Czestochowa University of Technology)
21	Infectious Disease Modelling. (Publisher: KEAI PUBLISHING LTD)
22	Scientific Reports. (Publisher: NATURE PUBLISHING GROUP)
23	CMC-COMPUTERS, MATERIALS & CONTINUA. (Publisher: TECH SCIENCE PRESS)
24	COMMUNICATIONS IN THEORETICAL PHYSICS. (Publisher: IOP PUBLISHING LTD)
25	MODERN PHYSICS LETTERS B. (Publisher: WORLD SCIENTIFIC PUBL)
26	Results in Physics (Publisher: Elsevier)

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27 Optical and Quantum Electronics
(Publisher: Springer Nature)

28 Computer Modeling in Engineering & Sciences
(Publisher: Tech Science Press)

29 OPEN PHYSICS
(Publisher: DE GRUYTER)

30 Scientific African
(Publisher: Elsevier)

31 Numerical Methods for Partial Differential Equations
(Publisher: Wiley)

32 Future Virology
(Publisher: FUTURE MEDICINE LTD , UNITEC HOUSE, 3RD FLOOR, 2 ALBERT PLACE, FINCHLEY CENTRAL, LONDON, ENGLAND, N3 1QB)

33 Journal of Advanced Research
(Publisher: ELSEVIER , RADARWEG 29, AMSTERDAM, NETHERLANDS, 1043 NX)

34 Mathematical Problems in Engineering
(Publisher: HINDAWI LTD , ADAM HOUSE, 3RD FLR, 1 FITZROY SQ, LONDON, ENGLAND, W1T 5HF)

35 Alexandria Engineering Journal
(Publisher: ELSEVIER, RADARWEG 29, AMSTERDAM, NETHERLANDS, 1043 NX)

36 FRACTALS-COMPLEX GEOMETRY PATTERNS AND SCALING IN NATURE AND SOCIETY
(Publisher: WORLD SCIENTIFIC PUBL CO PTE LTD , 5 TOH TUCK LINK, SINGAPORE, SINGAPORE, 596224)

37 Heliyon
(Publisher: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD, ENGLAND, OXON, OX5 1GB)

38 Physica Scripta
(IOP PUBLISHING LTD, TEMPLE CIRCUS, TEMPLE WAY, BRISTOL, ENGLAND, BS1 6BE)

39 ENGINEERING TECHNOLOGY & APPLIED SCIENCE RESEARCH
(EOS ASSOC, ARCHAIAS ILIDAS 16, GASTOUNI, GREECE, 27050)

40 Communications in Theoretical Physics
(IOP PUBLISHING LTD, TEMPLE CIRCUS, TEMPLE WAY, BRISTOL, ENGLAND, BS1 6BE)

41 SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI
(YILDIZ TECHNICAL UNIV, YILDIZ CAMPUS, BESIKTAS, ISTANBUL, TURKEY, 34349)

42 INTERNATIONAL JOURNAL OF GENERAL MEDICINE
DOVE MEDICAL PRESS LTD , PO BOX 300-008, ALBANY, NEW ZEALAND, AUCKLAND, 0752

43 JOURNAL OF OCEAN ENGINEERING AND SCIENCE
ELSEVIER , RADARWEG 29, AMSTERDAM, NETHERLANDS, 1043 NX

44 AIMS Mathematics
AMER INST MATHEMATICAL SCIENCES-AIMS, PO BOX 2604, SPRINGFIELD, USA, MO, 65801-2604

45 NONLINEAR DYNAMICS
SPRINGER, VAN GODEWIJCKSTRAAT 30, DORDRECHT, NETHERLANDS, 3311 GZ

46 CLINICAL EPIDEMIOLOGY
DOVE MEDICAL PRESS LTD, PO BOX 300-008, ALBANY, NEW ZEALAND, AUCKLAND, 0752

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47 JOURNAL OF MATHEMATICS
HINDAWI LTD, ADAM HOUSE, 3RD FLR, 1 FITZROY SQ, LONDON, ENGLAND, W1T 5HF

48 JOURNAL OF FUNCTION SPACES
HINDAWI LTD, ADAM HOUSE, 3RD FLR, 1 FITZROY SQ, LONDON, ENGLAND, W1T 5HF

49 INTERNATIONAL JOURNAL OF MODELLING AND SIMULATION
TAYLOR & FRANCIS INC , 530 WALNUT STREET, STE 850, PHILADELPHIA, USA, PA, 19106

50 COGENT ENGINEERING
TAYLOR & FRANCIS AS, KARL JOHANS GATE 5, OSLO, NORWAY, NO-0154

51 JOURNAL OF GEOMETRY AND PHYSICS
ELSEVIER, RADARWEG 29, AMSTERDAM, NETHERLANDS, 1043 NX

52 JOURNAL OF APPLIED MATHEMATICS AND COMPUTING
SPRINGER HEIDELBERG, TIERGARTENSTRASSE 17, HEIDELBERG, GERMANY, D-69121

53 INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH
MDPI , ST ALBAN-ANLAGE 66, BASEL, SWITZERLAND, CH-4052

54 Applied Mathematics in Science and Engineering
TAYLOR & FRANCIS LTD, 2-4 PARK SQUARE, MILTON PARK, ABINGDON, England, OXON, OX14 4RN

55 SCIENTIFIC REPORTS
NATURE PORTFOLIO, HEIDELBERGER PLATZ 3, BERLIN, Germany, 14197

56 International Journal of Nonlinear Sciences and Numerical Simulation
WALTER DE GRUYTER GMBH, GENTHINER STRASSE 13, BERLIN, GERMANY, D-10785

57 Mathematical Sciences
SPRINGER HEIDELBERG, TIERGARTENSTRASSE 17, HEIDELBERG, GERMANY, D-69121

58 Beni-Suef University Journal of Basic and Applied Sciences
SPRINGERNATURE, CAMPUS, 4 CRINAN ST, LONDON, ENGLAND, N1 9XW

59 RESEARCH IN MATHEMATICS
TAYLOR & FRANCIS LTD, 2-4 PARK SQUARE, MILTON PARK, ABINGDON, England, OXON, OX14 4RN

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–Mathematical Epidemiology
–Mathematical Modeling
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Publications

1. Soomro, A., Naseem, A., Qureshi, S., & Al Din Ide, N. (2022). Development of a New Multi-step Iteration Scheme for Solving Non-Linear Models with Complex Polynomiography. Complexity, 2022. HEC W Category, IF = 2.121. https://doi.org/10.1155/2022/2596924

2. Sania Qureshi, Kashif Ali Abro J.F. Gómez-Aguilar (2022): On the numerical study of fractional and non-fractional model of nonlinear Duffing oscillator: a comparison of integer and non-integer order approaches, International Journal of Modelling and Simulation, DOI: 10.1080/02286203.2022.2084216

3. Soomro A, Qureshi, S., Shaikh A A. A New Nonlinear Hybrid Technique with fixed and adaptive step-size approaches. Sigma J Eng Nat Sci 2022;40(1):162–178. HEC Recognized under Y category.

4. Jaradat, I., Alquran, M., Qureshi, S., Sulaiman, T. A., & Yusuf, A. (2022). Convex-rogue, half-kink, cusp-soliton and other bidirectional wave-solutions to the generalized Pochhammer-Chree equation. Physica Scripta. https://doi.org/10.1088/1402-4896/ac5f25
HEC category: X. Quartile Q2. IF = 2.487. Scopus = WoS = Yes.

5. Shaikh, A. A., & Qureshi, S. (2022). Comparative analysis of Riemann-Liouville, Caputo-Fabrizio, and Atangana-Baleanu integrals. Journal of Applied Mathematics and Computational Mechanics, 21(1), 91-101. WoS, HEC Category: Y. DOI: 10.17512/jamcm.2022.1.08

6. Yusuf, A., Qureshi, S., Mustapha, U. T., Musa, S. S., & Sulaiman, T. A. (2022). Fractional Modeling for Improving Scholastic Performance of Students with Optimal Control. International Journal of Applied and Computational Mathematics, 8(1), 1-20. Scopus, HEC Category: Y.

7. Arain, S., Qureshi, S., & Shaikh, A. A. (2021). A new nonlinear L-stable scheme with constant and adaptive step-size strategy. Journal of Applied Mathematics and Computational Mechanics, 20(4), 7-18. WoS, HEC Category: Y. DOI: 10.17512/jamcm.2021.4.01

8. Qureshi, S., Soomro, A., & Hınçal, E. (2021). A New Family of A—acceptable Nonlinear Methods with Fixed and Variable Stepsize Approach. Computational and Mathematical Methods, e1213. Quartile Q2.

9. Tassaddiq, A.; Qureshi, S.; Soomro, A.; Hincal, E.; Baleanu, D.; Shaikh, A.A. A New Three-Step Root-Finding Numerical Method and Its Fractal Global Behavior. Fractal Fract. 2021, 5, 204. https://doi.org/10.3390/fractalfract5040204. Quartile Q1.

10. Ramos, H., Qureshi, S., & Soomro, A. (2021). Adaptive step-size approach for Simpson's-type block methods with time efficiency and order stars. Computational and Applied Mathematics, 40(6), 1-20. Quartile Q2.

11. Qureshi, S., Ramos, H., & Soomro, A. K. (2021). A New Nonlinear Ninth-Order Root-Finding Method with Error Analysis and Basins of Attraction. Mathematics, 9(16), 1996. Quartile Q1.

12. Qureshi, S., Yusuf, A., Aziz, S. (2021). Fractional numerical dynamics for the logistic population growth model under Conformable Caputo: a case study with real observations. Physica Scripta. HEC Recognized under W category. Quartile Q2.

13. Qureshi, S., & Jan, R. (2021). Modeling of measles epidemic with optimized fractional order under Caputo differential operator. Chaos, Solitons & Fractals, 145, 110766.
Scopus/WoS, Impact Factor: 3.764, Category: Q1.
HEC Recognized under W category.

14. Qureshi, S.. (2021). Fox H-Functions as Exact Solutions for Caputo Type Mass Spring Damper System Under Sumudu Transform, Journal of Applied Mathematics and Computational Mechanics, 20 (01), Pages: 83-89.
DOI: 10.17512/jamcm.2021.1.08
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15. Peter, O. J., Qureshi, S., Yusuf, A., Al-Shomrani, M., & Idowu, A. A. (2021). A New Mathematical Model of COVID-19 Using Real Data from Pakistan. Results in Physics, 104098.
https://doi.org/10.1016/j.rinp.2021.104098
HEC Recognized under W category. IF = 4.019.

16. Musa, S. S., Qureshi, S., Zhao, S., Yusuf, A., Mustapha, U. T., & He, D. (2021). Mathematical modeling of COVID-19 epidemic with effect of awareness programs. Infectious Disease Modelling.
https://doi.org/10.1016/j.idm.2021.01.012
HEC Recognized under Y category.

17. Zaibunnisa Memon, Sania Qureshi & Bisharat Rasool Memon. (2021). Assessing the role of quarantine and isolation as control strategies for COVID-19 outbreak: A case study. Chaos, Solitons and Fractals. Available online 9 January 2021, 110655. In Press, Journal Pre-proof.
https://doi.org/10.1016/j.chaos.2021.110655.
Scopus/WoS, Impact Factor: 3.764, Category: Q1.
HEC Recognized under W category.

18. Qureshi, S., Chang, M., & Shiakh, A. A., (2020). Analysis of series RL and RC circuits with time-invariant source using truncated M, atangana beta and conformable derivatives, Journal of Ocean Engineering and Science. (Accepted). Available online 24 November 2020. In Press, Journal Pre-proof.
HEC Recognized under Y category.

19. Kashif Ali Abro, Sania Qureshi, and Abdon Atangana. (2020). Mathematical and numerical optimality of non-singular fractional approaches on free and forced linear oscillator, Nonlinear Engineering, 2020; 9: 449–456.
https://doi.org/10.1515/nleng-2020-0028.
HEC Recognized under X category.

20. Naik, P. A., Yavuz, M., Qureshi, S., Zu, J., & Townley, S. (2020). Modeling and analysis of COVID-19 epidemics with treatment in fractional derivatives using real data from Pakistan. European Physical Journal Plus, 135(10), 1-42.
https://doi.org/10.1140/epjp/s13360-020-00819-5
HEC Recognized under W category.

21. Qureshi, S., Yusuf, A., & Aziz, S. (2020). On the use of Mohand integral transform for solving fractional-order classical Caputo differential equations. Journal of Applied Mathematics and Computational Mechanics, 19(3), 99-109.
DOI: 10.17512/jamcm.2020.3.08
HEC Recognized under Y category.

22. Qureshi, S. Periodic dynamics of rubella epidemic under standard fractional Caputo operator with real data from Pakistan. Mathematics and Computers in Simulation 178 (2020) 151-165.
https://doi.org/10.1016/j.matcom.2020.06.002
Scopus, Impact Factor: 1.409, Category: Q1
HEC Recognized under W category.

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–Ordinary Differential Equations
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23. Umar Tasiu Mustapha, Sania Qureshi, Abdullahi Yusuf, and Evren Hincal. Fractional modeling for the spread of Hookworm infection under Caputo operator. Chaos, Solitons & Fractals, Volume 137, August 2020, 109878.
https://doi.org/10.1016/j.chaos.2020.109878
Scopus, Impact Factor: 3.064, Category: Q1
HEC Recognized under W category.

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https://doi.org/10.1016/j.chaos.2020.109812
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https://doi.org/10.1140/epjp/s13360-020-00392-x.
Scopus, Impact Factor: 2.612, Category: Q1
HEC Recognized under W category.

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HEC Recognized under W category.

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DOI: 10.17512/jamcm.2020.1.05.
ESCI
HEC Recognized under Y category.

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HEC Recognized under W category.

30. Qureshi, S., & Zaib un Nisa Memon. Monotonically decreasing behavior of measles epidemic well captured by Atangana- Baleanu-Caputo fractional operator under real measles data of Pakistan. Chaos, Solitons and Fractals 131 (2020) 109478.
https://doi.org/10.1016/j.chaos.2019.109478
Scopus, Impact Factor: 3.064, Category: Q1
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–SPSS 28
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Areas of Expertise

–Applied Fractional Calculus
–Mathematical Epidemiology
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– Numerical Techniques for Singular, Singularly Perturbed and Stiff IVPs

31. Hailay Weldegiorgis Berhe, Sania Qureshi & Asif Ali Shaikh, Deterministic Modeling of Dysentery Diarrhea Epidemic under Fractional Caputo Differential Operator via Real Statistical Analysis. Journal: Chaos, Solitons and Fractals 131 (2020) 109536.
https://doi.org/10.1016/j.chaos.2019.109536
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32. Sania Qureshi, Effects of vaccination on measles dynamics under fractional conformable derivative with Liouville–Caputo operator. Journal: Eur. Phys. J. Plus (2020) 135: Article Number: 63. Published: 13 January 2020,
https://doi.org/10.1140/epjp/s13360- 020-00133-0.
Scopus, Impact Factor: 2.612, Category: Q1
HEC Recognized under W category.

33. Sania Qureshi, Oluwaseun Adeyeye & Asif Ali Shaikh, Use of Partial Derivatives to Derive a Convergent Numerical Scheme with its Error Estimates. Journal of Applied Mathematics and Computational Mechanics, 18 (4), pp 73-83.
DOI: 10.17512/jamcm.2019.4.07.
ESCI
HEC Recognized under Y category.

34. Ricardo Almeida & Sania Qureshi. A fractional measles model having monotonic real statistical data for constant transmission rate of the disease. fractal and fractional. Publisher: MDPI. Fractal Fract. 2019, 3, 53;
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ESCI
HEC Recognized under Y category.

35. YUSUF, A., GHANBARİ, B., QURESHİ, S., Mustafa, I. N. C., & BALEANU, D. Symmetry analysis and some new exact solutions of the Newell-Whitehead-Segel and Zeldovich equations. Results in Nonlinear Analysis, 2(4), 182-192.
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ESCI

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40. Zaibunnisa Memon, Sania Qureshi, Bisharat Rasool Memon & Muhammad Saleem Chandio. An optimized single-step method for integrating Cauchy problems. Punjab University Journal of Mathematics, Vol. 51 (9), pp: 33-44, (2019).
ESCI
HEC Recognized under Y category.

41. Qureshi, S., Abdullahi Yusuf, Asif Ali Shaikh, & Mustafa Inc. Transmission dynamics of varicella zoster virus modeled by classical and novel fractional operators using real statistical data. Physica A: Statistical Mechanics and its Applications. Vol. 534 (11) 15 November, (2019).
https://doi.org/10.1016/j.physa.2019.122149.
Scopus, Impact Factor: 2.5, Category: Q1
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Technical Skills

–SPSS 28
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–MATLAB R2020a

Areas of Expertise

–Applied Fractional Calculus
–Mathematical Epidemiology
–Mathematical Modeling
–Ordinary Differential Equations
– Numerical Techniques for Singular, Singularly Perturbed and Stiff IVPs

42. Qureshi, S., & Kumar, P. (2019). Using Shehu integral transform to solve fractional order Caputo type initial value problems. Journal of Applied Mathematics and Computational Mechanics, 18 (2), 75-83.
DOI: 10.17512/jamcm.2019.2.07.
ESCI
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https://doi.org/10.1016/j.chaos.2019.05.037.
Scopus, Impact Factor: 3.064, Category: Q1
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https://doi.org/10.1063/1.5082907.
Scopus, Impact Factor: 2.415, Category: Q1
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Ph.D.: Institute of Mathematics and Computer Science, University of Sindh, Jamshoro, Pakistan. PCD No. 22035 (HEC, Pakistan).

Technical Skills

–SPSS 28
–Wolfram Mathematica 12.1
–Maple 2020
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Areas of Expertise

–Applied Fractional Calculus
–Mathematical Epidemiology
–Mathematical Modeling
–Ordinary Differential Equations
– Numerical Techniques for Singular, Singularly Perturbed and Stiff IVPs

52. Tunio, N. A., Shaikh, A. A., & Qureshi, S. (2019). TO DEVELOP EFFICIENT SCHEME FOR SOLVING INITIAL VALUE PROBLEM IN ORDINARY DIFFERENTIAL EQUATION. Mathematical Theory and Modeling. Vol.9, No.8.

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59. Muhammad Yasir Ansari, Asif Ali Shaikh, & S. Qureshi, Error Bounds for a Numerical Scheme with Reduced Slope Evaluations, Journal of Applied Environmental and Biological Sciences, Vol. 8(7), pp: 67-76, 2018.

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HEC Recognized under Y Category

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62. Kumar, P., Shaikh, A. A., & Qureshi, S. (2018). Non-Linear Numerical Schemes for Exact Solutions of Initial Value Problems. IJSRD-International Journal for Scientific Research Development, 6(07), 2321-0613.

63. CHANDI, S., SHAIKH, A., & QURESHI, S. A Modified Algorithm of Improved Explicit Euler's Method To Solve Initial Value Problems. Mathematical Theory and Modeling. Vol.8, No.7, 2018.

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–Applied Fractional Calculus
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64. SHAIKH, A. A., CHANDIO, M. S., QURESHI, S., & SHAH, S. F. (2017). Computational Analysis of A Non-Newtonian Fluid Past Obstacles of Altered Shapes. PJCIS (2017), Vol. 2 No. 1: 51-57.

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HEC Recognized under Y category.

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70. Memon, Z. U. N., Chandio, M. S., & Qureshi, S. (2015). On consistency, stability and convergence of a modified ordinary differential equation solver. Sindh University Research Journal-SURJ (Science Series), 47(4).
HEC Recognized under Y category.

71. SHAIKH, A., Qureshi, S., & CHANDIO, M. (2015). Minimum error bounds for local truncation errors to iteratively solve scalar and vector-valued odes. Sindh University Research Journal-SURJ (Science Series), 47(3).
HEC Recognized under Y category.

72. SHAIKH, A., CHANDIO, F., & QURESHI, S. (2015). Computation of Wall Shear Stresses Across Various Stenosis Length in Common Carotid Artery. Sindh University Research Journal-SURJ (Science Series), 47(2).
HEC Recognized under Y category.

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76. Amur, K. B., Memon, A. L., & Qureshi, S. (2014). Fem based approximations for the tv denoising optimization problem. Mehran University Research Journal of Engineering & Technology, 33(1), 121-128.
Web of Science Core Collection: Emerging Sources Citation Index
HEC Recognized under Y category.

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78. Ayaz Ali Mallah, Asif Ali Shaikh, & Sania Qureshi (2020). AN IMPROVED ROOT LOCATION METHOD FOR FAST CONVERGENCE OF NON-LINEAR EQUATIONS. Mathematical Theory and Modeling. Vol 10, No 5. Pages: 51–57.

79. Rajput, K., Shaikh, A. A., & Qureshi, S. (2019). Comparison of Proposed and Existing Fourth Order Schemes for Solving Non-linear Equations. Asian Research Journal of Mathematics, 1-7.

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Training/Certification

13 Webinar: “Ultimate Secrets to Quickly get your Research paper Published”, Aristocrat IT Solutions Pvt Ltd..
May 15, 2021.

12 A 1-day Training: “Internal Quality Audit (ISO 9001:2015)”, Mehran University of Engineering and Technology, Jamshoro, Pakistan.
October 13, 2020.

11 A 6-day Training: “International Istanbul Summer School in Applied Mathematics (IISSAM)”, Istanbul Gelisim University, Istanbul, Turkey.
July 12-17, 2019.

10 A 5-day Training: “Advantages of the fractional models in dealing with real world problems”, Istanbul Gelisim University, Istanbul, Turkey.
October 8-12, 2018.

09 Completed Five-Day Short Course on “Computational Fluid Dynamics with Ansys Fluent”, Organized by The Department of Basic Sciences and Related Studies, Mehran University of Engineering & Technology, Jamshoro.
October 2-6, 2017.

08 Completed Two-Day Short Course on “Computational Fluid Dynamics”, Organized by The Department of Basic Sciences and Related Studies, Mehran University of Engineering & Technology, Jamshoro.
September 5-6, 2017.

07 Attended Four-Day Workshop for “Women on Leadership and Management in Higher Education”, Organized by The Chemical Engineering Department, in Collaboration with USPCAS-W, Society of Women Engineers, The Association of Commonwealth Universities & Mehran University of Engineering and Technology, Jamshoro.
February 13-16, 2017.

06 Successfully completed (and received Statement of Accomplishment with 98%) online course for "Statistics: Making Sense of Data" offered by University of Toronto, Canada using the platform of coursera.org
April 1 to May 31, 2013.

05 Participated in the One Day Training of “Presiding Officers and Assistant Presiding Officers” Organized by the Election Commission of Pakistan for the General Election.
2013.

04 Attended a Six Days Short Course on “AutoCAD 2013 2D”, Organized by The Directorate of Continuing Education, Mehran University of Engineering & Technology, Jamshoro.
April 1-11, 2013.

03 Attended One Week Short Course on “BASICS OF MATLAB PROGRAMMING”, Organized by Mechanical Engineering Department, Mehran University of Engineering & Technology, Jamshoro.
September 17-24, 2012.

02 Completed training course on “Introduction to Gender and Environment” organized by Chemical Engineering Department (WTM Link), Mehran University of Engineering & Technology, Jamshoro in collaboration with Institute for the Environment, Brunel University, West London, U.K. under “Waste Treatment and Management Link Program” Higher Education Commission – British Council Joint Higher Education Link Program Phase – II.
November 10-15, 2008.

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–Mathematical Epidemiology
–Mathematical Modeling
–Ordinary Differential Equations
– Numerical Techniques for Singular, Singularly Perturbed and Stiff IVPs

01 Completed a 36 hour Pilot Course for the Post Graduate Level in "Advanced Communication and Study Skills" organized by the Curriculum Sub – Committee, ELTR Project, Higher Education Commission, Islamabad, in coordination with English Language Centre, Mehran University of Engineering & Technology, Jamshoro.
November 13-18, 2006.

Masters theses supervised/co-supervised

2022

1. A New Nonlinear Hybrid Technique with fixed and adaptive step-size approaches

   Student Name: Mr. Amanullah Soomro
2. An Improved L-Stable Scheme for Initial Value Problems under Variable Step-size Approach
   Student Name: Ms. Bakhtawar.
3. A Convergent Scheme for Solving Initial Value Problems with Polynomial and Exponential Function
   Student Name: Ms. Sobia Khalil.
4. Improved L-Stable Method for Solving Initial Value Problem
   Student Name: Mr. Lutuf Ali.
5. Formulation and Analysis of a New Rational L-Stable Scheme suitable for Singular and Stiff Type of Initial Value Problems
   Student Name: Ms. Sadia Arain.
6. A New Modified Algorithm Based Upon Exponential and Polynomial Functions for Solving Initial Value Problems
   Student Name: Mr. Kamlesh Lohana.

2021

7. An Improved Root Location Method for Fast Convergence of Non-Linear Equations
   Student Name: Ms. Khushbu Rajput.

2019

8. To Develop Efficient Scheme for Solving Initial Value Problems in Ordinary Differential Equations
   Student Name: Mr. Daud Kandhro.
9. To Develop Initial Value Problems Exactly Solvable by Nonlinear Schemes
   Student Name: Mr. Prem Kumar.

2018

10. Development of a Nonlinear Iterative Method for Solving Initial Value Problems in Ordinary Differential Equations
    Student Name: Ms. Tasneem Aliya.
11. Development of a Numerical Scheme for Initial Value Problems with Reduced Slope Evaluations
    Student Name: Mr. Yasir Ansari.
12. To Modify the Improved Explicit Euler's Method to Solve the Initial Value Problems
    Student Name: Mr. Sikandar Ali Chandi.

2017

13. Determination of Approximate Root of Nonlinear Equations by Interpolation Technique

2016

14. An Accelerator for the Bracketing Methods for Locating Root of Nonlinear Equations $f(x) = 0$
    Student Name: Ms. Erum Soomro.

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Publons
Google Scholar
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Education

Postdoc: Department of Mathematics, Mathematical Research Center, Faculty of Arts and Sciences, Near East Boulevard, ZIP: 99138 Nicosia, TRNC Mersin 10 – Turkey.

Ph.D.: Institute of Mathematics and Computer Science, University of Sindh, Jamshoro, Pakistan. PCD No. 22035 (HEC, Pakistan).

Technical Skills

–SPSS 28
–Wolfram Mathematica 12.1
–Maple 2020
–C++
–MATLAB R2020a

Areas of Expertise

–Applied Fractional Calculus
–Mathematical Epidemiology
–Mathematical Modeling
–Ordinary Differential Equations
– Numerical Techniques for Singular, Singularly Perturbed and Stiff IVPs

PhD thesis under co-supervision

1. Critical analysis on rectangular systems using Pseudo and Mirko's method, 2019.
   Student Name: Ms. Maria Junejo.

International Masters thesis assessment

1. Modelling Substance Abuse in Botswana in Presence of Multiple Amelioration Stages and Out-Patient Rehabilitation: Optimal Control and Fractional-Order Dynamics. Department of Mathematics and Statistical Sciences in the Faculty of Sciences, Botswana International University of Science and Technology (BIUST), 2020.
2. Modeling of Groundwater Flow within a leaky aquifer with Fractal-Fractional Differential Operators. Faculty: Natural and Agricultural Sciences. University of the Free State: South Africa, 2020.
3. Stochastic Groundwater flow models in confined and leaky aquifers. Faculty: Natural and Agricultural Sciences. University of the Free State: South Africa, 2019.