

Prof. Dr. Khurram Shabbir

Professor of Mathematics (Tenured)

Government College University Lahore, Pakistan
Director General (In-Charge)
Abdus Salam School of Mathematical Sciences

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PROFILE

Tenured Professor of Mathematics at Government College University Lahore, on the faculty since 2008, and Director General (In-Charge) of the Abdus Salam School of Mathematical Sciences since May 2025. Doctorate from the Abdus Salam School in 2008 under Prof. Alexandru Dimca (University of Nice), followed by a CONACYT–TWAS postdoctoral fellowship at the Instituto de Matemáticas, UNAM, Mexico, hosted by Prof. José Seade.

Research spans singularity theory and complex geometry, mathematical physics, algebraic combinatorics, fixed point theory, integral inequalities and fractional modelling. The record comprises 69 journal articles with a cumulative impact factor of 122.86, 64 of them in HEC-recognised journals (39 W, 18 X and 7 Y category), including papers in *Nuclear Physics B*, the *Journal of High Energy Physics*, the *European Physical Journal C* and the *Journal of Algebraic Combinatorics*. Four doctoral theses defended under supervision, with 37 MPhil theses completed and two more submitted.

Chairperson of the Pakistan IMU Committee and Interim President of the National Mathematical Society of Pakistan since October 2026. As head of ASSMS, secured the revival of the School’s registration with the International Mathematical Union in 2025 and led the School’s successful application for the European Mathematical Society’s Emerging Regional Centre of Excellence (ERCE) label, awarded in October 2026 for 2027–2030. Elected Convener of the HEC National Curriculum Review Committee for Mathematics in 2024.

69	122.86	39	4	37	18
JOURNAL ARTICLES	CUMULATIVE IMPACT FACTOR	W-CATEGORY ARTICLES	PHD THESES DEFENDED	MPhil THESES SUPERVISED	YEARS AT GCU LAHORE

ACADEMIC APPOINTMENTS

2021 – present	Professor of Mathematics (Tenured) Government College University Lahore · since 16 February 2021
2026 – present	Visiting Researcher (online) Department of Industrial Engineering, Fenerbahçe University, İstanbul, Türkiye · letter Ref. E-17315523-299-80783, 11 June 2026
2016 – 2021	Associate Professor of Mathematics (Tenured) Government College University Lahore · 25 May 2016 – 15 February 2021
2015	Visiting Faculty (contractual) Abdus Salam School of Mathematical Sciences, GC University Lahore · January – June 2015
2011 – 2012	Postdoctoral Fellow Instituto de Matemáticas, Universidad Nacional Autónoma de México (UNAM) · March 2011 – February 2012 · CONACYT–TWAS Postdoctoral Fellowship · Host: Prof. José Seade

2008 – 2016

Assistant Professor of Mathematics
Government College University Lahore · 21 May 2008 – 24 May 2016

EDUCATION

- 2008**PhD in Mathematics**
Abdus Salam School of Mathematical Sciences, GC University Lahore · Thesis: Milnor Algebras and Brieskorn Modules of Homogeneous Polynomials · Supervisor: Prof. Alexandru Dimca (University of Nice, France)
- 2004**MSc in Mathematics**
University of the Punjab, Lahore · Second position among the University and its affiliated institutes
- 2001**BSc**
Government Science College, Allama Iqbal Town, Lahore (University of the Punjab) · First position in the College

HONOURS AND DISTINCTIONS

- 2026Emerging Regional Centre of Excellence (ERCE) label of the European Mathematical Society, awarded to ASSMS for 2027–2030 on an application led as Director General (In-Charge)
- 2026National delegate of Pakistan to the 20th General Assembly of the International Mathematical Union, New York, with a full IMU and Simons Foundation travel grant
- 2024Elected Convener by the members of the HEC National Curriculum Review Committee for Mathematics
- 2022Diploma of Recognition for Research Publication, Excellence Awards Gala, “Vasile Goldiş” Western University of Arad, Romania
- 2019Competitive HEC National Research Program for Universities (NRPU) award as sole Principal Investigator, *Open String Amplitudes and Elliptic Genera* (Project 20-7359); PKR 2.14 million
- 2018 – 2019Publication honorarium of USD 700, GC University Lahore
- 2017Nominated by GC University Lahore for the COMSTECH Best Research Paper Award
- 2015Offered a one-year postdoctoral fellowship at ICMC, Universidade de São Paulo, Brazil
- 2012Shortlisted for the HEC Best Young Research Scholar Award
- 2010CONACYT–TWAS Postdoctoral Fellowship (2009 cycle, awarded August 2010), held at UNAM, Mexico, 2011–2012: CONACYT USD 23,000 and TWAS USD 3,000
- 2010 –HEC-approved PhD supervisor
- 2004HEC Indigenous PhD Scholarship and Government of the Punjab financial assistance for doctoral studies
- 2004Second position, MSc Mathematics, among the University of the Punjab and its affiliated institutes
- 2001First position, BSc, Government Science College, Allama Iqbal Town, Lahore

LEADERSHIP AND INSTITUTIONAL RESPONSIBILITIES

2025 – present

Director General (In-Charge), Abdus Salam School of Mathematical Sciences
GC University Lahore · from 26 May 2025 · MP-I post; autonomous institute with separate HEC funding, staff and building · 5 faculty and about 70 MPhil and PhD scholars

Took charge with 45 PhD cases pending and cleared 14 of them through defence in the first year; more than 20 further theses have been submitted and are under evaluation. In FY 2025–26 the School held 29 thesis defences and recorded more than 55 publications.

INDICATOR, FY 2025–26	RESULT
Thesis defences	29: 14 PhD and 15 MPhil
Publications by faculty and scholars	55+: 31 with faculty participation, 24 led by students and researchers
International mathematicians engaged	About 45
Lecture-equivalent sessions; mini-courses	90 sessions (75 by internationally affiliated lecturers); 12 mini-courses
AS-ICMSET 2025 international conference	750+ registrations, 500+ participants; 18 foreign professors in person, including the Presidents of the IMU, EMS and IMM
NTICAGAIA-2025 international school	200+ applications, about 100 participants selected
IMM/Elsevier Youth Hackathon	30 undergraduate participants

INDICATOR, FY 2025–26	RESULT
Computing infrastructure	2-GPU AI and scientific computing facility in operation

Source: ASSMS Research Performance and International Engagement report, FY 2025–26 (1 July 2025 – 30 June 2026), presented to the HEC Chairman on 7 October 2026.

- **European recognition:** led the School's application for the European Mathematical Society's Emerging Regional Centre of Excellence (ERCE) label, awarded in October 2026 for 2027–2030 on the recommendation of the EMS Committee for Developing Countries. ASSMS was the first ERCE centre of the EMS; the new term includes an EMS liaison and a mid-term review, with cooperation among the ERCE centres in Lahore encouraged.
- **Compliance and continuity:** resolved stalled PhD supervision cases and restored compliance with the HEC Graduate Education Policy 2023, securing formal recognition of the MPhil and PhD programmes.
- **International standing:** secured the revival of the School's registration with the International Mathematical Union (2025); secured four IMU-CDC Volunteer Lecturer grants (USD 10,800) and corporate sponsorship from Sufi Group; hosted a high-level international panel on the future of the mathematical sciences in Pakistan (2025).
- **Policies adopted:** Abdus Salam Contractual Faculty Policy; revised, merit-based PhD Admission Policy.
- **In statutory approval:** International Faculty Engagement and Research Residency Framework; International Academic Payment and Engagement SOP for honoraria, reimbursements and foreign-currency remittances to visiting academics; ASSMS–LUMS–IMM Collaborative Academic Programme (pilot cohort 2026); National Research Seed Grant for Universities (NRSGU), a PKR 15 million pilot, with a National Mathematics Olympiad from school to university.
- **Research quality:** stronger PhD publication standards, an independent graduate-review mechanism, revival of the Math Track and a proposed International Advisory Board.
- **National plan presented to the HEC Chairman (7 October 2026):** six thematic research schools a year, a competitive international visitor and mobility window, and expansion of the School's 2-GPU facility into a shared national AI and scientific computing facility.

2026 – present

Chairperson, Pakistan IMU Committee

National Mathematical Society of Pakistan, Adhering Organization to the International Mathematical Union · from 5 October 2026 · also Interim President of the Society from the same date

- National delegate to the 20th IMU General Assembly, New York (July 2026).

2024

Convener, National Curriculum Review Committee for Mathematics

Higher Education Commission of Pakistan · HEC letter No. HEC/CURR/NCRC:MATH/6684, 22 October 2024 · Bahauddin Zakariya University, Multan, 24–25 October 2024

- Nominated by HEC to the committee and elected Convener by its members; led the national revision of the AD, BS and MS Mathematics curricula under the HEC Undergraduate Education Policy V 1.1 and Graduate Education Policy 2023.

2026 – present

Member, Test Development Committee for Mathematics

Education Testing Council, HEC · Notification Ref. ETC-Notification/HEC/2026/52, 31 August 2026 · three-year term · the committee's only Professor

2014 – present

Managing Editor, Journal of Prime Research in Mathematics

ASSMS, GC University Lahore · Managing Editor 2014–2019 and since 2020; Editor 2019–2020 · moved the journal to Open Journal Systems and applied for Web of Science indexing (2025)

Departmental and University Roles, GC University Lahore

2012 – present

Controller of Examinations, Department of Mathematics

2017 – 2023

Elected Member, Academic Council (Associate Professor seat), two terms

2018 – 2024

In-Charge and Coordinator, MPhil Programme, Department of Mathematics

2022

Research Group Leader, Topology: Algebra and Geometry (TAG) seminar series

2021

Convener, Committee for the Development and Improvement of Computer Laboratories

2017 – 2018

Conference Coordinator, International Conference on Mathematics and its Applications

2016 –

Member, Evaluation Committee on Board of Governors recommendations for faculty increments, ASSMS

2008 – 2011

In-Charge of Seminars and Inter-departmental Sports Coordinator, Department of Mathematics

RESEARCH INTERESTS

- **Singularity theory and complex geometry:** Brieskorn modules, Milnor algebras and fibrations, toric modification; doctoral projects on flag varieties, homogeneous spaces and finite group quotients.
- **Mathematical physics:** topological string amplitudes, the refined topological vertex, M-strings and elliptic Calabi–Yau threefolds.
- **Algebraic combinatorics and commutative algebra:** posets, shuffle series and operads; regularity of elimination ideals; shellability.
- **Fixed point theory:** convergence, stability and data dependence of iterative schemes in Banach, CAT(0) and hyperbolic spaces.
- **Analysis and modelling:** Hermite–Hadamard and Jensen-type inequalities; fractional models of non-Newtonian flow and heat transfer.
- **Current directions:** polyhedral models for tropicalized jet schemes and arc spaces; machine learning for problems in nonlinear algebra.

RESEARCH GRANTS AND FELLOWSHIPS

As Principal Investigator

- 2026 **Polyhedral Models for Tropicalized Jet Schemes and Arc Spaces.** Faculty research proposal, Office of Research, Innovation and Commercialization, GC University Lahore. Under review.
- 2024 – 2025 **Extragradient Methods for Solving Fixed Point Problems.** ORIC Project 421/ORIC/24, GC University Lahore, October 2024 – October 2025. Completed.
- 2019 – 2021 **Open String Amplitudes and Elliptic Genera.** Sole PI, HEC National Research Program for Universities, Project 20-7359; PKR 2.14 million. Completed.

IMU-CDC Volunteer Lecturer Program

Four competitive grants from the Commission for Developing Countries of the International Mathematical Union, won as applicant and host at ASSMS: USD 10,800 in total, bringing visiting lecturers to teach in Pakistan.

- 2026 Grant ID 2600 for Dr Cristhian Garay López, CIMAT, Mexico (his second award); USD 2,700
- 2026 Grant ID 2605 for Prof. Toledo; USD 2,700
- 2025 Grant ID 2046 for Dr Anderson Arley Vera Arboleda, Universidad Nacional de Colombia; awarded 2 September 2025; USD 2,700
- 2025 Grant ID 2023 for Dr Cristhian Garay López, CIMAT, Mexico; awarded 2 September 2025; lectures delivered and final report submitted; USD 2,700

Institutional and International Funding

- 2026 Delegate travel grant, 20th IMU General Assembly, New York; IMU and Simons Foundation (full travel and accommodation)
- 2026 Keynote and faculty seminars, International İbrahim Hakkı Congress; accommodation and hospitality from Siirt University, Türkiye
- 2025 HEC conference grant for AS-ICMSET 2025, as Convener; PKR 500,000
- 2025 Corporate sponsorship of AS-ICMSET 2025, Sufi Group
- 2023 Research visit to “Vasile Goldiș” Western University of Arad, Romania; travel and accommodation from a university research project

Fellowships, Scholarships and Travel Grants

- 2015 ICTP grant, Advanced School and Workshop on Geometry of Discrete Actions, Trieste
- 2014 Clay Mathematics Institute (USA) travel grant of USD 1,500, CIMPA school, Istanbul
- 2006 – 2014 CIMPA grants for six research schools: Madrid (2006), Lahore and Istanbul (2007), Hanoi (2013), Istanbul and Cuernavaca (2014)
- 2012 UNAM research grant of USD 2,000 for an academic visit to the University of Saskatchewan, Canada
- 2011 Grant for the CIMAT school and conference, Guanajuato, Mexico
- 2009 – 2010 ICTP grants: Knot Theory school (2009) and Hodge Theory school (2010), Trieste
- 2009 Lecture grants, Johannes Kepler University Linz and University of Vienna, Austria

RESEARCH SUPERVISION

HEC-approved PhD supervisor since 2010. Record: four doctoral theses defended (three degrees conferred; Muhammad Bin Nasir defended on 30 October 2026), one thesis submitted, two doctoral scholars in progress; 37 MPhil theses completed and two submitted; 38 BS (Hons) research projects.

Doctoral Supervision

- 2021 – 2026 **Khushdil Ahmad**. *Posets in the Intersection of Combinatorics and Category Theory*. Graduated.
- 2020 – 2025 **Waqar Ul Hassan**. *Heat and Mass Transfer Models for Non-Newtonian Fluids in Cylindrical Domains with Fractional Derivatives*. Graduated.
- 2019 – 2024 **Javed Iqbal**. *Convergence and Stability Analysis for Some Fractional Order Nonlinear Models*. Graduated.
- 2020 – 2026 **Muhammad Bin Nasir**. *Concrete Finite Group Quotients and Ramified Covers in Complex Geometry*. Thesis defended on 30 October 2026; ASSMS, Reg. 2020-GCUL-PhD-ASSMS-64.
- 2020 – 2026 **Irfanullah**. *Complex Geometry of Orbits of Real Forms in Flag Varieties*. Thesis submitted; ASSMS, Reg. 2020-GCUL-PhD-ASSMS-65.
- 2020 – present **Raheel Farooki**. *Classification of Pseudoconcave Homogeneous Spaces*. Completing remaining requirements; ASSMS, Reg. 2020-GCUL-PhD-ASSMS-63.
- 2024 – present **Rizwan Ali**. Doctoral research in progress.

MPhil Theses Submitted (2)

- 2024 – 2026 **Bismillah Batool**. *On the Structure and Decomposition of Flag Manifolds*. Thesis submitted; ASSMS, Reg. 2024-GCUL-MPHIL-ASSMS-07.
- 2024 – 2026 **Iqrar Ali**. *On the Study of Bounds for Ramsey Numbers*. Thesis submitted; ASSMS, Reg. 2024-GCUL-MPHIL-ASSMS-14.

MPhil Theses Completed (37)

- 2026 **Muhammad Asad**. *Combinatorial Analysis of Shuffles for Nonlinear Trees in Tensor Product Operads*. Co-supervisor: Dr Eric Rubiel Dolores-Cuenca.
- 2026 **Umm e Farwa**. *Hodge-Laplacian Methods for Stable and Canonical Cycle Representatives in Persistent Homology*. Co-supervisor: Dr Eric Rubiel Dolores-Cuenca.
- 2026 **Ansa Tahir**. *A Topological Study of Quasi-Periodic Signals using Sliding Window Persistent Homology*. Co-supervisor: Dr Eric Rubiel Dolores-Cuenca.
- 2026 **Muhammad Fahad**. *Investigating the Explicit Relationship Between Rational Tangles and the Farey Graph*. Co-supervisor: Dr Anderson Vera.
- 2023–2025 **Bushra Waris**. *Numerical Investigation of Fractional Order Differential Equations using Legendre Neural Networks*.
- 2021–2025 **Ali Arsalan**. *Development of Lagrange Interpolating Polynomial between Physiochemical Properties and Topological Indices*.
- 2021–2025 **Irshad Ahmad**. *Optimized Iterative Approach to Fixed Points of Generalized Nonexpansive Operators with Numerical Applications*.
- 2022–2024 **Beenish Zafar**. *Exploring the Combinatorial Properties of Posets and Integer Partitions*.
- 2022–2024 **Khadija Ahsan**. *Extra Gradient Techniques for Solving Some Problems in Fixed Point Theory*.
- 2022–2024 **Mubashar Hussain**. *Solving Linear Delay Differential Equations Using Operational Matrices with Extreme Learning Machine Algorithm*.
- 2022–2024 **Inaam-Ur-Rehman**. *Exploring Fractional Differential Equations through Orthogonal Neural Networks*.
- 2021–2023 **Muhammad Afzaal**. *On Sarw-Compactness, Sarw-Connectedness and Separation Axioms in Topological Spaces*.
- 2021–2023 **Ramzan Afzal**. *On Rogers–Ramanujan Identities and Their Properties*.
- 2021–2023 **Faraz Ali**. *On the Stability and Convergence for the Jungck-Type Iterative Schemes*.
- 2021–2023 **Rizwan Ali**. *Milnor Fibrations and Regularity Conditions for Real Analytic Mappings*.
- 2021–2023 **M. Junaid Akram**. *Algebraic Integers of Pure Quintic Extensions*.
- 2021–2023 **Hina Saeed**. *Radical Ideal Based Zero Divisor Graph of a Commutative Ring*.
- 2021–2023 **Zaheer Hussain**. *Computation for Lucky Number of Some Families of Planar Graphs*.
- 2021–2023 **Ahmad Raza**. *Computing Total Absolute Difference Edge Irregularity Strength of Some Families of Graphs*.
- 2020–2022 **Muhammad Tayyab Shafiq**. *On NH-Number of Neighborhood Complexes*.

- 2020–2022 **Nazia Nazar.** *Approximating Fixed Points of Generalized α -Nonexpansive Mappings in Uniformly Convex Banach Spaces.*
- 2020–2021 **Amir Rasheed.** *Characteristics of Arithmetic Functions and Their Graphs.*
- 2020–2021 **Aftab Zafar.** *Hermite–Hadamard and Jensen-Type Inequalities for Interval-Valued Generalized Non-Convex Functions.*
- 2020–2021 **Waqar Afzal.** *Hermite–Hadamard and Jensen-Type Inequalities for Generalized Interval-Valued (h_1, h_2) -Godunova–Levin Functions.*
- 2020–2021 **Amad Adrees.** *Jensen, Hermite–Hadamard and Ostrowski-Type Inequalities for a Generalized Class of Stochastic Convex Functions.*
- 2020–2021 **Muhammad Tajammal Tahir.** *Algebraic Characterization of Elimination Ideals Associated to Graphs.*
- 2019–2020 **Muhammad Jahangir Jalal.** *On m -Polar (a, b) -Fuzzy Positive Implicative Ideals in BCK-Algebras.*
- 2019–2020 **Ahsan Iqbal.** *Novel Concepts of Doubt Bipolar Fuzzy Fantastic Ideals in BN-Algebra.*
- 2019–2020 **Wardah.** *Regularity Bounds of Elimination Ideals.*
- 2019–2020 **Shan e Farooq.** *Simpson's and Katugampola Fractional Integral Inequalities and Their Applications.*
- 2019 **Muhammad Qasim.** *Schultz Invariants of Linear Pentachains.*
- 2017 **Hassan Mabroor.** *On Characterization of f -Ideals.*
- 2017 **Muhammad Rehman.** *On Gröbner Bases of Balanced Polyominoes Ideals.*
- 2015 **Eman Haider.** *On the Chromaticity of Ladders.*
- 2014 **Shumaila Naseer.** *Face Anti-Magic Labeling of Graphs.*
- 2013 **Madeeha Javed.** *Topological Invariants of Fiber of Mixed Polynomial.*
- 2009 **Sadaf Naveed.** *Some Estimates of Hardy Type Inequalities.*

BS (Hons) Research Projects Supervised (38)

- 2026 **Hafiz Huunzala U Din.** *Mathematical Foundations of Public-Key Cryptography: Factorization and Elliptic Curves.*
- 2026 **Hadia Riaz.** *An Introduction to Group-Based Cryptography with Applications.*
- 2025 **Zunaira Sayed.** *Enhancing Cryptographic Keys Using Tropical Algebra.*
- 2025 **Momina Babar.** *Graph Theoretical Analysis of Sudoku Structure, Properties and Application.*
- 2024 **Tooba Zahoor.** *Syzygy Conditions over a Polynomial Ring.*
- 2024 **Yashfa Javed.** *Computation of Gröbner Basis for Ideals over Finite Rings.*
- 2023 **Ayesha Saleem.** *On Some Combinatorial Properties of Matroids.*
- 2021 **Aleeha Ijaz.** *Some Properties of Bessel Functions.*
- 2021 **Hamzah Naseer.** *A Review of Fejér–Hadamard Inequality for Harmonically Convex Functions.*
- 2021 **Junaid Akram.** *A Review of Hermite–Hadamard and Jensen-Type Inequalities for Non-Convex Functions.*
- 2021 **Saira Bano.** *Some Properties of η -Convex Stochastic Processes.*
- 2020 **Rabbia Ashfaq.** *Cryptography and Network Security.*
- 2020 **Fareeha Yaqub.** *Some Inequalities for s -Convex Functions.*
- 2020 **Zuha Idrees.** *Hermite–Hadamard Type Inequalities for h -Convex Stochastic Processes.*
- 2019 **Hafiza Fasiha Faiz.** *Some Topics in Tropical Algebra.*
- 2019 **Serosh Jameel.** *A Review of Topological Groups.*
- 2019 **Bisma Ijaz.** *Graph Theory in Sudoku.*
- 2018 **Ghulam Mustafa.** *On Commutative Rings Graded by Groups.*
- 2018 **Hamza Saeed.** *On Reconstruction of Extremal Trees.*
- 2018 **M. Adeel Ashraf.** *Factorability in Quadratic Number Fields.*
- 2017 **Nusrat Mehdi.** *Some Facts about Power Graph.*
- 2017 **Eram Shahzadi.** *Coloring and Chromatic Polynomial of Cycle Type Graphs.*
- 2017 **Arooj Fatima.** *On Rainbow Coloring and Rainbow Connection Number of Some Trees.*
- 2017 **Hafiz Abdul Rehman.** *Computing the Metric Dimension of Wheel-like Graphs.*
- 2016 **Mehwish Mubeen.** *Introduction to Finite Element Analysis.*
- 2016 **Hira Rashid.** *On Topological Uniform Structures.*
- 2016 **Sana Latif.** *Introduction to Interval Analysis.*
- 2016 **Noor Fatima.** *Continued Fractions and Euclidean Algorithm.*

- 2016 **Zunaira Tahir.** *Orthogonal Polynomials and Their Applications.*
- 2015 **Kainat Akbar.** *Non-Linear Diophantine Equations.*
- 2015 **Fizza Miraj.** *Multiplicative Functions and Möbius Inversion Formula.*
- 2014 **Maryam Yousaf.** *On Some Fixed Point Theorem.*
- 2014 **Fatima Gul.** *Eulerian and Hamiltonian Graphs.*
- 2014 **Aliya Noreen.** *Antimagic Labeling of Graphs.*
- 2014 **Sabiha Tariq.** *Mathematical Models for Inventory Management.*
- 2013 **Malik Qudratullah.** *Tropical Meromorphic Functions.*
- 2013 **Maham Zahra.** *Ramsey Number of Graph.*
- 2013 **Madiha Irfan.** *Fundamental Theorem of Tropical Algebra.*

INTERNATIONAL ENGAGEMENT

International Visits: Nine Countries

In-person visits for research, lectures, schools and international bodies. Online engagements are listed under partnerships below.

- Jul 2026 **United States.** New York: national delegate of Pakistan to the 20th General Assembly of the International Mathematical Union, on a full IMU and Simons Foundation travel grant.
- 2007 – 2026 **Türkiye.** Siirt University: keynote speaker, International İbrahim Hakkı Education and Science Congress, and faculty seminars (7–9 May 2026). Istanbul: CIMPA research schools (2007, 2014).
- 2023 **Romania.** “Vasile Goldiş” Western University of Arad: research visit; invited speaker, International Workshop on Computer Security (18 May) and Academic Days of Arad (23–27 May); Erasmus+ International Staff Week.
- 2009 – 2015 **Italy.** ICTP, Trieste: Knot Theory school (11–29 May 2009), Hodge Theory school (14 June – 2 July 2010) and Geometry of Discrete Actions school and workshop (24 August – 4 September 2015).
- 2011 – 2014 **Mexico.** Postdoctoral fellow, Instituto de Matemáticas, UNAM, Cuernavaca (March 2011 – February 2012); conferences at CIMAT, Guanajuato and Cinvestav, Mexico City (2011); CIMPA research school, UNAM Cuernavaca (24 November – 19 December 2014).
- 2013 **Vietnam.** Hanoi: CIMPA research school, Geometry and Topology of Singular Varieties (2–14 December 2013).
- 2012 **Canada.** University of Saskatchewan, Saskatoon (UNAM research grant, USD 2,000) and Mount Royal University, Calgary: academic and research visits.
- 2009 **Austria.** Johannes Kepler University Linz and University of Vienna: invited lectures.
- 2006 **Spain.** Madrid: CIMPA research school, New Trends in Singularity Theory.

Partnerships and Collaborations

- 2027 – 2030 **European Mathematical Society, Committee for Developing Countries.** ASSMS holds the ERCE label for 2027–2030, with an assigned EMS liaison and a mid-term report due in about two years.
- 2025 **Siirt University and Galatasaray University, Türkiye.** Memoranda of understanding with GC University Lahore.
- 2025 – **International networks.** Working links, as head of ASSMS, with the IMU, EMS, IMM, LUMS, ICTP and CIMPA.
- 2026 – **Fenerbahçe University, Türkiye.** Visiting Researcher (online), Department of Industrial Engineering.
- 2026 **University of Sharjah, UAE.** International Organizing Committee, Second Sharjah International Conference on Advanced Material (SICAM), 8–9 April 2026.
- 2024 **Indonesian Mathematical Society (Central Region).** Coordinator of the joint International Conference on Mathematics and Mathematics Education with GC University Lahore, 5–6 December 2024.
- 2022 – 2025 **UIN Walisongo Semarang and Universitas Gadjah Mada, Indonesia.** LAMSAMA accreditation panel (June 2025); judge, International Walisongo Science Competition (2022); KBK Aljabar seminar series (online, 2022); research collaboration with UGM (2023).
- 2023 **“Vasile Goldiş” Western University of Arad, Romania.** Resource person for the Erasmus+ MOU (24 November 2023).

INVITED LECTURES AND CONFERENCES

International Conferences and Lectures (24)

- Aug 2026 **Guest Speaker,** International Conference on Multidimensional Governance and Educational Transformation (ICMGET 2026), Indonesia

- May 2026 **Keynote Speaker**, International İbrahim Hakkı Education and Science Congress, Siirt University, Türkiye (with faculty seminars)
- Nov 2025 **Keynote Speaker**, 4th International Conference of Sciences, Rawalpindi Women University
- May 2025 **Invited Speaker**, 5th International Conference on Modern Trends in Business, Hospitality and Tourism. Talk: *Mathematical Modeling of Tourism Development: An Application to Southeastern European Tourism*
- Apr 2025 **Invited Speaker**, 7th International Conference on Pure and Applied Mathematics (ICPAM-2025), University of Sargodha
- Apr 2025 **Keynote Speaker**, 3rd International Conference on Recent Advances in Mathematics (CORAM 2025), University of Education, Lahore
- Apr 2025 **Keynote Speaker**, 8th UMT International Conference on Pure and Applied Mathematics
- Dec 2024 **Keynote Speaker**, 2nd International Conference on Mathematics for Sustainable Future (ICMSF-2024), The Women University Multan
- Dec 2024 **Keynote Speaker**, 3rd International Conference on Recent Developments in Pure and Applied Mathematics, GCU Faisalabad and GCWU Faisalabad
- Dec 2024 **Main Speaker**, International Conference on Mathematics and Mathematics Education, Indonesian Mathematical Society
- Dec 2023 **Invited Speaker**, 6th International Conference on Pure and Applied Mathematics, University of Sargodha
- Dec 2023 **Paper presentation**, 2nd International Conference on Recent Advances in Mathematics (CORAM 2023): *The Algebra of Boole: Unleashing the Power of Logic and Cryptography*
- Jul 2023 **Invited Speaker**, 9th SEAMS–UGM International Conference and Summer School on Number Theory and Cryptography, Universitas Gadjah Mada
- May 2023 **Invited Speaker**, Academic Days of Arad (33rd edition) and International Workshop on Computer Security, Arad, Romania
- Nov 2022 **Guest Speaker**, Algebraic Geometry Seminar Series, KBK Aljabar, UIN Walisongo Semarang (online)
- Oct 2022 **Invited Speaker**, International Workshop on Recent Developments in Pure and Applied Mathematics, GC University Faisalabad
- Feb 2020 **Keynote Speaker**, 5th International Conference on Pure and Applied Mathematics (ICPAM-2020), University of Sargodha
- May 2011 **Invited lecture**, Colloquium, Instituto de Matemáticas, UNAM (Cuernavaca): *Milnor Algebras and Brieskorn Modules of Homogeneous Polynomials*
- Mar 2009 **Paper presentation**, 4th International Conference on 21st Century Mathematics, ASSMS, GC University Lahore
- 2009 **Invited lecture**, Johannes Kepler University Linz, Austria: *Gauss–Manin Connections and Torsion Classes of Brieskorn Modules*
- 2009 **Invited lecture**, University of Vienna, Austria: *Some Algebraic and Geometric Invariants*
- Mar 2008 **Paper presentation**, LUMS 2nd International Conference on Mathematics and its Applications in Information Technology
- Mar 2007 **Paper presentation**, 3rd International Conference on 21st Century Mathematics, ASSMS, GC University Lahore
- 2007 **Paper presentation**, 8th International Pure Mathematics Conference on Algebra, Analysis and Geometry, Quaid-i-Azam University, Preston University and the Pakistan Mathematical Society, Islamabad

National Conferences and Seminars (7)

- Apr 2025 **Main Speaker**, 1st National Conference on Mathematics: Quality Education for Sustainability, Baba Guru Nanak University
- May 2024 **Invited Speaker**, Advancement in Mathematics, GC University Faisalabad
- 2024 **Invited Speaker**, Hybrid seminar for students, University of Education, Lahore
- Dec 2022 **Invited Speaker**, 1st National Conference on Emerging Horizon in Science and Technology, University of Central Punjab
- Dec 2022 **Main Speaker**, Seminar on Topology of Shapes, Government Islamia Graduate College for Women, Lahore
- Dec 2022 **Invited Speaker**, 3rd National Conference on Mathematics and Applications, University of Sargodha
- Jul 2007 **Paper presentation**, 1st Mathematics Conference, CASPAM, Bahauddin Zakariya University, Multan

Conferences and Schools Convened

- 2025 **Convener**, Abdus Salam International Conference on Mathematical Sciences and Emerging Technologies (AS-ICMSET 2025), ASSMS, 24–26 November 2025

- 2025 **Convener**, International School on New Trends in Computational Algebraic Geometry and Its Applications (NTICAGAIA-2025), ASSMS, 18–21 November 2025
- 2024 **Coordinator**, International Conference on Mathematics and Mathematics Education, GC University Lahore with the Indonesian Mathematical Society (Central Region), 5–6 December 2024
- 2018 **Coordinator and Organizing Committee**, International Conference on Mathematics and its Applications, GC University Lahore, 13–15 November 2018
- 2005 – 2007 **Organizing Committee**, 2nd World Conference (2005) and 3rd International Conference (2007) on 21st Century Mathematics, ASSMS

International Schools and Workshops Attended

- 2024 CIMPA Research School on Algebra and Algebraic Geometry for Applications, 26 February – 8 March 2024
- 2015 ICTP Advanced School and Workshop on Geometry of Discrete Actions, Trieste, Italy
- 2014 CIMPA Research School, Singularities in Geometry, Topology, Foliations and Dynamics, UNAM Cuernavaca, Mexico
- 2014 CIMPA Research School, Algebraic Geometry and Number Theory, Istanbul, Türkiye
- 2013 CIMPA Research School, Geometry and Topology of Singular Varieties: Theory and Applications, Hanoi, Vietnam
- 2011 School and Conference, Algebraic Methods in Geometry, in honour of Xavier Gómez-Mont, CIMAT, Guanajuato, Mexico, 2 September 2011
- 2010 ICTP Summer School and Conference on Hodge Theory and Related Topics, Trieste, Italy
- 2009 ICTP Advanced School and Conference on Knot Theory and its Applications, Trieste, Italy
- 2007 CIMPA School, Arrangements, Local Systems and Singularity Theory, Istanbul, Türkiye
- 2007 CIMPA School, Configuration Spaces and Applications, Lahore, 12–18 February 2007
- 2006 CIMPA School, New Trends in Singularity Theory, Madrid, Spain

Other Conferences and Workshops Attended

- 2024 Symposium “Beyond Boundaries: Interdisciplinary Perspectives”, Department of Mathematics, GC University Lahore, 12 November 2024
- 2022 Experiential Workshop on Evolving Math Circles Outreach in Pakistan, LUMS, 23–24 June 2022
- 2013 6th International Conference on 21st Century Mathematics, ASSMS, 6–9 March 2013
- 2011 50 Years of Topology, Geometry and Physics, Cinvestav, Mexico City
- 2006 Communication Skills Workshop, Abdus Salam School of Mathematical Sciences, 21 December 2006

EDITORIAL AND REVIEW SERVICE

- 2025 **Lead Editor**, special proceedings volume of AS-ICMSET 2025 in honour of Prof. Abdus Salam
- 2023 **Editor and Reviewer**, 10th International Congress on Industrial and Applied Mathematics (ICIAM 2023), Waseda University, Tokyo, 20–25 August 2023
- Guest Editor**, *Fractal and Fractional* (MDPI), special issue [Metric Spaces with Its Application to Fractional Differential Equations](#)
- Advisory Board Member**, *Scientific Inquiry and Review*, University of Management and Technology
- Reviewer**, *Mathematical Reviews*, American Mathematical Society
- 2025 **Evaluator**, HEC 10th Best Research Awards, 18 March 2025
- 2023 – **Reviewer**, HEC postdoctoral research proposals (ten projects)
- 2020 **Reviewer**, ten HEC NRPU proposals
- 2017 – **Reviewer**, Best Researcher Award, SHEN
- 2017 **Reviewer**, book proposal submitted to HEC for a publication grant
- 2016 **Reviewer**, HEC research project No. 4562 on Rossby and Rossby–Haurwitz nonlinear planetary wave triads

Journal Reviewing

Referee for *Computational and Applied Mathematics*; *Zeitschrift für Angewandte Mathematik und Mechanik*; *Advanced Theory and Simulations*; *Journal of Applied Analysis and Computation*; *Journal of Applied Mathematics and Computing*; *IEEE Access*; *Journal of Physics A*; *Molecular Physics*; *Symmetry*; *Heliyon*; *Complexity*; *International Journal of Differential Equations*; *International Journal of Applied and Computational Mathematics*; *Scientific Annals of Computer Science*; *Turkish Journal of Inequalities*;

Punjab University Journal of Mathematics; Journal of Nepal Mathematical Society; Scientific Inquiry and Review; Qeios; Songklanakarin Journal of Science and Technology.

SCIENTIFIC COMMITTEES AND MEMBERSHIPS

Scientific and Advisory Committees

- 2026 International Organizing Committee, Second Sharjah International Conference on Advanced Material (SICAM), University of Sharjah, UAE
- 2025 Scientific Advisory Committee, 4th International Conference on Mathematical Empowerment and Future Trends, GC University Faisalabad, 20–22 November 2025
- 2025 National Scientific Committee, 7th International Conference on Pure and Applied Mathematics (ICPAM-2025), University of Sargodha, 17–18 April 2025
- 2023 – 2025 Advisory Committee, CORAM 2025 and CORAM 2023, University of Education, Lahore
- 2022 – 2024 Advisory Committee, ICMSF-2024; Scientific Advisory Committee, 1st ICMSF (12–13 December 2022), The Women University Multan
- 2023 National Scientific Advisory Committee, 7th UMT International Conference on Pure and Applied Mathematics
- 2021 Scientific Committee, Academia International Conference on Mathematics and Mathematics Education (AICMME-2021), Siirt University, Türkiye, 1–3 December 2021

Memberships and Affiliations

- 2026 – National Mathematical Society of Pakistan; Interim President
- 2024 – Asian Council of Science Editors
- 2020 – ICTP Alumni Pakistan
- 2014 – UNESCO–The World Academy of Sciences (TWAS), Trieste: affiliation
- 2012 – Punjab Mathematical Society
- 2008 – Old Ravian Union

SERVICE TO HIGHER EDUCATION

National and Inter-University Bodies

- 2025 Member, Board of Faculty, Faculty of Computing and Numerical Sciences, Government College Women University Faisalabad
- 2025 Member, Academic Council, Government College Women University Faisalabad
- 2025 Stakeholder and interview panel member, LAMSAMA accreditation of the Mathematics Study Program, UIN Walisongo Semarang, Indonesia
- 2025 Member, Committee of Courses, Allama Iqbal Open University, Islamabad
- 2024 Member, Academic Council, University of Narowal, from 29 January 2024
- 2022 – 2024 External Expert, Board of Advanced Studies and Research (38th, 40th, 41st, 45th and 46th meetings), University of Management and Technology, Lahore
- 2022 – External Member, Quality Enhancement Cell and MPhil/PhD Admission Committee, Department of Mathematics, University of the Punjab
- 2019 – Member, committee preparing and conducting the GRE-type (general and subject) MPhil/PhD admission test, Department of Mathematics, University of the Punjab, from 22 November 2019

Selection Boards, Tenure Review and Boards of Studies

- 2026 – **Member (Mathematics expert), Selection Board, Namal University, Mianwali**, nominated for three years by the Secretary, Higher Education Department, Government of the Punjab (Notification No. SO (Univ.)9-1/2022, 26 October 2026)
- 2015 – **Expert Member, Selection Boards** for faculty appointments: University of the Punjab; University of Agriculture Faisalabad; University of Gujrat (Hafiz Hayat and Narowal campuses); University of Narowal; Government College Women University Sialkot; University of Okara; University of Education Lahore; University of Management and Technology Lahore (26th Selection Board, 29 August 2023).
- 2024 **Subject Expert**, selection for the post of Professor, University of Central Punjab, Lahore
- 2024 **External Evaluator**, promotion case to Professor, Forman Christian College (A Chartered University), Lahore

2015 – **Departmental Tenure Review Committees:** GC University Lahore (from 2015); ASSMS (from 2016); GC University Faisalabad; Government College Women University Sialkot; Fatima Jinnah Women University, Rawalpindi.

2015 – **Boards of Studies and Faculty:** ASSMS (from 2015); University of Central Punjab (2016); University of Education Lahore (2020); University of Mianwali (2021); GC University Faisalabad (from 2022); University of the Punjab (2022); GC University Lahore; Lahore College for Women University; Allama Iqbal Open University.

Thesis Examination

- 2026 PhD external examiner: Munaza Chaudhry, *Mathematical Analysis of Bio-convective Nanofluid Flow Through Various Geometries Involving Thermal Radiation, Activation Energy for Optimization of Heat and Mass Transfer*, GC University Faisalabad
- 2024 PhD external examiner: Asmat Batool, *Existence and Approximation of Solution of Fractional Boundary Value Problems*, University of the Punjab
- 2024 PhD external examiner: Ahmad Bilal, *Bounds for the Spectral Radii and Energies of Graph Operations*, University of the Punjab
- 2023 PhD viva voce: Sana Zafar, Lahore College for Women University, 19 June 2023
- 2023 PhD thesis examination, University of Management and Technology, Lahore, 20 January 2023
- 2019 PhD external examiner: Muhammad Yaseen, University of Sargodha
- 2024 – 2025 MPhil theses examined (11): University of the Punjab (Ayesha Saleem and Bilal Ahmad, 2025; Kinza Abdul Ghaffar, 2024); University of Sialkot (Farah Siddique, Zunaira Saeed, Mehreen Zahra, Maryam Munir, Muqadas Shahzad); University of Central Punjab (Muhammad Azam and Muhammad Ali Hassan); Riphah International University (Muhammad Arslan Aslam)
- 2019 Internal examiner, MPhil, GC University Lahore: Warda Shoukat, *Comparison of Analytical Solution of a Maxwell Fluid with Slip Effects in view of the Caputo and Atangana–Baleanu Derivatives*; Sania Nasir, *Hydro-magnetic Free Convection Flow of Second Grade Fluid over an Inclined Infinite Plate*
- 2016 External examiner, MPhil theses, University of Gujrat, University of Education and University of Engineering and Technology
- 2013 – External examiner, BSc (Hons) and MSc Mathematics, University of the Punjab and affiliated colleges, including MSc viva voce at the Lahore, Quaid-e-Azam, Gujranwala, Rawalpindi and Jhang centres (2019–2022)
- External examiner also at ASSMS; COMSATS University Islamabad (Lahore Campus); University of Management and Technology; University of Sargodha; University of Education, Lahore

Outreach and Public Engagement

- 2024 Judge, 10th Open House and Career Fair, Namal University, Mianwali, 24–25 May 2024
- 2022 – 2023 Resource person, GC University Lahore Math Circle activities: Abid Majeed Public School (B), RA Bazar (12 December 2022) and FG Public School, RA Bazar (3 February 2023)
- 2022 Judge, International Walisongo Science Competition, Indonesia (28 June – 24 July 2022); judge, poster competition, University of Central Punjab (21 June 2022)
- 2005 Screening test, 2nd National Science Talents Contest, HEC and Pakistan Atomic Energy Commission, 7 February 2005

University Committee Service, GC University Lahore

Convener of the Financial Aid Committee (2025); the Probe Committee on financial and audit documentation, ASSMS (2024); the Selection Committee for appointments in BS-01 to BS-16 under the Second Statutes, GCU Ordinance 2002 (2024); an inquiry committee on an MPhil admission case (2024); the Technical Committee under PPRA rules (2024); the Employee Loan Committee, Category A, BS-16 and above (2024); the Inspection Committee for unserviceable items, the Auction Committee for dead-stock disposal and the Probe Committee on vendor payments, ASSMS (2024); and the PEEDA Committee (2023).

Member of committees on space rationalisation at the Main Campus and the new Kala Shah Kaku campus (2025); visiting-faculty appointments against departmental workload (2025); grievance redressal, Chief Minister's Honhaar Undergraduate Scholarship Program (2024, 2025); university discipline under Section 12(1) of the First Statutes (2024); student and PPRA grievances (2024); model classrooms and college affiliation (2024); the Self Post-Graduate Program Review Panel 2023–24; the DTRC of the Department of Computer Science (2024); procurement for rationalisation of budgetary demand (2021); the 19th

Convocation (2021); international student admissions (2019); the MS/MPhil summer semester (2018); the Kangaroo Mathematics Competition inquiry (2017); PEEDA Act committees (2016, 2022); F.A./F.Sc. admissions (2016); ASSMS admissions (2015) and purchase (2014–2016); and the Department of Mathematics MPhil, PhD and MSc selection committees (from 2009).

Student affairs: President of Weightlifting (2012–2019), Wrestling (2016) and the Rowing and Rowing Club (2010–2011), with service on sports-admission selection committees; Advisor, Chawala Mathematical Society (2008–2011).

PUBLICATIONS

All items are published; no accepted or submitted manuscripts are listed. Author order follows the published version; volume numbers in bold.

PUBLICATION METRIC	VALUE
Journal articles	69, of which 46 published since 2021
HEC journal category	W: 39 · X: 18 · Y: 7 · not HEC-recognised: 5
Cumulative impact factor	122.86 (sum of journal impact factors over the 59 articles in journals with an impact factor)

Each article carries its HEC journal category and journal impact factor at the right margin, as recorded in the candidate's publication record.

Book Chapter and Monograph

- 2024 **K. Shabbir**, K. Ahmad, L. Guran. "Existence and Computational Approximation of Fixed Points of Generalized Multivalued Mappings in Banach Space." In M. Younis, L. Chen, D. Singh (eds), *Recent Developments in Fixed-Point Theory*, Industrial and Applied Mathematics, Springer, Singapore, 2024. doi:10.1007/978-981-99-9546-2_13
- 2009 **K. Shabbir**. *Milnor Algebras and Brieskorn Modules of Homogeneous Polynomials: Study of Torsion Classes in the Brieskorn Modules*. LAP LAMBERT Academic Publishing, Germany, 2009. ISBN 978-3-8383-1286-6. Monograph based on the doctoral thesis.

Journal Articles (69)

- 1 K. Ahmad, **K. Shabbir**, A. Saleem. "Topological Characterization of Diuretic Agents With QSPR-Based Regression Prediction." *Punjab University Journal of Mathematics* **58**(5) (2026) 559–577. doi:10.52280/pujm.2026.58(05)01 HEC X · IF 1.0
- 2 I. Ullah, **K. Shabbir**. "Fiberwise Rossi extension domains for rank-one Matsuki orbits in complex Grassmannians." *Advances in Differential Equations and Control Processes* **33**(3) (2026) 4619. doi:10.59400/adeqp4619 HEC X
- 3 H. Ahmad, H. Qawaqneh, W. Afzal, M. Abbas, **K. Shabbir**, M. Tariq, E. Hincal, W. M. Abdelfattah. "Improved Hermite–Hadamard, Fejér, and Jensen-Type Inequalities for Generalized Logarithmic Godunova–Levin Mappings via Erdélyi–Kober Fractional Operators." *International Journal of Analysis and Applications* **24** (2026) 262. doi:10.28924/2291-8639-24-2026-262 HEC X · IF 1.1
- 4 H. Ahmad, H. Qawaqneh, W. Afzal, **K. Shabbir**, M. Z. Meetei, M. Tariq, E. Hincal, M. A. El-Naggar. "Boundedness Properties of Multidimensional Fractional Hadamard-Type Operators on Campanato Spaces." *International Journal of Analysis and Applications* **24** (2026) 200. doi:10.28924/2291-8639-24-2026-200 HEC X · IF 1.1
- 5 Z. Hussain, **K. Shabbir**, K. Ahmad. "Computation for Lucky Number of Some Families of Planar Graphs." *Mathematica Universalis* **1**(1) (2026) 26–45. Non-HEC
- 6 M. B. Nasir, **K. Shabbir**. "Dihedral Isotropy in the Valentiner Action of A6 on the Projective Plane." *JP Journal of Algebra, Number Theory and Applications* **65**(4) (2026) 621–637. doi:10.17654/0972555526034 HEC X · IF 0.1
- 7 M. W. Ashraf, Z. Zheng, **K. Shabbir**, M. I. U. Rehman. "Numerical investigation of heat transfer in Williamson nanofluid flow with the Cattaneo–Christov double diffusion model using an artificial neural network approach." *Journal of Thermal Analysis and Calorimetry* **151**(7) (2026) 6185–6200. doi:10.1007/s10973-026-15365-y HEC W · IF 3.1
- 8 Y. Almalki, W. Afzal, **K. Shabbir**, D. Breaz, L.-I. Cotîrlă, A. Albaity. "New structural properties and Hermite–Hadamard inequalities for Godunova–Levin mappings via a novel analytical approach." *Research in Mathematics* **12**(1) (2025) 2574096. doi:10.1080/27684830.2025.2574096 HEC X · IF 1.1

- 9 A. R. Virk, **K. Shabbir**, S. Barhoumi. "QSPR Analysis of Antiplatelet Agents and Dual Antiplatelet Therapy Using Labeled Based Topological Indices and Lagrange Interpolation Techniques." *Punjab University Journal of Mathematics* **57**(4) (2025) 573–594. doi:10.52280/pujm.2025.57(04)04 HEC X · IF 1.0
- 10 K. Ahmad, **K. Shabbir**, K. Ahsan. "A Refined Inertial-like Subgradient Method for Split Equality Problems." *AppliedMath* **5**(3) (2025) 117. doi:10.3390/appliedmath5030117 HEC X · IF 0.7
- 11 K. Ahmad, **K. Shabbir**, F. Ali, M.-F. Bota, L. Guran. "An Analytical Approach to Convergence, Stability, and Data Dependence of Jungck-KF Iterative Scheme with Applications in Dynamical Market Equilibrium." *Symmetry* **17**(6) (2025) 885. doi:10.3390/sym17060885 HEC W · IF 2.2
- 12 A. A. Zafar, M. Shahzaib, **K. Shabbir**. "Advanced Hemodynamic Modeling of Pulsatile Blood Flow with Magnetic Nanoparticles: Fractional Analysis for Optimizing Biomedical Applications." *Punjab University Journal of Mathematics* **57**(1) (2025) 1–28. doi:10.52280/pujm.2025.57(01)01 HEC X · IF 1.0
- 13 K. Ahmad, E. R. Dolores-Cuenca, **K. Shabbir**. "Shuffle series." *Journal of Algebraic Combinatorics* **61**(2) (2025). doi:10.1007/s10801-025-01386-7 HEC W · IF 0.6
- 14 W. U. Hassan, **K. Shabbir**, A. Zeeshan, R. Ellahi. "Regression analysis for thermal transport of fractional-order magnetohydrodynamic Maxwell fluid flow under the influence of chemical reaction using integrated machine learning approach." *Chaos, Solitons & Fractals* **191** (2025) 115927. doi:10.1016/j.chaos.2024.115927 HEC W · IF 5.3
- 15 A. A. Zafar, M. A. Sadiq, **K. Shabbir**, L. Guran. "A Computational Study of Vibrating System using the Constant Proportional Caputo Derivative Operator Approach." *International Journal of Modern Physics C* **36**(5) (2025) 2450231. doi:10.1142/S0129183124502310 HEC W · IF 1.89
- 16 W. Afzal, M. Abbas, **K. Shabbir**. "Some new integral bounds for Godunova–Levin functions via fractional integral operators." *Open Journal of Mathematical Sciences* **8** (2024) 148–166. doi:10.30538/oms2024.0233 Non-HEC
- 17 **K. Shabbir**, A. Raza, L. Guran. "Computation of Total Absolute Difference Edge Irregularity Strength of some Graph with n-pentagonal Pages and 3-regular Graph." *Scientific Inquiry and Review* **8**(4) (2024) 80–92. doi:10.32350/sir.84.04 HEC Y
- 18 W. U. Hassan, **K. Shabbir**, M. I. Khan, L. Guran. "Computational Evaluation of Heat and Mass Transfer in Cylindrical Flow of Unsteady Fractional Maxwell Fluid Using Backpropagation Neural Networks and LMS." *Mathematics* **12**(23) (2024) 3654. doi:10.3390/math12233654 HEC W · IF 2.3
- 19 J. Iqbal, **K. Shabbir**, L. Guran. "Stability and convergence computational analysis of a new semi analytical-numerical method for fractional order linear inhomogeneous integro-partial-differential equations." *Physica Scripta* **99**(12) (2024) 125241. doi:10.1088/1402-4896/ad8d8f HEC W · IF 2.6
- 20 J. Iqbal, **K. Shabbir**, L. Guran, H. Emadifar. "A Novel Approach with Comparative Computational Simulation of Analytical Solutions of Fractional Order Volterra Type Integral Equations." *International Journal of Differential Equations* **2024** (2024) 8629461. doi:10.1155/2024/8629461 HEC X · IF 1.4
- 21 A. A. Zafar, S. Hussain, **K. Shabbir**. "Analysing MHD Heat-Mass Transfer model for Oldroyd-B Fluid Using Fractional Order Prabhakar Derivative." *Journal of Prime Research in Mathematics* **20**(2) (2024) 10–29. HEC Y
- 22 K. Ahmad, **K. Shabbir**, N. Nazar. "Convergence Analysis of Picard Thakur Hybrid Iterative Scheme for α -Nonexpansive Mappings in Uniformly Convex Banach Spaces." *International Journal of Applied Mathematical Research* **13**(1) (2024) 34–48. Non-HEC
- 23 M. J. A. Junjua, **K. Shabbir**, A. Naseem. "Combinatorial Bounds of the Regularity of Elimination Ideals." *Ars Combinatoria* **156** (2023) 25–34. doi:10.61091/ars156-03 HEC Y · IF 0.265
- 24 A. Naseem, **K. Shabbir**, M. Ramzan. "Further Results on Radio Number of Wedge Sum of Graphs." *Ars Combinatoria* **156** (2023) 13–23. doi:10.61091/ars156-02 HEC Y · IF 0.265
- 25 M. Abbas, K. Ahmad, **K. Shabbir**. "Approximation of Fixed Point of Multivalued Mean Nonexpansive Mappings in CAT(0) Spaces." *Journal of Prime Research in Mathematics* **19**(2) (2023) 1–16. HEC Y
- 26 **K. Shabbir**. "Milnor Fibrations and Regularity Conditions for Real Analytic Mappings." *Journal of Prime Research in Mathematics* **19**(1) (2023) 82–91. HEC Y
- 27 J. Iqbal, **K. Shabbir**, A. Bucur, A. A. Zafar. "Analyzing the convergence of a semi-numerical-analytical scheme for non-linear fractional PDEs." *Alexandria Engineering Journal* **78** (2023) 26–34. doi:10.1016/j.aej.2023.06.095 HEC W · IF 6.8
- 28 M. K. Azam, S. E. Farooq, F. Ahmad, M. Iqbal, **K. Shabbir**, M. Aziz Rehman. "Applications of extended Hadamard K-fractional integral." *Italian Journal of Pure and Applied Mathematics* **49** (2023) 29–44. HEC Y
- 29 A. Waqar, **K. Shabbir**, M. Arshad, J. K. K. Asamoah, A. M. Galal. "Some Novel Estimates of Integral Inequalities for a Generalized Class of Harmonical Convex Mappings by Means of Center-Radius Order Relation." *Journal of Mathematics* **2023** (2023) 8865992. doi:10.1155/2023/8865992 HEC X · IF 1.555
- 30 L. Guran, **K. Shabbir**, K. Ahmad, M.-F. Bota. "Stability, Data Dependence, and Convergence Results with Computational Engendering of Fractals via Jungck–DK Iterative Scheme." *Fractal and Fractional* **7**(6) (2023) 418. doi:10.3390/fractalfract7060418 HEC W · IF 3.577

- 31 L. Guran, K. Ahmad, **K. Shabbir**, M.-F. Bota. "Computational comparative analysis of fixed point approximations of generalized α -nonexpansive mappings in hyperbolic spaces." *AIMS Mathematics* **8**(2) (2023) 2489–2507.
doi:10.3934/math.2023129 HEC W · IF 2.739
- 32 W. Afzal, **K. Shabbir**, T. Botmart, S. Treanță. "Some new estimates of well known inequalities for (h_1, h_2) -Godunova–Levin functions by means of center-radius order relation." *AIMS Mathematics* **8**(2) (2023) 3101–3119.
doi:10.3934/math.2023160 HEC W · IF 2.739
- 33 W. Afzal, **K. Shabbir**, S. Treanță, K. Nonlaopon. "Jensen and Hermite–Hadamard type inclusions for harmonical h -Godunova–Levin functions." *AIMS Mathematics* **8**(2) (2023) 3303–3321. doi:10.3934/math.2023170 HEC W · IF 2.739
- 34 T. Saeed, W. Afzal, **K. Shabbir**, S. Treanță, M. De la Sen. "Some Novel Estimates of Hermite–Hadamard and Jensen Type Inequalities for (h_1, h_2) -Convex Functions Pertaining to Total Order Relation." *Mathematics* **10**(24) (2022) 4777.
doi:10.3390/math10244777 HEC W · IF 2.592
- 35 W. Afzal, **K. Shabbir**, T. Botmart. "Generalized version of Jensen and Hermite–Hadamard inequalities for interval-valued (h_1, h_2) -Godunova–Levin functions." *AIMS Mathematics* **7**(10) (2022) 19372–19387.
doi:10.3934/math.20221064 HEC W · IF 2.739
- 36 X. Zhang, **K. Shabbir**, W. Afzal, H. Xiao, D. Lin. "Hermite–Hadamard and Jensen-Type Inequalities via Riemann Integral Operator for a Generalized Class of Godunova–Levin Functions." *Journal of Mathematics* **2022** (2022) 3830324.
doi:10.1155/2022/3830324 HEC X · IF 1.555
- 37 W. Afzal, A. Alb Lupaş, **K. Shabbir**. "Hermite–Hadamard and Jensen-Type Inequalities for Harmonical (h_1, h_2) -Godunova–Levin Interval-Valued Functions." *Mathematics* **10**(16) (2022) 2970. doi:10.3390/math10162970
HEC W · IF 2.592
- 38 J. Iqbal, **K. Shabbir**, L. Guran. "Stability Analysis and Computational Interpretation of an Effective Semi-Analytical Scheme for Fractional Order Non-Linear Partial Differential Equations." *Fractal and Fractional* **6**(7) (2022) 393.
doi:10.3390/fractalfract6070393 HEC X · IF 3.577
- 39 J. Jia, **K. Shabbir**, K. Ahmad, N. A. Shah, T. Botmart. "Strong Convergence of a New Hybrid Iterative Scheme for Nonexpensive Mappings and Applications." *Journal of Function Spaces* **2022** (2022) 4855173.
doi:10.1155/2022/4855173 HEC X · IF 1.807
- 40 J. Iqbal, **K. Shabbir**, L. Guran. "Semi-Analytical Solutions of Some Nonlinear-Time Fractional Models Using Variational Iteration Laplace Transform Method." *Journal of Function Spaces* **2021** (2021) 8345682. doi:10.1155/2021/8345682
HEC X · IF 1.807
- 41 Z. Lv, M. J. A. Junjua, M. T. Tahir, **K. Shabbir**. "Certain Bounds of Regularity of Elimination Ideals on Operations of Graphs." *Mathematical Problems in Engineering* **2021** (2021) 3697430. doi:10.1155/2021/3697430 HEC W · IF 1.305
- 42 A. R. Nizami, **K. Shabbir**, M. S. Sardar, M. Qasim, M. Cancan, S. Ediz. "Base polynomials for degree and distance based topological invariants of n -bilinear straight pentachain." *Journal of Information and Optimization Sciences* **42**(7) (2021) 1479–1495. doi:10.1080/02522667.2021.1903202 Non-HEC
- 43 Y.-P. Lv, **K. Shabbir**, Sundus S., F. Ali, J. Kafle. "Extragradient method for fixed points in $CAT(0)$ spaces." *Journal of Function Spaces* **2021** (2021) 7808255. doi:10.1155/2021/7808255 HEC X · IF 1.807
- 44 T.-M. Yu, A. A. Shahid, **K. Shabbir**, Y.-M. Li. "An iteration process for a general class of contractive-like operators: Convergence, stability and polynomiography." *AIMS Mathematics* **6**(7) (2021) 6699–6714. doi:10.3934/math.2021393
HEC X · IF 0.882
- 45 M. Raza, D. A. Alrowaili, M. Javaid, **K. Shabbir**. "Computing Bounds of Fractional Metric Dimension of Metal Organic Graphs." *Journal of Chemistry* **2021** (2021) 5539569. doi:10.1155/2021/5539569 HEC X · IF 1.726
- 46 S. E. Farooq, **K. Shabbir**, S. Qaisar, F. Ahmad, O. A. Almatroud. "New Inequalities of Simpson's type for differentiable functions via generalized convex function." *Comptes Rendus Mathématique* **359**(2) (2021) 137–147.
doi:10.5802/crmath.152 Non-HEC · IF 0.68
- 47 A. Naseem, **K. Shabbir**. "The radio number for wedge sum of graphs." *Ars Combinatoria* **151** (2020) 109–122.
HEC W · IF 0.265
- 48 M. M. Ghalib, A. A. Zafar, M. B. Riaz, Z. Hammouch, **K. Shabbir**. "Analytical approach for the steady MHD conjugate viscous fluid flow in a porous medium with nonsingular fractional derivative." *Physica A: Statistical Mechanics and its Applications* **554** (2020) 123941. doi:10.1016/j.physa.2019.123941 HEC W · IF 2.5
- 49 M. Ghalib, A. A. Zafar, Z. Hammouch, M. B. Riaz, **K. Shabbir**. "Analytical results on the unsteady rotational flow of fractional-order non-Newtonian fluids with shear stress on the boundary." *Discrete and Continuous Dynamical Systems, Series S* **13**(3) (2020) 683–693. doi:10.3934/dcdss.2020037 HEC W · IF 0.976
- 50 A. A. Zafar, **K. Shabbir**, A. Naseem, W. Ashraf. "MHD Natural Convection Boundary-layer Flow Over a Semi-Infinite Heated Plate with Arbitrary Inclination." *Discrete and Continuous Dynamical Systems, Series S* **13**(3) (2020) 1007–1015. doi:10.3934/dcdss.2020059 HEC W · IF 0.976

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