

**PROF. ARSHAD KHAN**

Department of Mathematics

Jamia Millia Islamia (A Central University)

New Delhi-110025, India

E-mail: akhan1234in@rediffmail.com, akhan2@jmi.ac.in

Phone (Mobile): +91-9990156354

**Position** : *Professor***Field of Specialization** : Numerical Analysis, Computational Fluid Dynamics, Dynamical Systems, Wavelet Based Numerical Methods**Academic Qualifications:**

Degree	University	Year	Division	Subject
Ph.D.	Aligarh Muslim University, Aligarh	2002	Awarded	Applied Mathematics
M.Sc.	Aligarh Muslim University, Aligarh	1997	Ist	Mathematics
B.Sc.	R.K. University, Bareilly	1995	Ist	Mathematics, Physics

**Title of Ph.D. Thesis** : **Spline Solution of Differential Equations**

- NBHM Post-Doctoral Fellowship awarded in 2003, but not availed.

**Computer Skills:**

- C- Programming, Windows' 10, XP
- MATLAB7

**Extra Curricular activities** : NCC 'C' Certificate**Research Publications:****Papers Published/Accepted** : **100****Citations** : **1290****h-index** : **22****i10-index** : **37****Invited Talks /Session Chaired** : **25****Papers Presented at Conferences** : **15****Workshop/ ATM School/Refresher Course attended:** **10****Conference attended** : **29****Research Experience** : **21 years****Teaching Experience** : **21 years**

- Since October 26, 2020, *Professor*, Department of Mathematics, Jamia Millia Islamia, New Delhi.
- October 26, 2017 to October 25, 2020, *Associate Professor*, Department of Mathematics, Jamia Millia Islamia, New Delhi.
- December 05, 2015 to October 25, 2017 *Assistant Professor (Stage III)*, Department of Mathematics, Jamia Millia Islamia, New Delhi.
- December 05, 2010 to December 04, 2015, *Assistant Professor (Stage II)*, Department of Mathematics, Jamia Millia Islamia, New Delhi.
- December 05, 2006 to December 04, 2010, *Assistant Professor*, Department of Mathematics, Jamia Millia Islamia, New Delhi.
- September 07, 2005 to May 15, 2006 and September 12, 2006 to December 02, 2006, *Guest Faculty*, Department of Mathematics, Aligarh Muslim University, Aligarh.
- August 29, 2003 to July 15, 2004 and August 07, 2004 to July 15, 2005, *Lecturer*, Department of Mathematics, Aligarh Muslim University, Aligarh.
- August 21, 2002 to March 31, 2003, *Lecturer*, Department of Applied Mathematics, Aligarh Muslim University, Aligarh.

#### **Courses Taught at Undergraduate level**

- Calculus, Ordinary & Partial Differential Equations, C-Programming and Numerical Analysis, Complex Analysis, and Modeling & Simulation.

#### **Course Taught at Postgraduate level**

- Theory of Differential Equations, Numerical Analysis, Complex Analysis & Wavelet Analysis.

#### **Ph.D. Students Supervised: Nine**

<b>Name</b>	<b>Topic</b>	<b>Award Year</b>
Pooja Khandelwal M.Sc., M.Phil., NET	Numerical Solution of Boundary Value Problems	2012
Talat Sultana M.Sc.	Spline Function Approximation for Solution of Differential Equations	2012
Sucheta Nayak M.Sc.(IITD), NET	Numerical Solution of the System of Nonlinear Singular Two Point Boundary Value Problems on a Variable Mesh	2018
Shahna M.Sc.(IITD), NET, MANJRF	Numerical Solution of Boundary Value Problems Using Spline Techniques	2018
Geetan Manchanda M.Sc.(DU-Gold Medal.), M.Phil., NET	High Accuracy Numerical Methods in Exponential form for the Solution of Non-linear Boundary Value Problems	2021
Akmal Raza	A Study on Applications of Wavelets	2021

M.Sc., UGC-JRF		
Mohammad Prawesh Alam, M.Sc., CSIR-JRF	Computational Methods for Solving Boundary Value Problems Using B-Splines	2022
Mo Faheem, M.Sc.(JMI-Gold Medal.), CSIR-JRF	Numerical Studies on Wavelet Based Methods for Initial and Boundary Value Problems	2022
Tahera Begum, M.Sc.(JMI-Gold Medal.), SLET, GATE, NET & CSIR-JRF, MANJRF	On Spline Based Numerical Methods for Some Problems of Boundary Layer Theory	2024

**Ph.D. Students Co- Supervised: One**

Shilpi Bisht, M.Sc., NET	Numerical Solution of Two point Boundary Value Problems	2012
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**PDF Students Guided: One**

Pooja Khandelwal, M.Sc., M.Phil., NET, Ph.D.	Numerical Solution of Boundary Value Problems	2014-17
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**Ph.D. Students Supervising: Five**

Name	Topic	
Zainav Khatoon M.Sc.(JMI), & CSIR- JRF	A Study on Spline Based Computational Methods for the Solution of Two Point Boundary Value Problems	Temporarily de-registered
Shadab Ali, NET M.Sc. IIT Gandhinagar	Dynamic Analysis and Synchronization of Nonlinear Chaotic Systems	
Uzair Ahmed, CSIR-JRF M.Sc. IIT Kanpur	A Numerical Study on Wavelet Based Methods for Differential and Integro-Differential Equations	
Humera Khan, GATE M.Sc.(CCSU-Gold Medal.)	Numerical Study on Heat Transfer of Ternary Hybrid Nanofluid Flow with Various Configurations	
Ashifa Khan M.Sc.(JMI- Gold Medal.) INSPIRE Fellow	Numerical Solution of Singularly Perturbed Boundary Value Problems	
Sonia M.Sc., NET	Spectral Element Methods for Two Dimensional Elliptic Boundary Layer Problems	

**M. Tech. Project Supervised: One**

**M. Sc. Project Supervised: Six**

**M. Sc. Internship guided: One**

### **Award/ Project:**

- Awarded DST project entitled “Numerical solution for solving singularly-perturbed boundary-value Problems with applications to Science and Engineering” under SERC Fast Track Scheme for Young Scientist, vide San no.100/IFD/13115/2010-11.
- Awarded International Education Excellence Award 2021 by Center for Professional Advancement, in Numerical Analysis for excellence in teaching and research on December 18th, 2021

### **Short term Visit:**

- I.I.Sc-T.I.F.R. Short term visitor during Sept. 1-20, 2000 at Indian Institute of Science, Bangalore.

### **International Visits:**

- Delivered a contributed talk in the 6<sup>th</sup> International Congress on Industrial and Applied Mathematics (ICIAM07) during July 16-20, 2007, held at Zurich, Switzerland. (Funded by NBHM)
- Delivered a contributed talk in NUMAN2010 Conference in Numerical Analysis during September 15-18, 2010, held at Chania, Crete, Greece. (Funded by JMI & CSIR).
- Delivered a contributed talk in the 25<sup>th</sup> Biennial Conference in Numerical Analysis (NACONF2013) during June 25-28, 2013, held at Strathclyde Univ. Glasgow, Scotland, UK. (Funded by SERB-DST).
- Presented a paper in the International Congress of Mathematicians (ICM2014) during August 13-21, 2014 held at Seoul, Korea. (Funded by NANUM- South Korea).
- Presented a paper in the International Congress of Industrial and Applied Mathematics (ICIAM-2015) during August 10-14, 2015 held at Beijing, China. (Funded by ICIAM-China &NBHM).

### **Research Publications:**

1. *M. Prawesh Alam, A. Khan* An efficient collocation algorithm for third order non-linear Emden–Fowler equation, *Soft Computing*, Accepted for Publication, **SCI, Impact Factor: 2.4**
2. Ayub Khan, S. Ali, A. Khan, Hamilton energy, competitive modes and ultimate bound estimation of a new 3D chaotic system, and its application in chaos synchronization" *Physica Scripta*, Volume 99(11): 115205, 2024, **SCI, Impact Factor: 2.6**
3. Uzair Ahmed, Mo faheem, **A. Khan**,G. Manchanda, A Legendre Wavelet Collocation Method for Solving Neutral Delay Differential Equations, *Miskolc Mathematical Notes*, **SCI, Impact Factor: 0.9**, Vol. 25 (2024).

4. *M. Prawesh Alam, A. Khan* , P. Roul, High-resolution numerical method for the time-fractional fourth-order diffusion problems via improved quintic B-spline function, *Journal of Applied Mathematics and Computing*, 2024 **SCI, Impact Factor: 2.4**
5. Humera Khan , Moh Yaseen, S.K. Rawat, A.Khan, Insights into the Significance of Ternary Hybrid Nanofluid Flow Between Two Rotating Disks in the Presence of Gyrotactic Microorganisms, *NANO*, 2024, **SCI, Impact Factor: 1.0**
6. Ayub Khan, Shadab Ali, and A. Khan, Global Dynamical Analysis of the 4D Chaotic System with Applications in Locating the Hidden Attractors and Synchronization, *Int. J. Bifurcation and Chaos*, 2024,**SCI, Impact Factor:1.9**
7. Ayub Khan, Shadab Ali, and A. Khan, Estimating the bound set of a chaotic system and its application in chaos synchronization,*TWMS-JAEM*, **SCI, Impact Factor:0.4**
8. Mo faheem, **A. Khan**, Akmal Raza, An efficient wavelet collocation method based on Hermite polynomials for a class of 2D quasi-linear elliptic equations, *Journal of Applied Analysis and Computation*, *Journal of Applied Analysis and Computation*, 14(3): 1198-1221, 2024, **SCI, Impact Factor:1.0**
9. Basharat Hussain, Mo faheem, **A. Khan**, A numerical technique based on Legendre wavelet for linear and nonlinear hyperbolic telegraph equation, *Journal of Applied Mathematics and Computing*, Volume 70, pages 3661–3684, 2024 **SCI**
10. Uzair Ahmed, Mo faheem, **A. Khan**, A Hermite Wavelet Collocation Method for Solving Neutral Delay Differential Equations, *Palestine J. Math.*, 2023, **SCI, Impact Factor:0.48**
11. Ayub Khan, Shadab Ali, Uzma Nigar and **A. Khan**, Combination Difference Synchronization between Hyperchaotic Complex Lü Time-delay Systems via Adaptive Control, *Palestine J. Math*, Vol. 12, 2023
12. Tahera Begum, **A. Khan** and N. Ahmad, Numerical Solution of Falkner-Skan equation using non-polynomial Quartic Spline Technique, *Palestine J. Math*. Vol. 12, 2023
13. Moh Yaseen, S.K. Rawat, Umair Khan, Ioannis E Sarris, Humera Khan, A. S. Negi, **A.Khan**, El-Sayed M Sherif, Ahmed M Hassan and Aurang Zaib, Numerical analysis of magnetohydrodynamics in an Eyring–Powell hybrid nanofluid flow on wall jet heat and mass transfer, *Nanotechnology*, Volume 4, Number 48, 2023, **SCI**
14. *Moh Yaseen, S.K. Rawat, Umair Khan, Ioannis E Sarris, Humera Khan, A.S. Negi, A. Khan, El-Sayed M Sherif, Aurang Zaib*, Computational analysis of heat and mass transfer flow of wall jet

- hybrid nanofluid with irregular heat source/sink effects and waste discharge concentration, *Journal of Magnetism and Magnetic Materials* Volume 588(47):171434, October 2023, **SCI**
15. *M. Prawesh Alam, Geetan Manchanda and A.Khan*, An  $\varepsilon$ -Uniformly Convergent Method For Singularly Perturbed Parabolic Problems Exhibiting Boundary Layers, **Journal of Applied Analysis & Computation**, Volume 13, No.4, 2089-2120, 2023, **SCIE**
  16. *M. Prawesh Alam, A. Khan*, A high-order numerical method for solving nonlinear derivative-dependent singular boundary value problems using trigonometric B-spline basis function, **Mathematical Sciences**, Volume 17, 1-17, 2023, **SCIE**
  17. *Tahera Begum, Geetan Manchanda, A. Khan, Naseem Ahmad*, On numerical solution of boundary layer flow of viscous incompressible fluid past an inclined stretching sheet in porous medium and heat transfer using spline technique, **MethodsX**, Volume 10, Pages 102035, 2023, **SCIE**
  18. *Mo Faheem, and A. Khan*, A collocation method for time-fractional diffusion equation on a metric star graph with  $\eta$  edges, **Mathematical Methods in the Applied Sciences**, Volume 46, No.16, 2023 **SCI**
  19. *Mo Faheem, and A. Khan*, A wavelet collocation method based on Gegenbauer scaling function for solving fourth-order time-fractional integro-differential equations with a weakly singular kernel, *App. Numer. Math.* V.184, 2023, 197-218, **SCI**
  20. *M. Prawesh Alam, A. Khan*, A new numerical algorithm for time dependent singularly perturbed differential-difference convection-diffusion equation arising in computational neuroscience", *Computational and Applied Mathematics*, 2023, **SCI**.
  21. *Shahna and A. Khan*, Non-polynomial cubic spline method for solution of system of odd order boundary value problems, *Computational Methods for Differential Equations*, 2023
  22. *Mo Faheem, A. Khan, M. Malik, A. Debbouche*, Numerical Simulation for generalized space time fractional Klein-Gordon equations by Gegenbauer Wavelet, *Intern. J. Nonlinear Sci.Numer. Simul.*, 2022, De Gruyter, **SCI Impact Factor:2.007**
  23. *MoFaheem, A. Khan and Patricia J.Y.Wong*, A Legendre wavelet collocation method for 1D and 2D coupled time-fractional nonlinear diffusion system, *Computers and Mathematics with Applications*, 2022

24. *Shahna, A. Khan* A fourth order method for solving singularly perturbed boundary value problems using non-polynomial splines, Iranian Journal of Numerical Analysis and Optimization, 2022
25. *Akmal Raza, A. Khan and K Ahmad*, A Novel approach for denosing Images based on Diffusion equation using Wavelets, J. Math. Control Sci. Appl., Vol. 8, No.2, 2022
26. *M. Prawesh Alam, A. Khan and D. Baleanu*, A high-order unconditionally stable numerical method for a class of multi-term time-fractional diffusion equation arising in the solute transport models, International Journal of Computer Mathematics, (2022), ISSN: 0020-7160 Taylor & Francis, **SCI Impact Factor:1.931**.
27. *Mo Faheem, A. Khan and Ömer Oruç*, A generalized Gegenbauer wavelet collocation method for solving  $p$ -type fractional neutral delay differential and delay partial differential equations, Mathematical Sciences, 2022, <https://doi.org/10.1007/s40096-022-00490-0> **SCIE**
28. *Mo Faheem, A. Khan and Akmal Raza*, A high resolution Hermite wavelet technique for solving space-time-fractional partial differential equations, Mathematics and Computers in Simulation, Vol. 194, 588-609, 2022, Elsevier, **SCI Impact Factor:2.463**
29. *Shahna, Talat Sultana and A. Khan*, Non-polynomial spline solution of one dimensional singularly perturbed parabolic equations, J. Comput. Anal. Appl., Vol. 30, No.2, 312-322, 2022, **Scopus**.
30. **A.Khan**, Zainav Khatoon, and Talat Sultana, Non-polynomial fractal quintic spline method for nonlinear boundary-value problems, J. Comput. Anal. Appl., Vol. 30, No.1, 130-152, 2022, **Scopus**.
31. *S. Nayak, A. Khan, and R. K. Mohanty* , Solving System of Boundary Value Problems using Non polynomial Spline Methods Based on Off-step Mesh, J. Comput. Anal. Appl., Vol. 30, No.1, 323-342, 2022, **Scopus**.
32. A. Khan and **Akmal Raza**, Treatment of Singularly Perturbed Differential Equations with Delay and Shift Using Haar Wavelet Collocation Method, Tamkang J. Math. ,Vol. 53 (2022): Online First, <https://orcid.org/0000-0002-6135-2822>, **Scopus**
33. *P. Khandelwal, A. Khan and T. Sultana*, Discrete Cubic Spline Technique for Solving one dimensional Bratu Problems, Asian-European Journal of *Mathematics*, 15,1, 2250011(2022), <https://doi.org/10.1142/S1793557122500115>, World Scientific, **Scopus & ESCI**

34. *Mo Faheem, Akmal Raza and A. Khan*, Wavelet Collocation Methods for Solving Neutral Delay Differential Equations, Intern. J. Nonlinear Sci.Numer. Simul., 2021  
<https://doi.org/10.1515/ijnsns-2020-0103>, De Gruyter, **SCI Impact Factor:2.007**
35. *S. Nayak, A. Khan and RK Mohanty*, Method Based on Quasi variable mesh for Solution of System of Second Order Boundary Value Problems with Mixed Boundary Conditions, TWMS J. App. and Eng. Math. V.11, N.3, 2021, pp. 932-946, **Scopus & ESCI**
36. *Akmal Raza, A. Khan and K. Ahmad*, Solution of Partially Singularly Perturbed System of Initial and Boundary Value Problems Using Non-uniform Haar Wavelet, TWMS J. App. and Eng. Math. V.11, N.4, 2021, pp. 1246-1259, **Scopus & ESCI**
37. *Mo Faheem, A. Khan and Akmal Raza*, A Numerical Technique for Solving Singularly Perturbed Differential -Difference Equations and Singularly Perturbed Convection Delayed Dominated Diffusion Equations using Jacobi Wavelet, Mathematics in Engineering, Science and Aerospace (MESA), Vol 12 No 3 (2021) 635-653, Elsevier, **Scopus**
38. *Zainav Khatoon, A. Khan and T. Sultana*, Solution of boundary value problems using fractal non-polynomial spline, Mathematics in Engineering, Science and Aerospace (MESA), Vol 12 No 3 (2021) 681-692, Elsevier , **Scopus**
39. *Zainav Khatoon, T. Sultana and A. Khan*, Fractal Non-Polynomial Spline Methods for Solution of Fourth-Order Boundary Value Problems in Plate Deflection theory, Math. Sci., 2021  
<https://doi.org/10.1007/s40096-021-00429-x>, Springer, **SCI Impact Factor:1.986**
40. *M. Prawesh Alam, Tahera Begum and A. Khan*, A high-order numerical algorithm for solving Lane-Emden equations with various types of boundary conditions, Comput. Appl. Mathematics, 40, 204 (2021), Springer, **SCI Impact Factor:2.239**
41. *A. Khan and Akmal Raza*, Solution of Fourth Order Parabolic Partial Differential Equations using Haar Wavelet and Finite Difference Method, Ajerbaijan J. Math. 157-170 (2021), **SCOPUS**
42. *G Manchanda, RK Mohanty and A. Khan*, A high accuracy compact semi-constant mesh off-step discretization in exponential form for the solution of non-linear elliptic boundary value problems, Journal of Difference Equations and Applications, 2021, VOL. 27, NO. 4, 531–556, Taylor and Francis, **SCI Impact Factor:1.476**



43. *Akmal Raza, A. Khan* and K. Ahmad, A new Approach for Solving Partial Differential Equations Based on Finite Difference and Haar Wavelet Methods, *Jordan J. Math. Stat.* 14(2) (2021)307-334, **Scopus & ESCI**
44. *A. Khan , Mo Faheem, and Akmal Raza*, Solution of third order Emden Fowler type equations using wavelets , *Engineering Computations*, 38,6, 2850-2881(2021) ISSN: 0264-4401, Emerald, **SCI Impact Factor:1.593**
45. *Shahna and A. Khan*, A new algorithm for solving generalized systems of second order boundary value problems using non-polynomial spline technique, **Proceedings of National Academy of Sciences, India Section A: Physical Sciences**, 91,2, 225-235 (2021), ISSN: 0369-8203 (Print) 2250-1762 (Online) Springer, **SCI Impact Factor:0.921**.
46. *Akmal Raza, A. Khan*, P. Sharma and K. Ahmad, Solution of Singularly Perturbed Differential Difference Equations and Convection Delayed Dominated Diffusion Equations Using Haar Wavelet, *Mathematical Sciences*, 15(2021) 123-136, Springer, **SCI ( IF 1.986 )**, DOI: 10.1007/s40096-020-00355-4
47. *M. Prawesh Alam, D. Kumar, and A. Khan*, Trigonometric Quintic B-Spline collocation method for singularly perturbed turning point boundary value problems, *International Journal of Computer Mathematics*,98,5, 1029-1048 (2021)  
<https://doi.org/10.1080/00207160.2020.1802016>, ISSN: 0020-7160 Taylor & Francis, **SCI Impact Factor:1.931**.
48. *Mo Faheem, Akmal Raza and A. Khan*, Collocation methods based on Gegenbauer and Bernoulli wavelets for solving neutral delay differential equations, *Mathematics & Comput. Simul.* 180(2021) 72-92 , ISSN: 0378-4754 Elsevier Science **SCI Impact Factor:2. 463**.
49. *A. Khan and Shilpi Bisht*, Exponential Spline Solution of Boundary Value Problems Occurring in the Plate Deflection Theory, **Proceedings of National Acad. Sciences, India Section A: Physical Sciences**, 91,2, 289-295 (2021), ISSN: 0369-8203 (Print) 2250-1762 (Online) Springer, **SCI Impact Factor:0.921**. <https://doi.org/10.1007/s40010-020-00678-w>
50. *Sahar Qazi, Kayenat Sheikh, Mo Faheem, Arshad Khan and Khalid Raza*, A Coadunation of Biological and Mathematical Perspectives on the Pandemic COVID-19: A Review, *Coronaviruses*, 9, 2021, 2, e030821190295
51. *Tahera Begum, A. Khan, N. Ahmad*, A Numerical Study of Boundary Layer Flow of Viscous Incompressible Fluid Past an Inclined Stretching Sheet and Heat Transfer Using Non-polynomial

Spline Method, *Mathematical Methods in the Applied Sciences*, 43,17,9948-9967(2020), <https://doi.org/10.1002/mma.6669> ISSN:1099-1476, John Wiley & Sons, **SCI Impact Factor:2.321**.

52. *Mo Faheem, A. Khan and E.R. El Zahar*, On some wavelet solutions of singular differential equations arising in the modeling of chemical and biochemical phenomena, *Adv. Diff. Eqn.* (2020) 2020:526 ISSN: 1687-1847, Springer, **SCI Impact Factor:2.803**.
53. *R.K. Mohanty, G. Manchanda, G. Khurana and A. Khan*, A new third order exponentially fitted discretization for the solution of nonlinear two point boundary value problems on a graded mesh, *Journal of Appl. Anal. & Comput.* (JAAC) vol. 10, No.5 (2020) 1741-1770, ISSN 2156-907X, 2158-5644 **SCI Impact Factor:1.827**.
54. *M. Prawesh Alam, Tahera Begum and A. Khan*, A new Spline Algorithm for Solving Non-isothermal Reaction Diffusion Model Equations in a Spherical Catalyst and Spherical Biocatalyst, *Chemical Physics Letters*, Vol. 754(2020) Article 137651, ISSN: 0009-2614, Elsevier Science, **SCI Impact Factor:2.328**.
55. *S. Nayak, A. Khan, and R. K. Mohanty*, Variable Mesh Discretization of System of Nonlinear Singular Boundary Value Problems, *TWMS J. App. and Eng. Math.*, Vo.10,No.3(2020) 594-605, ISSN: 2146-1147 **Scopus & ESCI**
56. *Akmal Raza, Arshad Khan*, Non-uniform Haar Wavelet Method for Solving Singularly Perturbed Differential Difference Equations of Neuronal Variability, *Appl. & Appl. Math.* 6,56-70(2020) ISSN: 1932-9466 **ESCI**
57. *R.K. Mohanty, G. Manchanda, A. Khan and G. Khurana*, A new high accuracy method in exponential form based on off-step discretization for non-linear two point boundary value problems, *Journal of Difference Equations and Applications* (GDEA) vol. 26, no.2, 171-202 (2020)  
<https://doi.org/10.1080/10236198.2019.1710140>, Taylor & Francis, **SCI Impact Factor:1.476**
58. *S. Nayak and A. Khan*, Variable Mesh Polynomial Spline Discretization for Solving Higher Order Nonlinear Singular Boundary Value Problems, *Differential Equations and Dynamical Systems*, 28, 617–631, (2020) Springer, **Scopus & ESCI**
59. *A. Khan and P. Khandelwal*, Numerical solution of third order singularly perturbed boundary value problems using exponential quartic spline, *Thai J. Math.* Vo. 17, No.3, 663-672(2019), ISSN 1686-0209, **ESCI & Scopus Index**

60. *Akmal Raza* and **A. Khan**, Haar Wavelet Series Solution for Solving Neutral Delay Differential Equations, *Journal of King Saud University – Science* 31(2019) 1070–1076, *Elsevier Science*, USA, ISSN: 1018-3647, **SCI Impact Factor:4.011**.
61. *Shahna* and **A. Khan**, Approximations for higher order boundary value problems using non-polynomial quadratic spline based on off-step points, *Journal of King Saud University – Science* 31(2019) 737–745, *Elsevier Science*, USA, ISSN: 1018-3647, **SCI Impact Factor:4.011**.  
<https://doi.org/10.1016/j.jksus.2018.06.004>
62. **A. Khan** and *Shahna*, Non-polynomial quadratic spline method for solving fourth order singularly perturbed boundary value problems, *Journal of King Saud University – Science* 31(2019) 479–484, *Elsevier Science*, USA, ISSN: 1018-3647, **SCI Impact Factor:4.011**  
<https://doi.org/10.1016/j.jksus.2017.08.006>
63. *Akmal Raza* and **A. Khan**, Approximate Solution of Higher Order two Point Boundary-Value Problems using Uniform Haar Wavelet Collocation Method, *Mathematical Modelling, Applied Analysis and Computation*, J. Singh et al (Eds.) 2019(209-220), Springer, **Scopus**
64. *R.K. Mohanty*, *G. Manchanda* and **A. Khan**, Compact half step approximation in exponential form for the system of 2D second order quasi-linear elliptic partial differential equations, *Journal of Difference Equations and Applications* (GDEA), vol. 25, no.5, 716-749, 2019  
<https://doi.org/10.1080/10236198.2019.1624737>. Taylor & Francis, **SCI Impact Factor:1.476**
65. *R.K. Mohanty*, *G. Manchanda* and **A. Khan**, Operator compact exponential approximation for the solution of the system of 2D second order quasi-linear elliptic partial differential equations, *Advances in Difference Equations*, 2019,2019:47(1) DOI: 10.1186/s13662-018-1763-z, Springer, ISSN: 1687-1847, **SCI Impact Factor:2.803**
66. **A. Khan** and *Shahna*, Non-polynomial quartic spline method for solving twelfth order boundary value problems, *Proceed. Jang. Math. Soc.*, 21 (2018), No. 4, 645–659, S. Korea, ISSN 1598-7264, **Scopus Index**.
67. **A. Khan**, *S. Nayak* and *R.K. Mohanty*, Off-step discretization for system of non-linear singular boundary value problems using variable mesh, *Italian J. Pure & Appl. Math.* 39(2018) 508-529, ISSN: 2239-0227, **ESCI & Scopus Index**.
68. *Pooja Khandelwal* and **A. Khan**, Exponential spline approach for the solution of nonlinear fourth-order boundary value problems, *Publ. Inst. Math.* 104,118(2018) 265-279 (Beograd), ISSN: 0350-1302, **ESCI & Scopus Index**.

69. *T. Sultana, A. Khan and Pooja Khandelwal*, A new non-polynomial spline method for solution of linear and non-linear third order dispersive equations, *Advances in Difference Equations*, 2018,2018:316, DOI:10.1186/s13662-018-1763-z,**Springer**, ISSN: 1687-1847,**SCI Impact Factor:2.803**
70. *Pooja Khandelwal and A. Khan*, Numerical Solution of variational problems using exponential sextic spline, *Proceed. Jang. Math. Soc.*, 20 (2017), No. 4. pp. 545 – 562, S. Korea, ISSN 1598-7264, **Scopus Index**.
71. *P. Khandelwal and A. Khan*, Singularly perturbed convection-diffusion boundary value problems with two small parameters using non-polynomial spline technique, *Mathematical Sciences*, Vol. 11, 119–126 (2017), **Springer**, ISSN: 2251-7456, **SCIE Impact Factor:0.94**
72. *R.K. Mohanty, S. Nayak and A. Khan*, Non-polynomial cubic spline discretization for system of non-linear singular boundary value problems using variable mesh, *Advances in Difference Equations* (2017) 2017:327, **Springer**, ISSN: 1687-1847, **SCI Impact Factor:1.06**
73. *A. Khan and T. Sultana*, Numerical solution of fourth order parabolic partial differential equation using parametric septic splines, *Hacettepe Journal of Mathematics Statistics*, 45(4) 1067-1082 (2016), **Turkey**, ISSN: 13035010, **SCI Impact Factor:0.415**
74. *A. Khan and T. Sultana*, Parametric septic spline solution for some ordinary differential equations occurring in plate deflection theory, *Intern. J. Nonlinear Sci.*, Vol. 21(2) 67-79(2016), **World Academy Press (UK)**, ISSN-1749-3889.
75. *A. Khan and P. Khandelwal*, Non-polynomial sextic spline solution of singularly perturbed boundary-value problems, *Intern. J. Comput. Math.* Vol. 91, No. 5, 1122–1135 (2014), **Taylor & Francis**, UK ISSN-0020-7160, **SCI Impact Factor:1.196**.
76. *A. Khan and T. Sultana*, Parametric quintic spline solution of third order boundary-value Problems, *Intern. J. Comput. Math.* 89, 12 (2012) 1663-1677, **Taylor & Francis**, UK, ISSN-0020-7160, **SCI Impact Factor:1.196**.
77. *A. Khan and Talat Sultana*, Parametric quintic spline solution for sixth order two point boundary-value problems, *Filomat* 26:6 (2012), 1233–1245, University of Niš, **Serbia**, ISSN 0354-5180, **SCI Impact Factor:0.71**
78. *A. Khan and Shilpi Bisht*, Exponential spline approach for the solution of fourth order obstacle boundary-value problems, *Filomat* 26:5 (2012) 993–1004, University of Niš, **Serbia**, ISSN 0354-5180, **SCI Impact Factor:0.71**

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83. **A. Khan** and **P. Khandelwal**, Parametric septic spline solution for boundary-value problems occurring in plate deflection theory, *JMI Intern. J. Math. Sci. Vol.1,2 (2010) pp.54-68*, **India**, ISSN 0976-5913.
84. **T.Aziz**, **A. Khan** and **I. Khan**, Quintic splines method for second order boundary value problems, *Int. J. Comput. Maths. Vol. 85, No.5(2008)pp. 735-743*, **Taylor & Francis**, **UK**, ISSN:0020-7160, **SCI Impact Factor:1.196**
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86. **A. Khan**, Non-Polynomials Spline Methods for solving a Fourth-Order Parabolic Equation, *PAMM- Proc. Appl. Math. Mech.*, Vol.7 Issue1,(2007), 2020133-2020134, **Wiley**, **Germany**, ISSN:1617-7061, **UGC** Listed
87. **A. Khan**, **I. Khan** and **T. Aziz**, Sextic Spline solution of a singularly-perturbed boundary-value problems, *Appl. Math Comput. Vol. 181, No.2-3,(2006) pp.432-439*, **Elsevier Science**, **USA**, ISSN:0096-3003, **SCI Impact Factor:3.092**.
88. **T.Aziz** and **A. Khan**, Numerical method for a system of Fourth-Order Boundary-Value Problems, *Journal of Comput. Methods Sci. & Engg.*, Vol.6 (2006) pp. 19-29, **IOS Press**, **Netherlands**, ISSN:1472-7978, **ESCI & Scopus Index**.

89. T. Aziz, A. **Khan** and J.Rashidinia, Spline methods for the Solution of Fourth-Order Parabolic Partial Differential Equations, *Appl. Math Comput.*, Vol.167, No.1(2005) pp. 153-166, **Elsevier Science**, USA ISSN:0096-3003, **SCI Impact Factor:3.092**.
90. A. **Khan**, I. Khan and T.Aziz, Sextic Spline Solution for Solving a Fourth-Order Parabolic Partial Differential Equation, *Int. J. Comput. Math.*, Vol.82, No.7 (2005) pp.871-879, **Taylor & Francis**, UK, ISSN:0020-7160, **SCI Impact Factor:1.196**
91. A. **Khan**, I. Khan and T. Aziz, A survey on parametric spline function approximation, *Appl. Math Comput.*, Vol. 171, No.2(2005) pp. 983-1003, **Elsevier Science**, USA, ISSN:0096-3003, **SCI Impact Factor:3.092**
92. A. **Khan**, M.A. Noor and T.Aziz, Parametric Quintic Spline Approach to the solution of a system of Fourth-Order Boundary-Value Problems, *Journal of Optimization Theory and Applications*, Vol. 122, No.2 (2004) pp. 309-322, **Plenum Publ.**, USA, ISSN: 022-3239, **SCI Impact Factor:1.6**
93. A. **Khan**, Parametric Cubic Spline Solution of two point Boundary-Value Problems, *Applied Math Comput.*, Vol. 154,(2004) pp.175-182, **Elsevier Science**, USA, ISSN:0096-3003, **SCI Impact Factor:3.092**.
94. A. **Khan**, I. Khan, T.Aziz and M.Stojanovic, A Variable-Mesh Approximation Method for Singularly Perturbed Boundary-Value Problems using Cubic Spline in Tension, *Int. J. Comput. Math.*, Vol.81, No.12 (2004) pp.1513-1518, **Taylor & Francis**, UK, ISSN:0020-7160, **SCI Impact Factor:1.196**
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96. A.**Khan** and T. Aziz, The Numerical Solution of Third Order Boundary-Value Problems Using Quintic Splines, *Applied Math Comput.*, Vol. 137, No.2-3,(2003) pp.253-260, **Elsevier Science**, USA, ISSN:0096-3003, **SCI Impact Factor:3.092**.
97. T. Aziz and A. **Khan**, A Spline Method for second order Singularly-Perturbed Boundary-Value Problems, *J. Comput. Appl. Math.*, Vol. 147, (2002) pp.445-452, **Elsevier Science**, Netherlands, ISSN:0377-0427, **SCI Impact Factor:1.883**.

98. *T. Aziz and A. Khan*, Quintic Spline Approach to the solution of a Singularly-Perturbed Boundary- Value Problem, *Journal of Optimization Theory and Applications*, Vol.112, No.3 (2002) pp.517-527, **Plenum Publ.**, USA, ISSN:0022-3239, **SCI Impact Factor:1.6**
99. *A. Khan and T. Aziz*, Spline method for the solution of Singular Two Point Boundary-Value Problems, *Math. Sci . Research*, Vol.5, No.10 (2001) pp.11-23, USA, ISSN:1087-9919, **UGC Listed.**
100. *A. Khan and T. Aziz*, Variable mesh Spline difference method for Singularly Perturbed Boundary-Value Problems, *J. Ind. Math. Soc.*, Vol. 68, No.1-4 (2001) pp.107-112, India, ISSN: 0025-5742, **Scopus Index.**

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#### **Research Papers: Accepted**

Mo faheem, **A. Khan** and F Rihan, A wavelet collocation method for neutral delay differential equations on metric star graph, Accepted for publ. in *Journal of Applied Analysis and Computation*

#### **Referee/Reviewer:**

- Journal of Computational and Applied Mathematics, Elsevier Science, Netherlands
- International Journal of Computer Mathematics, Taylor & Francis, UK
- Applied Mathematics and Computation, Elsevier Science, USA
- Journal of Applied Mathematics and Computing, Springer
- Numerical Methods for Partial Differential Equations, Wiley Science

#### **Membership of Academic and Professional Bodies:**

- Life member- Ramanujan Mathematical Society, India.
- Life member- Indian Mathematical Society, India

#### **Academic Activities:**

- **Editor**- Recent Trends in Mathematics and its Applications (World Edu. Publ., 2012)
- **Course Coordinator**, 01<sup>st</sup> three week Refresher Course in Computational & Mathematical Studies, UGC-HRDC, JMI during August 29.- Sept.19, 2018.
- **Course Coordinator**, 02<sup>nd</sup> 2-Week Refresher Course in Computational & Mathematical Sciences, UGC-HRDC, JMI during February 07- February 20, 2020.
- National/International Committee Members
- **Member**, Committee for counting of Past services for promotion under UGC-CAS
- **Convener, DRC 2022-23**

- **Member**, BoS, Applied Sc. & Humanities Section, Womens Polytechnic, AMU, 2022-24
- **Member**, Syllabus revision committee 2010 , 2015, 2023
- **Associate Editor**-Differential Geometry, Functional Analysis and Applications (Narosa Publ. 2015)
- **Editor**- Algebra, Geometry, Analysis and their Applications (Narosa Publ., 2017)
- **Managing Editor**- JMI International Journal of Mathematical Sciences, New Delhi, India
- **Inspire Faculty**, Deptt. of Mathematics, F/O Nat. Sc., JMI
- **Course Advisor**, B.Sc. (Hons.) Mathematics for CBCS for session 2015-16
- **Co-Convener**, International Conference on Differential Geometry, Functional Analysis & Applications (ICDGFAA), during Sep.8-10, 2012 held at Deptt. of Mathematics JMI, New Delhi
- **Organizing Secretary**, International Conference on Algebra, Geometry, Analysis & their Applications (ICAGAA), during Nov. 27-29, 2014 held at Deptt. of Mathematics JMI, New Delhi.
- **Organizing Secretary**, International Conference on Differential Geometry, Algebra and Analysis (ICDGAA-16), during Nov. 15-17, 2016 held at Deptt. of Mathematics JMI, New Delhi.
- **Organizing Secretary**, International Conference on Analysis & its Applications (ICAA-24), during January 19-21, 2024 held at Deptt. of Mathematics JMI, New Delhi.
- **Convener**- International Conference on Dynamical Systems and Numerical Methods (ICDSNM-22) during May 20-21, 2022 held online, Deptt. of Mathematics JMI, New Delhi.
- **Advisor** Subject Association for B.Sc./ B.Sc. (Inst.), F/o Nat. Sciences, JMI, New Delhi, 2009-2015.
- **Time table In-charge**, Department of Mathematics, JMI during 2011-2015.
- **Member**, Central Admission Co-ordination & Monitoring Committee (CACMC), JMI, 2011-12.
- **Member**, Academic Council, JMI, 2015-2018
- **Course Advisor**, B.Sc. (Hons) Mathematics and Applied Maths for session 2016-17 & 2017-18.
- **Member**, Hospitality Committee for Annual Convocation for 2015, 2016 & 2017.

#### **Administrative Responsibilities:**

- **Provost**, Dr. Zakir Husain Hall, JMI during January, 2018 to July 2019
- **Dy. Proctor**, JMI during June, 2017 to June 2019 and August 2022-
- **Dy. Provost**, Dr. Z. H. Hall, JMI during July, 2017 to January 2018
- **Sr. Warden**, SRK Hostel, Hall of Boy's Residence from 2015-17
- **Warden**, SRK Hostel, Hall of Boy's Residence from 2010-15
- **Observer**, DMAT-2015, M.P. State at Delhi
- **Centre Supdt.**, Computer Typing Test for UDC 2018, JMI
- **Member**, IQAC Audit Team for the session 2015-16.



- **Member**, Core Committee for Annual Foundation Day, 2017.
- **Member**, Flying Squad 2014-15, 2017-18 , 2018-19 & 2023-24
- **Member**, Technical Eval. Committee, B& C Deptt., JMI, 2018.
- **Member**, Deptt. Purchase Committee.
- **Member**, BoS, Appl. Sc. & Humanities Section, Univ. Polytechnic, AMU, 2019-2021.
- **Member**, Tender Committee, JMI, 2019.
- **Incharge**, BoS & Deptt. Meeting, Department of Mathematics, JMI, 2015-17.
- **Incharge, Extension lectures**, Department of Mathematics, JMI, 2017-18 & 2018-19.
- **Expert**, RDC-Integral University, Lucknow, 2023.
- **Expert**, RAC-SGT University, Gurgaon, 2024.
- **Member**, Nirikshan Mandal, Dr. B.R. Ambedkar Agra University.
- **Guest Editor**, Palestine Journal of Mathematics (Scopus).
- **Assistant Superintendent** – PG Annual/Semester/Comptt. Exam., Sept. 2022, 2023,2024.
- **Nominated Member**, BoS, Deptt of Appl. Sc. & Humanities, JMI 2024-
- **Member**, Foundation Day Committee-2022
- **Coordinator- TEW funded by National Centre for Mathematics (IIT Bombay & TIFR)**
- **Observer- UGC-NET Exam conducted by NTA during Aug 2024**
- **Expert** for JRF to SRF – BITS Pilani
- **Expert** for JRF to SRF – DU, Delhi
- **Member**, Technical Committee-ICMC Conf.
- **Name of Referees:**
- **Prof. Tariq Aziz** (Retd.) Department of Applied Mathematics, Aligarh Muslim University, Aligarh.
- **Prof. R. K. Mohanty**, Department of Mathematics, South Asian University, New Delhi.

**Personal:**

Date of birth : 05.07.1975

**Plenary talk /Invited talk/ Session Chaired**

1. Chaired a session on Seminar Presentation in **Refresher Course in Basic Sciences (Interdisciplinary)** Organized by UGC-ASC, JMI on May 30, 2014.
2. Chaired a session in the **Int. Conference on Algebra, Geometry, Analysis and their applications** during November 27-29, 2014 held at JMI.

3. Delivered a talk on Applications of Numerical Analysis for engineering students at Manav Rachna College of Engineering, Faridabad, Haryana on March 10, 2014.
4. Delivered a series of 10 lectures on Partial Differential Equations at Department of Mathematics, Central University of Kashmir, Sri Nagar (J&K) during June 25-30, 2012.
5. Chaired a session in the **IEEE Conference** during December 17-21, 2015 held at JMI.
6. Delivered a talk on Applications of Mathematics at HRD-UGC, JMI, New Delhi on November 18, 2017.
7. Chaired a session in **National Conference on Complex Systems in Interdisciplinary Sciences**, CIRBSc., JMI, New Delhi on March 11, 2019.
8. Delivered an expert talk on **Splines and Non-polynomial Splines** at KNIT, Sultanpur under TEQIP programme on July 17, 2019.
9. Delivered an invited talk on Applications of Non-polynomial Splines to Boundary-Value Problems in ICMAA at SAU, New Delhi on December 15, 2019.
10. Delivered a talk on Numerical Methods at HRD-UGC, JMI, and New Delhi on September 18, 2020.
11. Chaired a session on Seminar Presentation in **Refresher Course (Interdisciplinary)** Organized by UGC-HRDC, JMI on October 22, 2020.
12. Chaired a session on Seminar Presentation in Organized by ZHDC, DU on October 17, 2020.
13. Chaired a session on Seminar Presentation in Organized by UGC-HRDC, JMI on December, 2020.
14. Chaired a session on Seminar Presentation in **Refresher Course (Interdisciplinary)** Organized by UGC-HRDC, JMI on Nov 01, 2021.
15. Delivered a talk on Numerical Solution of Boundary Value Problems at HRD-UGC, JMI, New Delhi on Nov 02, 2021.
16. Delivered a plenary talk on Solution of Boundary Value Problems Using Splines at ICMAA, BGSB, Rajouri on March 31, 2022.
17. Delivered a talk on Numerical Solution of Initial and Boundary Value Problems at HRD-UGC, JMI, New Delhi on August 16, 2022.
18. Delivered a talk as Guest Speaker on Solution of Boundary Value Problems using Finite Difference Method at K R Mangalam University, Sohna on occasion of National Mathematics Day on December 22, 2022.
19. Delivered a talk on Computational Methods for Solving Initial and Boundary Value Problems at HRD-MANUU, Hyderabad Delhi on October 6, 2023.

20. Delivered a talk on Mathematical reasoning at Urdu Academy, JMI on August 09, 2024.
21. Delivered a talk on Finite Difference Method for Solution of Initial and Boundary Value Problems at HRD-JMI, New Delhi on November 2, 2024.
22. Delivered an invited talk on An efficient collocation algorithm for third order non-linear Emden–Fowler Equation in International Conference on Advances in Geometry, Algebra, Analysis and Artificial Intelligence (ICAGAAAI-2024), organized by Integral University, Lucknow on Nov 08, 2024.
23. Chaired a session of Invited talk and parallel presentation in International Conference on Advances in Geometry, Algebra, Analysis and Artificial Intelligence (ICAGAAAI-2024), organized by Integral University, Lucknow on Nov 08, 2024.
24. Delivered a Plenary talk on **An efficient sixth-order numerical scheme with error analysis for nonlinear third order Emden–Fowler type equations** in International Conference on Mathematical Modeling, Analysis and Computation (ICMMAC-2024), organized by South Asian University, New Delhi on Dec. 01, 2024.
25. Delivered an invited talk on **A Numerical method for solving third order Emden–Fowler equation** in International Conference on Soft Computing & Mathematical Modeling (ICSCMM-24) and National Mathematics Day 24 organized by KIET Group of Institutions, Ghaziabad on Dec. 22, 2024.

#### **Papers presented at Conferences**

1. *Presented a paper in 67th Annual conference of Indian Mathematical Society*, January 27-30, 2002 held at A.M.U. Aligarh.
2. *Presented a paper in National Conference on Mathematical & Computer Applications in Science & Engineering*, January 27-28, 2003 held at T.I.E.T, Patiala.
3. *Presented a paper in Conference on Recent Trends in Algebra and Analysis*, March 3-5, 2003 held at A.M.U. Aligarh.
4. *Presented a paper in The Joint India-AMS (American Mathematical Society) Mathematics Meeting*, December 17-20, 2003 held at Indian Institute of Science, Bangalore.
5. Presented a talk in **6<sup>th</sup> International Congress on Industrial and Applied Mathematics (ICIAM-07)** during July 16-20, 2007, held at Zurich.
6. Presented a talk in **International Congress of Mathematicians (ICM-2010)** during August 19-27, 2010, held at HICC, Hyderabad. (Financial support by NBHM).

7. Presented a talk in NUMAN2010 Conference in Numerical Analysis during Sept. 15-18, 2010, held at Chania, Crete, Greece.
8. Presented a paper in the National Conference on Frontiers in Analysis and Differential Equations, December 19-20, 2012 held at Bharathidasan University, Tiruchirappalli.
9. Presented a paper in the 25<sup>th</sup> Biennial Conference in Numerical Analysis, June 25-28, 2013 held at Strathclyde Univ. Glasgow, Scotland, UK.
10. Presented a paper in International Congress of Mathematicians (ICM-2014) during August 13-21, 2014 held at Seoul, South Korea.
11. Presented a paper in the Int. Conference on Algebra, Geometry, Analysis and their applications during November 27-29, 2014 held at JMI.
12. Presented a paper in the Int. Conference on Mathematical and Computational Sciences, during January 22-24, 2015 held at Don Bosco, Kannur, Kerala.
13. Presented a paper in the International Congress of Industrial and Applied Mathematics (ICIAM-2015) during August 10-14, 2015 held at Beijing, China. (Funded by NBHM).
14. Presented a paper in the Int. Conference on Mathematics, Physics & Allied Sciences, during March 03-05, 2016 held at Carmel College, Margoa, Goa.
15. Presented a paper in the Int. Conference on Contemporary Issues in Science, Engg. & Mathematics during Feb. 18-19, 2017 held at GIFT, Bhuvneshwar.

#### **ATM School/Workshop/Refresher Course attended**

1. Attended **Advanced Training School in Mathematics for Lecturers on Complex Analysis** during May 14-26, 2007 at Bhaskaracharya Pratishthana, Pune.
2. Attended **National Instructional Workshop on Complex Analysis** during June 1-5, 2007 at NIT Karnataka, Surathkal, Mangalore.
3. Attended **National Workshop on Topological Dynamics, Differential Equations and Applications** during March 11-15, 2008 at University of Hyderabad.
4. Attended **An Advanced Training in Mathematics (ATM) in Functional Analysis for Lecturers** during June 02-13, 2008 at ISI, Bangalore. (Funded by NBHM)
5. Attended **94<sup>th</sup> four week Orientation Programme** organized by UGC-Academic Staff College, JMI, New Delhi during October 18-November 16, 2010.
6. Attended **First three week Refresher Course in Basic Sciences (Interdisciplinary)** Organized by UGC-Academic Staff College, JMI, New Delhi during May 6-27, 2011.
7. Attended **5<sup>th</sup> one week Professional Development Programme for Senior faculty**,

organized by UGC-Academic Staff College, JMI during December 8-13, 2014.

8. **Presented the progress report on DST project entitled “Numerical solution for solving singularly-perturbed boundary-value problems with applications to Science and Engineering”** at DST workshop organized by IISER, Bhopal during April 10-11, 2014.
9. Attended **one week Short Term Programme** organized by UGC-HRDC, CPDHE, DU during March 1-7, 2017.
10. Attended Int. Workshop on Numerical Methods in Scientific Computing (IWNMSC-2020) at SAU, New Delhi during February 21-22, 2020

### **Conference attended**

1. Attended **22<sup>nd</sup> Annual Conference of Ramanujan Mathematical Society** during June 6-8, 2007 held at NIT Karnataka, Surathkal, Mangalore.
2. Attended **23<sup>rd</sup> Annual Meeting of Ramanujan Mathematical Society** during May 19-21, 2008 held at IIT Kanpur.
3. Attended **International Conference on Analysis and its Applications (ICAA-08)** Nov.03-05,2008 held at AMU Aligarh.
4. Attended **Interdisciplinary Science Conference on Mathematics in Biology**, December 04, 2008, CIRBSc., JMI, New Delhi.
5. Attended **32<sup>nd</sup> Indian Social Science Congress**, Dec.18-22, 2008 held at JMI, New Delhi.
6. Attended **International Conference on Recent Trends in Mathematics and its Applications (ICRTMA-09)**, March 30-31, 2009 held at JMI, New Delhi.
7. Attended **25<sup>th</sup> Annual Conference of the Ramanujan Mathematical Society** during May 03-05, 2010 held at NIT Jalandhar.
8. Attended the **Conference on Multi-Scale Analysis and Homogenization** during July 12-14, 2010 held at I.I.Sc. Bangalore.
9. Attended **International Conference on Analysis and its Applications (ICAA-2011)** Nov.19-21, 2011 held at AMU Aligarh.
10. Attended **27<sup>th</sup> Annual Conference of Ramanujan Mathematical Society** during October 20-23, 2012 hosted by Shiv Nadar University, held at Delhi.
11. Attended workshop on **Mathematics and its Applications** under the agies of **Science Academies lecture workshop** on October 18, 2012 held at JMI, New Delhi.
12. Attended **International Conference on Mathematics and Information Technology (ICMIT)** during March 15-16, 2013 held at Chennai.
13. Attended **International Conference on Mathematics and Engineering Sciences**

**(ICMES)** during March 20-22, 2014 held at Chitkara Univ., Chitkara ,Chandigarh.

14. Attended Int. Conference on Mathematical Analysis & Its Applications (ICMAA-2019) at SAU, New Delhi, during December 14-16, 2019

**(Prof. Arshad Khan)**