

CURRICULUM VITAE

Name : DR. MOHAMMAD KALIMUDDIN AHMAD
Date and Place of Birth : October 11, 1963, Koilwar (Bhojpur)
Nationality : Indian
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- **ACADEMIC QUALIFICATIONS (INDIA & ABROAD)**

1. **Ph.D.*** (Mathematics) from Aligarh Muslim University (A.M.U.), Aligarh, **India** in 1999.
(*Awarded DAAD fellowship to supplement Ph.D. work at the university of Kaiserslautern, **Germany**, during 1996-98.)
2. **M.Sc.Nat.** (Industrial Mathematics) from Technical University Kaiserslautern, **Germany** in 1993.
3. **M.Phil.** (Mathematics) from Aligarh Muslim University (A.M.U.), Aligarh, **India** in 1988.
4. **M.Sc.** (Mathematics) from Aligarh Muslim University (A.M.U.), Aligarh, **India** in 1985.

- **Topic of Ph.D. Thesis:** Wavelet Packet and its Applications.
- **Topic of M.Sc.Nat. (Industrial Mathematics) Dissertation:**
A Wavelet Packet Algorithm for Signal Analysis.
- **Topic of M.Phil. Dissertation:** Some Generalizations in Abelian Groups.
- **Area of Specializations:**
Applied Mathematics, especially Image Processing, Theory of Wavelets, Mathematical Modelling, and Variational Inequalities.
- **Awards / Scholarships and distinctions:**

1. **Nominated by the Fraunhofer Gesellschaft of Germany** to take part in the Networking Conference of research alumni under the aegis of **Humboldt foundation** held in Oberoi Hotel Gurgaon, India during March 29-31, 2012. It was a congregation of 60 outstanding Indian alumni of German institutions (nominated from different subject fields - Science, Engineering, medicine, commerce and humanities from all over the country) who deliberated on "Shifting trend in the global research landscape and their impact on researcher's career patterns".

2. **Certificate of Outstanding Merit:** The Aligarh Muslim University, Aligarh awarded Certificate of Honour for bringing laurels to the University (for the award of DAAD Scholarship) and felicitated in a public meeting held on the occasion of the Republic Day Celebrations, January 26, 2010.
 3. Awarded **DAAD** Fellowship under the revisit program of DAAD to work on a project “Sharp operator based diffusion filter” at ITWM, Kaiserslautern (**Germany**), during May 16, 2009 - July 15, 2009.
 4. Awarded **DAAD** Fellowship under the revisit program of DAAD to work on a project “Analysis and interpretation of ECG signals” at ITWM, Kaiserslautern (**Germany**), during May 16, 2005 - July 15, 2005.
 5. Awarded **DAAD** Fellowship of **Germany** to supplement Ph.D. work (under sandwich program), during Sept. 1996 - Aug. 1998.
 6. Awarded **DAAD** Fellowship of **Germany** to complete M.Sc.Nat. in Industrial Mathematics, during Aug. 1991- Sept. 1993.
 7. Awarded **U.G.C. (JRF/SRF - NET)** Research Fellowship, during M.Phil / Ph.D. (1987-91).
- **Teaching and Research Experience:**
(Teaching Experience: More than 28 years; Research Experience: More than 31 years)
 1. From June 11, 2016 till date: **Professor, Applied Mathematics**, Department of Mathematics, Aligarh Muslim University, Aligarh.
Note: Appointed Professor through GSC with five advance increments
 2. From July 22, 2009 - June 10, 2016: **Associate Professor**, Department of Mathematics, Aligarh Muslim University, Aligarh.
 3. From July 22, 2006 - July 21, 2009: **Reader**, Department of Mathematics, Aligarh Muslim University, Aligarh.
 4. Oct. 8, 1998 - July 21, 2006: **Lecturer**, Department of Mathematics, Aligarh Muslim University, Aligarh.
 5. Sept. 1, 1996 - Aug. 31, 1998: **DAAD Fellow** (to supplement Ph.D. work) in the Department of Techno-mathematics, University of Kaiserslautern, **Germany**.
 6. Oct. 16, 1993 - Aug. 31, 1996: **Documentation Officer**, Department of Mathematics, Aligarh Muslim University, Aligarh.
 - **Visiting Faculty:**
 1. Worked as Professor of Mathematics at the Department of Mathematics, Islamic University of Madinah, Saudi Arabia during Oct. 20, 2019 to Aug. 21, 2022 (On Extra Ordinary Leave (EOL) from the parent university AMU Aligarh).
 2. Visited **University of Bremen, Germany** during July 2 - 13, 2012 and interacted with the research group of Prof Dr Peter Maass in the Dept. of Techno Mathematics. The visit was duly sponsored by the **Alexander von Humboldt foundation of Germany** for academic interactions.

3. Visited **University of Kaiserslautern, Germany** during June 1-30, 2011 and gave a Compact Course on Wavelets in the Dept. of Mathematics. It was on the invitation of Prof Dr Axel Klar and the visit was duly sponsored by them.
4. Visited **Baba Ghulam Shah Badshah University (BGSBU), Rajouri, J&K**, during April 23 to May 05, 2007 on the request of their Vice-Chancellor and delivered lectures to students of M.Sc. (Sponsored by **BGSBU**).

• **Membership of various organizations:**

1. Founder Member : Indian Society of Industrial and Applied Mathematics (ISIAM).
2. Life Member : Society for Special Functions & Applications (SSFA).
3. Life Member : Indian Mathematical Society (IMS)

• **List of Publications: (Total - 90)**

(A) List of Publications in SCI Journals - (20)

1. S M Hussain, F Shahzad, W Jamshed, **M K Ahmad**, Z Rehman, I Ullah, Thermal scrutinization of magnetohydrodynamics CuO engine oil nanofluid flow across a horizontal surface via Koo–Kleinstreuer–Li modeling: A thermal case study, *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, 237 (5) 2023, 1935-1948.
(DOI: <https://doi.org/10.1177/09544089221131147>, **Impact Factor: 1.822**)
2. S M Hussain, B S Goud, P Madheshwaran, W Jamshed, A A Pasha, R Safdar, M Arshad, R W Ibrahim, and **M K Ahmad**, Effectiveness of Nonuniform Heat Generation (Sink) and Thermal Characterization of a Carreau Fluid Flowing across a Nonlinear Elongating Cylinder: A Numerical Study, *ACS Omega* 7 (2022), 25309-25320.
(DOI: <https://doi.org/10.1021/acsomega.2c02207>, **Impact Factor: 4.132**)
3. Rajat Vaish and **M K Ahmad**, Hybrid viscosity implicit scheme for variationa inequalities over the fixed point set of an asymptotically nonexpansive mapping in the intermediate sense in Banach spaces, *Applied Numerical Mathematics*, 160 (2021) 296 – 312.
(<https://doi.org/10.1016/j.apnum.2020.10.017>, **Online Oct. 2020, Impact Factor: 2.55**)
4. Rajat Vaish and **M K Ahmad**, Generalized viscosity implicit scheme with Meir-Keeler contraction for asymptotically nonexpansive mapping in Banach spaces, *Numerical Algorithms*, 84(2020), 1217–1237.
(DOI: [10.1007/s11075-019-00798-4](https://doi.org/10.1007/s11075-019-00798-4), **Impact Factor: 2.417**)
5. K S Nisar, Mohd. Sarfaraz, A Morsy and **M K Ahmad**, Sensitivity analysis for a new class of generalized parametric nonlinear ordered variational inequality problems in ordered Banach spaces, *Journal of Inequalities and Applications*, Article number: 249 (2019).
(DOI: <https://doi.org/10.1186/s13660-019-2200-x>, **Impact Factor: 1.02**)

6. Rajat Vaish and **M K Ahmad**, Common solutions to a finite family of inclusion problems and an infinite family of fixed point problems by a generalized viscosity implicit scheme including applications, *Calcolo*, 56, 29 (2019).
(<https://doi.org/10.1007/s10092-019-0324-5>, **Impact Factor**: 1.94)
7. Rajat Vaish, Mohd. Sarfaraz, **M K Ahmad** and K R Kazmi, Approximate solution of zero point problem involving H -accretive maps in Banach spaces and applications, *Journal of Inequalities and Applications*, Article number: 209 (2019).
(DOI: <https://doi.org/10.1186/s13660-019-2163-y>, **Impact Factor**: 1.02)
8. Mohd. Sarfaraz, K S Nisar, A Morsy and **M K Ahmad**, New generalized systems of nonlinear ordered variational inclusions involving $\oplus$ operator in real ordered Hilbert spaces, *Journal of Inequalities and Applications*, 2018, 1-16.
(DOI [10.1186/s13660-018-1846-0](https://doi.org/10.1186/s13660-018-1846-0), **Impact Factor**: 1.02)
9. A H Dar, and **M K Ahmad**, Gap Functions and Error Bounds for Random Extended Generalized Variational Inequality Problem, *Bulletin of Mathematical Analysis and Applications* 10(3)(2018), 10-24 (ESCI).
URL: <http://www.bmathaa.org>
10. Mohd. Sarfaraz, **M K Ahmad** and A. Kilicman, Approximation solution for system of generalized ordered variational inclusions with $\oplus$ operator in ordered Banach space, *Journal of Inequalities and Applications*, 2017, 1-13.
(DOI [10.1186/s13660-017-1351-x](https://doi.org/10.1186/s13660-017-1351-x), **Impact Factor**: 1.02)
11. Santosh Kumar, Mohd Sarfaraz and **M K Ahmad**, Denoising Method Based on Wavelet Coefficients via Diffusion Equation, *Iranian Journal of Science and Technology. Transaction A: Science*, 2017, 1-6.
(DOI [10.1007/s40995-017-0228-7](https://doi.org/10.1007/s40995-017-0228-7), **Impact Factor**: 0.85)
12. S S Chang, Salahuddin, **M K Ahmad** and X. R. Wang, Generalized vector variational like inequalities in fuzzy environment, *Fuzzy Sets and Systems*, 265 (2015), Pages 110-120.
(ISSN: 0165-0114, **Impact Factor**: 3.34)
13. Salahuddin, **M K Ahmad** and R. P. Agarwal, Set valued F-variational inequalities and set-valued vector F-complementarity problems, *Mathematical Inequalities and Applications*, vol. 16, no. 2 (2013), 587-599.
(ISSN: 1331-4343 (print), 1848-9966 (online), **Impact Factor** (2012): 1.51)
14. R P Agarwal, Salahuddin and **M K Ahmad**, Hybrid type generalized multivalued vector complementarity problems, *Ukrain J. of Mathematics*, 65(2013), no. 1, 7-20.
(ISSN: 1027-3190, **Impact Factor**: 0.51)
15. **M K Ahmad** and Javid Iqbal, Vector Valued Weyl-Heisenberg Wavelet Frame, *International Journal of Wavelets, Multiresolution and Information Processing (IJWMIP)*, 7(5)2009, 605-615.
(ISSN: 0219-6913, **Impact Factor**: 0.46)
16. Salahuddin and **M K Ahmad**, Generalized Strongly Nonlinear Implicit Quasi-variational Inequalities, *J. of Ineq. & Appl. (JIA)*, Article ID 124953, vol. 2009, 2009, 16 pages.
(ISSN: 1025-5834, **Impact Factor**: 1.02)

17. **M K Ahmad** and Salahuddin, A Fuzzy Extension of Generalized Implicit Vector Variational-like Inequalities, *Positivity*, 11(3)2007, 477-484. (ISSN: 1385-1292, **Impact Factor**: 1.005)
18. **M K Ahmad** and Salahuddin, Existence of Solutions for Generalized Implicit Vector Variational-like Inequalities, *Nonlinear Analysis*, 67(2007), 430-441. (ISSN: 0362-546X, **Impact Factor**: 1.58)
19. Salahuddin, **M K Ahmad** and A H Siddiqi, Parametric Problem of Completely Generalized Quasi-variational Inequalities, *Journal of Inequalities and Applications (JIA)*, Article ID 86869, vol. 2006, 2006, 12 pages. (ISSN: 1025-5834, **Impact Factor**: 1.02)
20. Salahuddin, **M K Ahmad**, and A H Siddiqi, Existence Results for Generalized Nonlinear Variational Inclusions, *Appl. Math. Letters (AML)*, 18(8)2005, 859-864. (ISSN: 0893-9659, **Impact Factor**: 3.69)

(B) List of Publications in Scopus and other reputed Journals -(70)

1. M. Sarfaraz, K S Nisar, and **M K Ahmad**, Solving nonlinear implicit variational inclusion problems using S-iteration via relaxed resolvent operator, *Journal of Interdisciplinary Mathematics (Scopus & WoS)*, 26 (1) 2023, 17-35.
2. J K Kim, A H Dar, Salahuddin and **M K Ahmad**, An Algorithm for Solving Resolvent Inclusion Problem, *Nonlinear Functional Analysis and Applications* 27 (2022), No. 4, pp. 701-707.
(<https://doi.org/10.22771/nfaa.2022.27.04.01>)
3. A H Dar, **M K Ahmad** and Salahuddin, A New Algorithm for Variational Inclusion Problem, *Korean J. Math.* 29 (2021), No. 4, pp. 679-685.
(<http://dx.doi.org/10.11568/kjm.2021.29.4.679>)
4. A H Dar, **M K Ahmad**, J Iqbal and W A Mir, Algorithm of common solutions to the Cayley inclusion and fixed point problems, *Kyungpook Mathematical Journal*, 61(2021), 257-267.
<https://doi.org/10.5666/KMJ.2021.61.2.257> (Scopus indexed).
5. A H Dar, **M K Ahmad** and Salahuddin, Error Bounds for Extended Generalized Mixed Variational Inequality Problems Using Gap Functions, *Indian Journal of Industrial and Applied Mathematics* 11(2)(2020), pp. 1-17.
6. **M K Ahmad**, M. Sarfaraz and Santosh Kumar, Some recent developments in image restoration, *Indian Journal of Industrial and Applied Mathematics*, 9(1)(2018), 37-53. (DOI: 10.5958/1945-919X.2018.00004.X)
7. A H Dar, Mohd. Sarfaraz and **M K Ahmad**, An Iterative Algorithm for extended generalized Variational Inclusions for Random Fuzzy Mappings, *Korean J. Math.*, 26 (2018), No. 1, pp. 129 -141.
(<https://doi.org/10.11568/kjm.2018.26.1.129>)
8. A H Dar, Mohd. Sarfaraz and **M K Ahmad**, Gap Functions and Error Bounds for Generalized Set-Valued Mixed Variational Inequality, *Indian Journal of Industrial and Applied Mathematics*, 7(2)(2016), 117-126. (DOI: 10.5958/1945-919X.2016.00011.6)

9. Santosh Kumar, Mohd. Sarfaraz and **M K Ahmad**, An efficient PDE-based non-linear anisotropic diffusion model for image denoising, *Neural, Parallel and Scientific Computations*, 24(2016), 305-315.
10. Santosh Kumar and **M K Ahmad**, An efficient PDE-based model for image restoration, *Indian J. of Industrial and Applied Maths.*, Vol. 7(1)(2016), 26-42.
(ISSN: 0973-4317)
11. Santosh Kumar and **M K Ahmad**, A Time Dependent Model for Image Denoising, *Journal of Signal and Information Processing*, 6(1)(2015), 28-38.
(ISSN Print: 2159-4465, ISSN Online: 2159-4481, **Google-based Impact Factor: 1**)
12. **M K Ahmad**, Stephan Didas, Alemdar Hasanov and Javid Iqbal, Sharp Operator Based Edge Detection, *Journal of Signal and Information Processing*, 6(2)(2015), 180-189.
(ISSN Print: 2159-4465, ISSN Online: 2159-4481, **Google-based Impact Factor: 1**)
13. Sana Khan and **M K Ahmad**, A note on the construction of Gabor frame generators, *Algebra and Analysis: Theory and Applications*, Eds. N M Khan and M. Imdad, Narosa Publishing, New Delhi, 2015, 231-247.
(ISBN: 978-81-8487-516-4)
14. Mohd. Sarfaraz and **M K Ahmad**, A Short Note on Weak Estimation of Sharp Function, *British Journal of Mathematics & Computer Science*, 7(4)(2015), 299-307.
(ISSN Print: ISSN: 2231-0851)
15. Sana Khan and **M K Ahmad**, A Study on B-Spline Wavelets and Wavelet Packets, *Applied Mathematics*, 5(19)(2014), 3001-3010.
(ISSN Print: 2152-7385, ISSN Online: 2152-7393, **Impact Factor (2014): 0.19**, **Google-based Impact Factor: 0.76**)
16. Sana Khan and **M K Ahmad**, Some Results on Wavelet Frame Packets, *Advances in Pure Mathematics*, 4(11)(2014), 601-609.
(ISSN Print: 2160-0368, ISSN Online: 2160-0384, **Google-based Impact Factor: 0.40**)
17. Salahuddin, **M K Ahmad** and R.U. Verma, Hybrid Type Multivalued Vector Equilibrium Problems, *Advances in Nonlinear Variational Inequalities*, 17(2014), no.1, 47-60.
(ISSN: 1092-910X)
18. Sana Khan and **M K Ahmad**, On the construction of dual Gabor frame generators, appeared in "*Advances in PDE Modeling and Computation*", ed. S. Sundar, Ane Books Pvt. Ltd., New Delhi, pages 217-226, 2014.
(ISBN: 978-93-8365-604-2)
19. Sana Khan and **M K Ahmad**, Recent developments in frame theory, *Indian J. of Industrial and Applied Maths.*, Special Issue, vol. 4(1)2013.
(ISSN: 0973-4317)
20. Salahuddin and **M K Ahmad**, Set valued nonlinear Random Implicit Quasi-variational Inclusions, *Applied Mathematics*, 4(2013), 421-428.
(ISSN: 2152-7385, **Impact Factor: 0.19**, **Google-based Impact Factor: 0.76**)

21. Salahuddin, **M K Ahmad** and R U Verma, Generalized Vector Quasi-variational Inequalities,, *Transactions on Mathematical Programming and Applications*, 1(2013), no. 1, 91-103.
22. G A Anastassiou, Salahuddin and **M K Ahmad**, Sensitivity analysis for generalized set-valued variational inclusions, *J. Concrete and Applicable Mathematics*, vol. 11, no. 3-4 (2013), 292-302.
(ISSN: 1548-5390)
23. **M K Ahmad** and Salahuddin, Fuzzy generalized variational like inequality problems in topological vector spaces, *Journal of Fuzzy Set Valued Analysis*, vol. 2013, year 2013, doi: 10.5899/2013/jfsva-00134 (5 pages).
(ISSN: 2193-4169)
24. Salahuddin, **M K Ahmad** and R U Verma, Existence solutions to mixed vector variational-type inequalities. *Advances in Nonlinear Variational Inequalities*, 16(2013), no.1, 115-123.
(ISSN: 1092-910X)
25. Salahuddin, **M K Ahmad** and R U Verma, Existence theorem for fuzzy mixed vector F-variational inequalities, *Advances in Nonlinear Variational Inequalities*, 16(2013), no.1, 53-59.
(ISSN: 1092-910X)
26. Salahuddin, **M K Ahmad** and R P Agarwal, Existence of solutions to weakly generalized vector F-implicit variational inequalities, *Discontinuity, Nonlinearity and Complexity*, 1(3)2012, 225-235.
(ISSN: 2164-6376, eISSN: 2164-6414)
27. Salahuddin and **M K Ahmad**, Stable perturbed algorithms for a new class of generalized nonlinear Implicit Quasi-variational Inclusion in Banach Spaces, *Advances in Pure Mathematics*, vol. 2, 2012, 139-148.
(ISSN Online: 2160-0384)
28. Salahuddin and **M K Ahmad**, New kind of weakly setvalued generalized vector F-implicit variational inequalities, *J. Math. Comput. Sci.*, 2(2012), no. 2, 125-137.
(ISSN: 1927-5307)
29. **M K Ahmad** and Salahuddin, Generalized quasi variational-type inequalities, *Applied Mathematics*, vol. 3, 2012, 56-63.
(ISSN: 2152-7385, Impact Factor: 0.19, Google-based Impact Factor: 0.76)
30. G A Anastassiou, Salahuddin and **M K Ahmad**, Fuzzified Random Generalized Nonlinear Variational Inequalities, *J. of Concrete and Applicable Mathematics (JCAAM)*, 10(3-4)2012, 186-206.
(ISSN: 1548-5390)
31. Salahuddin, **M K Ahmad**, A P Farazadeh, and R U Verma, Generalized Multivalued Variational-like Inequalities in Banach Spaces, *PanAmerican Mathematical journal*, 21(4)2011, 31-40.
32. Salahuddin, **M K Ahmad**, and R U Verma, Existence theorem for quasi-variational type inequalities, *PanAmerican Mathematical journal*, 21(4)2011, 19-30.

33. **M K Ahmad** and Salahuddin, On generalized multivalued random variational-like inclusions, *Applied Mathematics*, vol. 2, 2011, 1011-1018.
(ISSN: 2152-7385, **Impact Factor:** 0.19, **Google-based Impact Factor:** 0.76)
34. Salahuddin and **M K Ahmad**, Random Fixed Point Theorem on Product Topological Spaces, *PanAmerican Mathematical journal*, 20(3)2010, 69-84.
35. Y J Cho, Salahuddin and **M K Ahmad**, On Generalized Vector Quasivariational Type Inequalities, *East Asian Mathematical Journal*, 26(1)2010, 49-58.
(ISSN: 1226-6973)
36. **M K Ahmad**, S Didas and Javid Iqbal, Using the Sharp Operator for edge detection and nonlinear diffusion, *Fraunhofer Institute for Technical and Business Mathematics*, Report No. 176, 2009, 17 pages.
(ISSN: 1434-9973)
37. B S Lee, Salahuddin and **M K Ahmad**, Mixed Vector Equilibrium-like Problems in Banach Space, *East Asian Mathematical Journal*, 25(4)2009, 487-498.
(ISSN: 1226-6973)
38. **M K Ahmad**, H Knaf and P Lang, A Wavelet Based Technique To Measure Heart Rate Variability, *Sampling Theory in Signal and Image Processing (STSIP)*, 8(2)2009, 147-159.
(ISSN: 1530-6429)
39. Salahuddin and **M K Ahmad**, On Generalized Variational Type Inequalities, *PanAmerican Mathematical journal*, 19(2)2009, 87-97.
40. **M K Ahmad** and Javid Iqbal, Some Generalizations of Wavelet Frames, *International J. of Mathematical Sciences*, 7(3-4)2008, 237-247.
(ISSN: 0972-754X)
41. X P Ding, Salahuddin and **M K Ahmad**, Fuzzy Generalized Vector Variational Inequalities and Complementarity Problems, *Nonlinear Functional analysis & Applications (NFAA)*, 13(2)2008, 253-263.
(ISSN: 1229-1595)
42. X P Ding, Salahuddin and **M K Ahmad**, Generalized Mixed Variational Inclusions with Fuzzy Mappings, *Nonlinear Functional analysis & Applications (NFAA)*, 13(2)2008, 241-252.
(ISSN: 1229-1595)
43. Salahuddin and **M K Ahmad**, Random Variational Like Inequalities, *Advances in Nonlinear Variational Inequalities (ANVI)*, 11(2)2008, 15-24.
(ISSN: 1092-910X)
44. **M K Ahmad** and Salahuddin, Generalized multivalued quasi-equilibrium Problems, *Advances in Nonlinear Variational Inequalities (ANVI)*, 11(2)2008, 25-34.
(ISSN: 1092-910X)
45. **M K Ahmad** and Javid Iqbal, On Wavelet Packet Frames, *J. of Concrete and Applicable Mathematics (JCAAM)*, 06(3)2008, 279-286.
(ISSN: 1548-5390)
46. **M K Ahmad**, A H Siddiqi and Salahuddin, Applications of Randomly Pseudomonotone Operators with Randomly Upper semicontinuity in Generalized Random

- Quasivariational Inequalities, *Journal of Functional Analysis & Applications (JAFA)*, 03(1)2008, 33-50.
(ISSN: 1559-1948)
47. Y J Cho, Salahuddin and **M K Ahmad**, A Fuzzy Extension of Generalized Vector Version of Minty's Lemma and Applications, *J. of Fuzzy Maths*, 15(2)2007, 449-458.
(ISSN: 1066-8950)
 48. Abu Seenaa, **M K Ahmad** and M A Siddiqi, Wavelet solution in one dimensional Heat Conduction, *Proceedings of National Conference on Advances in Heat Transfer and Fluid Dynamics*, Sept. 2006, 238-243. Engineering College, A M U Aligarh.
 49. **M K Ahmad** and Salahuddin, Perturbed Three Step Approximation Process with Errors for a Generalized Implicit Nonlinear Quasi-variational Inclusions, *International Journal of Mathematics and Mathematical Sciences (IJMMS)*, Article ID 43818, vol. 2006, 2006, 15 pages.
(ISSN: 0161-1712)
 50. K M Furati, P Manchanda, **M K Ahmad** and A H Siddiqi, Trends in Wavelet Applications, *In: Mathematical Models and Methods for Real World System*, K M Furati, Z. Nashed, A H Siddiqi (eds.), Chapman & Hall / CRC, Taylor & Francis Group, Boca Raton, U S A, 2006, 125-177.
(ISBN- 10: 0-8493-3743-7)
 51. Salahuddin and **M K Ahmad**, A Fuzzy Extension of Vector Variational-Type Inequalities for Set-valued Mappings, *Advances in Nonlinear Variational Inequalities*, 9(1)2006, 63-73.
(ISSN: 1092-910X)
 52. Salahuddin and **M K Ahmad**, On Generalized Multivalued Co-variational Inequalities with Fuzzy Mappings in Banach Spaces, *J. of Fuzzy Maths*, 14(1)2006, 135-149.
(ISSN: 1066-8950)
 53. **M K Ahmad** and Salahuddin, On Parametric Generalized Nonlinear Implicit Quasi-variational Inclusions, *International J. of Mathematical Sciences (IJMS)*, 4(2)2005, 247-259.
(ISSN: 0972-754X)
 54. **M K Ahmad** and A H Siddiqi, New Distortion Measures in Image Processing, *Sampling Theory in Signal and Image Processing (STSIP)*, 4(2)2005, 151-167.
(ISSN: 1530-6429)
 55. **M K Ahmad**, Generalized Multivalued Nonlinear Quasi-Variational Inclusions, *Advances in Nonlinear Variational Inequalities*, 6(2)2003, 101-108.
(ISSN: 1092-910X)
 56. Salahuddin and **M K Ahmad**, Generalized Nonlinear Quasi-Variational Inequalities, *International Journal of Mathematical Sciences*, 1(1 & 2)2002, 89-98.
(ISSN: 0972-754X)
 57. **M K Ahmad**, Diamond Wavelets and Time-Frequency Representations, *Proceedings of the Third Annual Conference of the Society for Special Functions & Applications (SSFA)*, BHU Varanasi, India, 2002, 149-161.

58. **M K Ahmad** and A H Siddiqi, Image Classification and Comparative Study of Compression Techniques, *Sampling Theory in Signal and Image Processing (STSIP)*, 1(2)2002, 155-180.
(ISSN: 1530-6429)
59. **M K Ahmad** and Salahuddin, Resolvent Equations Technique for Generalized Non-linear Variational Inclusions, *Advances in Nonlinear Variational Inequalities*, 5(1)2002, 91-98.
(ISSN: 1092-910X)
60. **M K Ahmad** and A H Siddiqi, Some Error Estimates for Wavelet Packet Expansion, In *Current Trends in Industrial and Applied Mathematics*, P. Manchanda, K. Ahmad and A H Siddiqi (eds.), Anamaya Publishers, New Delhi, 2002, 217-221.
(ISBN: 81-88342-00-9)
61. **M K Ahmad**, Wavelet Packets for solution of Differential Equations, *Proceedings of the second International Conference of the Society for Special Functions & Applications (SSFA)*, Lucknow, India, Feb. 2-4, 2001, vol. II, 167-172.
62. A H Siddiqi and **M K Ahmad**, Sharp Operator and Image Classification, In Recent Trends in Industrial and Applied Mathematics, M. Kumar (ed.), *Proceedings of Fifth National Conference of ISIAM*, MACT-Bhopal, India, 1998, 54-65.
63. A H Siddiqi, **M K Ahmad** and A Mukhaimer, Current Developments in Fractal Image Compression, In Functional Analysis with Current Applications in Science, Technology and Industry, M. Brokate and A H Siddiqi (eds.), *Pitman Research Notes*, Math. Ser. 377, Addison Wesley Longman Limited, England, 1998, 304-331.
(ISSN: 0269-3674, ISBN: 0 582 31260 4)
64. A H Siddiqi, **M K Ahmad**, Distortion Measure through Sobolev and Total Variation norm metrics, *Report no. IC/IR/97/33*, ICTP, Trieste, Italy, October 1997, 1-13.
65. A H Siddiqi, **M K Ahmad**, Wavelet Packets and Image Compression, *Proceedings of Second Annual Conference of ISIAM*, Anna University, Chennai, 1994, A5-1 to A5-6.
66. L Y Yao, H Neunzert, W Schreiner and **M K Ahmad**, A Model for Optical Fibre Tapers, *Proceedings of the 7th European Conference on Mathematics in Industry*, March 2-6, 1993, Antonio Fasano et al (eds.), B.G. Teubner, Stuttgart, Germany, ECMI vol. 9, 1994, 379-385.
67. M Z Khan, R Bano, **M K Ahmad** and Rafiquddin, Some generalizations in Abelian Groups-II, *Tamk. J. of Maths.*, 20(2)1989, 117-123.
(ISSN: 0049-2930)
68. M Z Khan, **M K Ahmad** and Rafiquddin, Basic Submodules, *Soochow J. of Maths.*, 15(2)1989, 189-192.
(ISSN: 0250-3255)
69. M Z Khan, Rafiquddin, **M K Ahmad** and R Bano, On h -neat Submodules of $QTAG$ -modules, *Kobe J. of Maths.*, 5(2)1988, 173-178.
(ISSN: 0289-9051)
70. M Z Khan, **M K Ahmad**, Rafiquddin and R Bano, A note on Purity in $QTAG$ -module, *Soochow J. of Maths.*, 13(2)1987, 159-163.
(ISSN: 0250-3255)

• **Completed Research Projects (in Applied Mathematics): 03**

1. Completed DAAD sponsored research project entitled “Application of Wavelet to Measure Heart Rate Variability” together with two German scientists and for which visited Germany during May 16, 2005 - July 15, 2005.
2. Completed DAAD sponsored research project entitled “Sharp operator based diffusion filter” together with a German Professor and visited Germany for which during May 16, 2009 - July 15, 2009.
3. Completed a **Major Research Project** awarded by the University Grants Commission, New Delhi on the topic “Sharp Operator based diffusion and its correspondence with Wavelet Shrinkage” for a period of three years and six months (during July 2012-Dec 2015), with a grant of 11,40,800/- (Rs. Eleven lakh forty thousand and eight hundred).

• **M. Tech. / M.Phil / Ph.D. / P.D.F. supervised:**

1. Mr. Rajat Vaish was awarded Ph.D. degree on the topic “Iterative algorithms for certain classes of variational inequalities, inclusions and fixed point problems” on 16th Oct. 2019.
2. Mr. Aadil Hussain Dar was awarded Ph.D. degree on the topic “Generalizations in variational inequalities and variational inclusions” on 30th March 2019.
3. Mr. Mohd. Sarfaraz was awarded Ph.D. degree on the topic “A study on generalized variational inequalities and inclusions problems” on 20th Oct. 2018.
4. Dr. Mohammad Zafar worked as Post Doctoral Fellow under my supervision on “Quasilinear Partial Differential Equations” from 26th Dec. 2017 to 11th August 2018.
5. Mr. Santosh Kumar was awarded Ph.D. degree on the topic “Wavelets, diffusion equations and their applications” on May 10, 2016.
6. Mr. Rajat Vaish was awarded M.Phil. degree on the topic “Iterative algorithms in variational inequalities” in July 2015.
7. Miss Sana Khan was awarded Ph.D. degree on the topic “A study of Gabor and wavelet frames” in July 2015.
8. Miss Sana Khan was awarded M.Phil. degree on the topic “Application of Wavelets in Time Series Analysis” in February 2012.
9. Mr Mahesh Kumar Jayaswal was awarded M.Phil. degree on the topic “Study of Option Pricing” in April 2011.
10. Mr Javid Iqbal was awarded Ph.D. degree on the topic “A Study of Wavelet Packet Frames and Diffusion Filters” in August 2008.
11. Mr Abu Seena was awarded M. Tech. (Thermal Sciences) degree on the M.Tech. Project “Power-law and Log-law Analysis of Turbulent Heat Transfer in Channels” in October 2006.
12. Mr Javid Iqbal was awarded M.Phil. degree on the topic “Wavelet Packet Approximation” in February 2005.

• **Details of Invited Speakers/participation in Conferences/Workshops/Summer Schools/Universities/Refresher Course etc.: (68)**

1. Delivered a talk in the “*International Conference on Exploring Excellence in Mathematical Sciences 2023*” at Nalanda Open University held during 04 - 06 Nov., 2023.
2. Delivered a Memorial Lecture Series 2023 in the memory of late Prof. A. H. Siddiqi on the topic “*Awareness of Trends in Technolog*” at The A. H. Siddiqi Centre for Advanced Research in Applied Mathematics & Physics, Sharda University, India (online) on 20th January 2023.
3. Delivered a keynote address in the “*International Conference on Mathematical Analysis and Application*” (online), organized by the **Department of Mathematics, Baba Ghulam Shah Badshah University, Rajouri, India**, March 31, 2022.
4. Delivered a talk in the “*Science Week*”, organized by the **Department of Mathematics, Islamic University of Madina, Saudi Arabia**, Feb. 06, 2022.
5. Delivered an invited talk in an International Webinar on “*Interdisciplinary and Innovative Research*”, organized by the Department of Mathematics, Sharda University, India, Sep 12, 2020.
6. Delivered an invited talk in an International Webinar on “*World of Mathematics*”, organized by the Department of Mathematics, Mohammad Ali Jauhar University (MAJU), Rampur, India, during Aug 30-31, 2020.
7. Given a plenary talk in an International e-conference on “*Non-linear Analysis and its Applications (e-ICNAA 2020)*” at Dayanand Science College, Latur, India, during July 27-29, 2020.
8. Given a Seminar talk on “*Recent trends in Applied Researches*” in the **Department of Mathematics & Statistics, Taibah University**, Saudi Arabia, on May 02, 2019.
9. Delivered an invited talk in a National Seminar on “*Mathematical Modeling and its Applications in Natural and Engineering Sciences (NSMMANES - 2019)*”, held at the **Department of Mathematics & Statistics, Aliah University**, Kolkata, on March 25, 2019 (Sponsored by the organisers).
10. Delivered an invited talk in an International Conference on “*Recent Trends in Mathematical Modeling*”, held at **Institute of Applied Sciences and Engineering, Mangalayatan University**, Aligarh, March 5-6, 2019 (Sponsored by the organisers).
11. Delivered a lecture on “*Science, Technology and Development*”, in an Orientation Program held at Human Resource Development Centre (HRDC), **J M I, New Delhi**, on Feb. 16, 2019 (Sponsored by the **UGC**).
12. Delivered a lecture on “*Computational & Mathematical Studies*”, in a Refresher Course held at Human Resource Development Centre (HRDC), **J M I, New Delhi**, on September 15, 2018 (Sponsored by the **UGC**).
13. Delivered Two (02) invited lectures in a “*QIP Short Term Course*” at the Department of Mathematics, **IIT - B H U, Varanasi** during July 3-4, 2017 (Sponsored by the host).

14. Delivered an invited talk and Chaired a session in an “*International Conference on Computational Modeling and Simulation*”, held at the **University of Colombo**, Sri Lanka, during May 17-19, 2017 (Sponsored by the **DAAD**, Germany).
15. Delivered an invited talk in an “*International Seminar on SAARC Countries*”, held at **J M I**, New Delhi, April 19-20, 2017 (Sponsored by the organizers).
16. Delivered an invited talk in an International Conference on “*Advances in Scientific Computing*”, held at **IIT-Madras**, Chennai, Nov. 28-30, 2016 (Sponsored by the **DAAD**, Germany).
17. Delivered an invited talk in an National Conference on “*Emerging Trends in Applied Sciences*”, held at **Galgotias University**, Greater Noida, Sept. 23-24, 2016 (Sponsored by the organizers).
18. Delivered an invited talk in an International Conference on “*PDE based nonlinear diffusion model for image denoising*”, held at **Tribhuan University**, Kathmandu, Nepal, May 26-29, 2016 (Sponsored by the **DAAD**, Germany).
19. Participated in an International Conference of ISIAM, held at **Sharda University**, Knowledge Park III, Greater Noida, Uttar Pradesh, during 29-31 Jan, 2016 (Sponsored by the organizers).
20. Delivered a lecture on “Recent Trends in Industrial Mathematics” in a subject refresher course in Business Studies held at the U G C Academic Staff College, **A M U Aligarh** on July 16, 2014 (Sponsored by the **UGC**).
21. Delivered an invited talk in an International Workshop on “*Advances in PDE Modeling and Computation*”, held at **IIT Madras**, Chennai, Oct. 21-25, 2013 (Sponsored by the **DAAD**, Germany)
22. Delivered an invited talk in the 78th Annual Conference of the Indian Mathematical Society, held in the Dept. of Mathematics at Banaras Hindu University (**B H U**), **Varanasi**, during Jan. 22-25, 2013 (Partly sponsored by **B H U**).
23. Participated and Chaired a Session in the 11th Biennial Conference of ISIAM on “Emerging Mathematical Methods, Models and Algorithms for Science and Technology”, held in Gautam Buddha University, **Greater NOIDA**, during Dec. 15-16, 2012 (Sponsored by the **ISIAM**).
24. Delivered an invited talk and Chaired a Session in a National Symposium on “Emerging Trends in Biological Sciences: special emphasis on Neurosciences” (ETBS 2012), held in J N M C, **A M U Aligarh**, during Sept. 24-25, 2012 (As a local participant).
25. Delivered a lecture on “Analysis of Stock Markets” in a subject refresher course in Business Studies (Economics / Commerce / Management) held at the U G C Academic Staff College, **A M U Aligarh** on July 26, 2012 (Sponsored by **UGC**).
26. Delivered a lecture on “Role of Mathematics in Basic Sciences”, held at Academic Staff College, **J M I, New Delhi**, on May 17, 2012 (Sponsored by the **UGC**).
27. Participated in a Networking Conference on “New Frontiers: Shifting Trends in the Global Research Landscape and their Impact on Researchers Career Patterns”, held at **Obero Hotel, Gurgaon**, during March 29-31, 2012 (Sponsored by **the Alexander von Humboldt Foundation, Germany**).

28. Given a Compact Course on Wavelets in the Dept. of Mathematics at the University of Kaiserslautern, **Germany** during June 2011 (one month) (Sponsored by the University of Kaiserslautern, **Germany**).
29. Chaired a “Seminar Session” in the 96th Orientation Programme conducted by the Academic Staff College at Jamia Millia Islamia, **New Delhi** on May 10, 2011 (Sponsored by the **UGC**).
30. Delivered an invited talk in an International Conference on “Mathematical Modelling and Applications to Industrial Problems (MMIP2011)”, in the Department of Mathematics, **N. I. T. Calicut**, during March 28 - April 02, 2011 (Sponsored by **NIT Calicut & DAAD New Delhi**).
31. Delivered a lecture on “Science, Technology and Development” and Chaired the “Seminar Session” in an Orientation Programme conducted by Academic Staff College at Jamia Millia Islamia, **New Delhi**, during Feb. 09-10, 2011 (Sponsored by the **UGC**).
32. Delivered an invited talk in the DAAD sponsored International Workshop on “Computational PDE: Modeling and Simulation”, in the Department of Mathematics, **I. I. T. Chennai**, during Jan. 03-05, 2011 (Sponsored by the **DAAD**, Germany).
33. Delivered a lecture on “Wavelets & its Applications” in a Refresher Course conducted by Academic Staff College at Jamia Millia Islamia, **New Delhi** on November 30, 2010 (Sponsored by the **UGC**).
34. Participated in a DAAD sponsored “Summer School on Industrial Mathematics 2010” at the University of Kaiserslautern, **Germany** from Sept. 19 - Oct. 02, 2010. In the first week, attended the Felix Klein Summer School 2010 at Fraunhofer Institute for Industrial Mathematics and in the second week given a talk on my educational and research activities at home Institution under “Alumni presentation”.
35. Given an invited talk in the Satellite Conference of International Congress of Mathematics (ICM 2010) on “Mathematics in Science and Technology” organised in IHC & IICC New Delhi during Aug. 14 -17, 2010 (Sponsored by **SIAM & Sharda University**).
36. Delivered a lecture on “Science and Development” in an Orientation Program at Academic Staff College, Jamia Millia Islamia, **New Delhi**, on May 04, 2010 (Sponsored by the **UGC**).
37. Delivered lectures (06) in a Refresher Course at Patna University, **Patna**, during March 25-27, 2010 (Sponsored by the **UGC**).
38. Given a talk in the Institute of Techno & Business Mathematics (ITWM), Kaiserslautern, **Germany** on “Sharp operator based diffusion filter”, on July 13, 2009 (Sponsored by German Academic Exchange Services (**DAAD**), Germany).
39. Delivered an invited talk in a National Seminar on “Mathematics & its Application to Industries (NSMAPI - 2009)” held at D.B.S. (P.G.) College, **Kanpur**, during Jan. 31 - Feb. 01, 2009 (Sponsored by the host).
40. Delivered an invited talk in International Conference on “Modelling of Engineering & Technological Problems (I.C.M.E.T.P. - 2009)” and “9th Biennial National Conference of SIAM”, held at BMAS Engineering College, Keetham, **Agra**, during January 14-16, 2009 (Sponsored by **SIAM**).

41. Delivered invited lectures (02) in the Indo-German Workshop cum Lecture series on “Computational Models and Methods Driven by Industrial Problems”, in the Department of Mathematics, **I. I. T. Chennai**, during Nov. 26-27, 2008 (Sponsored by **I. I. T. Chennai** & **DAAD**, New Delhi).
42. Delivered lectures (03) in an “Instructional Workshop on Wavelets”, organized in the Department of Mathematics, B.H.U., **Varanasi**, during Nov. 2-3, 2007 (Sponsored by the **DST**).
43. Delivered lectures to the students of M.Sc. (Applied Mathematics) in an optional paper - Theory of wavelets, at Baba Ghulam Shah Badshah university (BGSBU), **Rajouri**, J & K, from April 23 to May 05, 2007 (total 26 lectures were delivered in 13 days) (Sponsored by **BGSBU**).
44. Delivered an invited talk in “International Congress & 8th conference of ISIAM” held in the Dept. of Mathematics at Jammu University, **Jammu**, during March 31 - April 03, 2007 (Sponsored by **ISIAM**).
45. Delivered lectures (04) in a Refresher Course at Patna University, **Patna**, during Feb. 8-9, 2007 (Sponsored by the **UGC**).
46. Delivered an invited talk in “International Conference on current trends in Industrial and Applied Mathematics (ICCTIAM07)” held in the Dept. of Applied Mathematics, The M.S. University of Baroda, **Vadodara**, during Jan. 16-18, 2007 (Sponsored by **The M.S. University of Baroda**).
47. Participated in “Summer School 2006 - Mathematics International” at the University of Kaiserslautern, **Germany**, during Sept. 01-30, 2006 (Sponsored by German Academic Exchange Services (**DAAD**)).
48. Given two talks in the Institute of Techno & Business Mathematics (ITWM), Kaiserslautern, **Germany** on June 10 & July 8, 2005, respectively. (Sponsored by German Academic Exchange Services (**DAAD**), Germany).
49. Given a seminar talk in the Department of Mathematics, University of Kaiserslautern, **Germany** on June 06, 2005 (as a visiting **DAAD Fellow**).
50. Completed a course on communication skills conducted by Academic Staff College, A M U, **Aligarh**, February 20-29, 2004 (Sponsored by the **UGC**).
51. Participated in the Workshop and Seminar on “Optimization & Risk Modeling”, held in the Department of Mathematics, **IIT Bombay**, Mumbai, December 18-22, 2003 (Sponsored by **IIT Mumbai**).
52. Participated in the UNESCO Regional Instructional Workshop on Industrial Mathematics and solved a problem entitled “A mathematical Problem in Plug Cementing”, held in the Department of Mathematics, **IIT Bombay**, Mumbai, December 2-6, 2002 (Sponsored by **UNESCO**).
53. Delivered a contributory talk on “Information Function and its Applications”, in the International Conference on Industrial Mathematics, held in the Department of mathematics, **IIT Bombay**, Mumbai, December 7-9, 2002 (Sponsored by **UNESCO**).
54. Delivered an invited talk on “Influence of religion in the development of science and technology”, in a workshop held in the Department of Mathematics, University of

- Kaiserslautern, **Germany**, Oct. 26 - Nov. 04, 2002 (Sponsored by German Academic Exchange Services (**DAAD**), Germany).
55. Delivered invited lectures on “Image Processing and Wavelets” in the Department of Mathematics, Guru Nanak Dev University, **Amritsar**, Sept. 30 - Oct. 01, 2002 (Sponsored by the **Dept. of Mathematics**, GNDU).
 56. Participated in the conference on “Emerging Trends in Mathematics”, held in the Department of Mathematics, Aligarh Muslim University, **Aligarh**, March 24-26, 2001 (as a local participant).
 57. Participated in the **Academic Staff Orientation Programme**, conducted by the Academic Staff College, A M U, **Aligarh**, May 15 - June 13, 2000 (Sponsored by the **UGC**).
 58. Given a seminar talk in the Department of Mathematics, **I I T Roorkee**, Roorkee, July 26, 1999 (Sponsored by the **Dept. of Mathematics**, IIT Roorkee).
 59. Participated in the **UGC Zonal Workshop** for northern region on Industrial Mathematics, held in Hamdard University, **New Delhi**, February 23-27, 1999 (Sponsored by the **UGC**).
 60. Delivered an invited talk on “Sharp Operator and Image Classification” in the Fifth Annual Conference of ISIAM, held at **MACT-Bhopal**, Sept. 4-6, 1998 (Sponsored by **ISIAM**).
 61. Presented a paper on “A comparative study of compression techniques in terms of our Information function” in the conference on Analysis and Allied Topics (AAT 98), held in the Department of Mathematics, A.M.U., **Aligarh**, August 27-29, 1998 (as a local participant).
 62. Participated in the “Summer School of Industrial Mathematics”, held in the Department of Techno-mathematics, University of Kaiserslautern, **Germany**, September 1-28, 1996. (Sponsored by German Academic Exchange Services (**DAAD**), Germany).
 63. Presented a paper on “Approximation by Wavelet-packets” in the 4th Annual Conference of ISIAM, held in the Department of Mathematics, Jamia Millia Islamia, **New Delhi**, April 6-8, 1996 (Sponsored by **AMU**).
 64. Presented a paper on “Approximating Solution of Differential Equations by Wavelet-packets” in the 3rd Annual Conference of ISIAM, held in the Department of Mathematics, Calcutta University, **Calcutta**, May 17-19, 1995 (Sponsored by **AMU**).
 65. Presented a paper on “Wavelet-packets for solution of Differential Equations” in the 60th IMS Conference, held in the Department of Mathematics, University of Poona, **Pune**, Dec. 27-30, 1994 (Sponsored by **AMU**).
 66. Participated in a conference on “Mathematics for Industrial Development”, held in the Department of Mathematics, Institute of Basic Sciences, **Agra**, March 21-24, 1994 (Sponsored by **AMU**).
 67. Presented a paper on “Wavelet-packets and Image Compression” in the Second Annual Conference of ISIAM, held in the Department of Mathematics, Anna University, **Chennai**, Feb. 23-25, 1994 (Sponsored by **AMU**).

68. Participated in a conference on “Information Technology - Recent Trends”, held in the Department of Computer Science, AMU, **Aligarh** , October 21-22, 1993 (as a local participant).

- **Administration:**

1. **Officer-On-Special Duty (OSD)** of some special projects, A M U Aligarh, from 28th July 2015 to 8th July 2017.
2. **Director**, Residential Coaching Academy (RCA), A M U Aligarh, from 10th July 2015 to 8th July 2017.
3. **Assistant Proctor & In-Charge, Foreign students:** Aligarh Muslim University (A.M.U.), May 2007 to June 2012.

Note: As an In-Charge, Foreign students, I was instrumental in organizing various cultural programs in which Ambassadors of many countries participated.

Place - Aligarh

Date: May 31, 2024

Prof. (Dr.) Mohammad Kalimuddin Ahmad