Dr. Liaqat Ali Khan (CV & Publications)

Personal data:

***Name*:** Liaqat Ali Khan
***Date & Place of Birth*:** July 29, 1947 (Jhelum, Pakistan)
***Nationality*:** Pakistani
***Permanent Address*:** House No. 468, Street No. 74, G-8-1, Islamabad, PAKISTAN

Present Address: Department of Mathematics, Faculty of Science, King Abdulaziz University, P.O.Box 80203, Jeddah-21589, SAUDI ARABIA

***E-Mail*:** akliaqat@gmail.com ; lkhan@kau.edu.sa
URL: http://liaqat.adtime.co.uk ; http://lkhan.kau.edu.sa

Education:

1. B.A. (1964-66) Mathematics Punjab University, Lahore
1. M.A. (1966-68) Mathematics Punjab University, Lahore
3. Ph.D. (1974-77) Mathematics Wales University, Aberystwyth, U.K.

Ph.D. Thesis: "The Strict Topology and its Generalizations" (1977)
(supervised by Dr. K. Rowlands, Wales University, Aberystwyth, U.K.)

Field of Research: Functional Analysis and Topology
(Linear topologies on spaces of continuous vector-valued functions; Stone-Weierstrass approximation theorem; Arzela-Ascoli type theorems, Best approximation; Vector-valued measures and integration; Fixed point theorems; General strict topology on topological modules; Almost periodic functions; Multipliers and Quasi-multipliers)

Courses Taught: (B.Sc./M.Sc./M.Phil. levels)
Calculus and Analytic Geometry, Engineering Mathematics, Differential Equations, Linear Algebra, Abstract Algebra, General Topology, Real Analysis, Complex Analysis, Measure and Integration, Functional Analysis, Topological Vector Spaces, Topological Algebras, Ordered Topological Vector Spaces, Fixed Point Theory, Approximation Theory, Non-archimedean Functional Analysis.

Teaching positions:

1968-1971: Lecturer Municipal College, Pattoki

1971-1973: Lecturer Federal Government College, Islamabad

(1974-1977: Ph. D. student Wales University, Aberystwyth, U. K.)

1977-1981: (i) Lecturer Federal Government College, Islamabad
(ii) Visiting Lecturer Quaid-i-Azam University, Islamabad

1981-1986: Assistant Professor Garyounis University, Benghazi

1986-1988: Assistant Professor Federal Government College, Islamabad

1988-1991: Assistant Professor Quaid-i-Azam University, Islamabad

1991-1996: Associate Professor Quaid-i-Azam University, Islamabad

1996-2003: Associate Professor King Abdulaziz University, Jeddah

2003-todate: Professor King Abdulaziz University, Jeddah

Theses Supervised (M. Phil, M.Sc. and Ph.D.):

(I) M. Phil theses (supervised at QAU, Islamabad)

1. On a class of ordered topological vector spaces (Farhad Ali, 1981).
2. Theory of double centralizer algebras (Akhtar Hussain, 1981).
3. Best approximation in function spaces (Muhammad Ali, 1990)
4. Compact and precompact operators on topological vector spaces (Muhammad Akram, 1991).
5. Fixed point theorems and applications (Muhammad Iqbal, 1991).
6. Locally m-convex and A-convex algebras (Arshad Imam, 1991).
7. Optimization in ordered topological vector spaces (Muhammad Arif, 1991).
8. Metric projections in best approximation theory (Zafar Iqbal, 1993).
9. Approximation in non-archimedean function space (Khalil Ahmad, 1994).
10. Topologies on function spaces (Ali Muhammad, 1996).
11. Fuzzy topological vector spaces (Zafar Hussain, 1996).
12. Vector-valued measures and integration (Mohammad Sagheer, 1997).
13. Weighted approximation in vector-valued function spaces

(Khalida Parveen, 1997).

14. Fixed points and best approximation theorems in convex and H-spaces (Fazeelat Sultana, 1998).

(II) M. Sc. Theses (supervised at KAU, Jeddah)

1. Multipliers on commutative Frechet algebras (Areej Al-harbi, KAU, 2003).
2. Multipliers and Arens product in topological algebras(Maha Saeed, KAU, 2003).
3. Derivations on Banach and Topological algebras (Abeer Badgaish, KAU, 2003).
4. Stone-Weierstrass type theorems for non-archimedean vector-valued function spaces (Lujain Abulhamayel, KAU, 2006).
5. Continuity of algebra homomorphisms on topological algebras (Enaam Alidaroos, KAU, 2006).
6. Non-archimedean Approximation in Weighted Spaces of Continuous Vector-valued Functions (Amer Hassan Al-bargi, 2007)
7. Best Approximation in Non-archimedean Vector-valued Function Spaces (Khayriah Awad Al-ahmri, 2008)
8. Topological Modules of Multipliers (Muneerah Omar Al-ansari, 2010)
9. Quasi-multipliers on A*-algebras (Sultan Usman Al-Ghamdi, in progress, 2011)
10. Various Properties of Spaces of Continuous and Bounded Functions (Asma Thabit Ahmed Al-Hamidi, in progress, 2011)

(III) Ph.D theses co-supervised:

1. Random Fixed Points and Approximations (Naseer Shahzad, QAU, 1995).
2. Some Types of Best Approximations and their Applications (Nawab Hussain, BZU (Multan), 2002).

Research Publications (L.A. Khan)

1. L. A. Khan, The strict dual of C(X,En), Punjab Univ. J. Math. (Lahore) 10/11(1978),41-46. (MR 82g: 46056)
2. L. A. Khan, The strict topology on a space of vector-valued functions, Proc. Edinburgh Math. Soc. 22(1) (1979), 35-41. (MR 80f: 46042)
3. L. A. Khan, On the Stone-Weierstrass theorem for vector-valued functions, Punjab Univ. J. Math. (Lahore) 12/13(1980), 11-14. (MR 84a: 46082)
4. L. A. Khan, (with K. Rowlands): On the representation of strictly continuous linear functionals, Proc. Edinburgh Math. Soc. 24(1981), 123-130. (MR 83b: 46050)
5. L. A. Khan, Characterizations of maximal closed submodules in vector-valued function spaces, Kobe J. Math. 1(1984), 153-156. (MR 87h: 46067)
6. L. A. Khan, Separability in the uniform topology, Studia Sci. Math. Hungarica 20(1985), 407-409. (MR 88g: 46055)
7. L. A. Khan, Weighted topology in the non-locally convex setting, Matematicki Vesnik 37(1985), 189-195. (MR 87k: 46081)
8. L. A. Khan, The countable-open topology in the locally convex setting, Kobe J. Math. 3(1986), 47-50. (MR 87k: 46052)
9. L. A. Khan, On the convergence of Mann iterates to a common fixed point of two mappings, J. Pure and Applied Sci., 5(1986), 57-58.
10. L. A. Khan, A characterizations of strictly closed ideals in vector-valued function algebras, Math. Japonica 31(1986), 45-49. (MR 87f: 46082)
11. L. A. Khan, Separability in function spaces, J. Math. Anal. Appl. 113(1986), 88-92. (MR 87f: 46061)
12. L. A. Khan, On approximation in weighted spaces of continuous vector-valued functions, Glasgow Math. J. 29(1987), 65-68. (MR 88c: 41056)
13. L. A. Khan, On a fixed point theorem for iterates in locally convex spaces, J. Natural Sciences and Mathematics 27(1)(1987), 1-5. (MR 88g: 47111)
14. L. A. Khan, Mackey space problem for double centralizer algebras, Punjab Univ. J. Math. 20(1987), 7-12. (MR 89f: 46109)
15. L. A. Khan, Fixed point theorems for Mann iterates in metrizable linear topological spaces, Math. Japonica 33(2)(1988), 247-251. (MR 89g: 47079)
16. L. A. Khan, On seminorm separability for vector-valued function spaces, Studia Sci. Math. Hungarica 24(1989), 43-45. (MR 89m: 46073)

17. L. A. Khan, Fixed points by Ishikawaa iterates in metric linear spaces, Math. Reports Toyama Univ. 12(1989), 57-63. (MR 90j: 47075)

18. L. A. Khan, Some fixed point theorems for involutory mappings in complete metrizable linear topological spaces, J. Natural Sciences and Mathematics, 30(1990), 45-50.

19. L. A. Khan, Common fixed point results by iterations using linear mappings, J. Pure and Applied Sci., 39(1990), 43-45.

20. L. A. Khan, Extensions of some fixed point theorems of Kannan and Wong to paranormed spaces, Punjab Univ. J. Math. 323(1990), 77-82. (MR 92e: 47106)

21. L. A. Khan, (with K. Rowlands): The σ-compact-open topology and its relatives on a space of vector-valued functions, Boll. Unione Mat. Italiana (7) 5-B (1991), 727-739. (MR 92k: 46057).

22. L. A. Khan, On the Stone-Weierstrass theorem for scalar and vector-valued functions, ICTP (Trieste, Italy), Preprint No:IC/91/257 (1991), 1-5.

23. L. A. Khan, Theory of fuzzy sets and its applications, Proc. Second Regional Conf. on Applications of Mathematics (UNESCO), Islamia University, Bahawalpur (Jan. 10-14, 1992), pp.1-27

24. L. A. Khan, Seminorm separability in function spaces, Math. Japonica 37 (1992), 687-689. (MR 93f: 46053)

25. L. A. Khan, Common fixed point results for iterations in metric linear spaces, Studia Sci. Math. Hungarica, 27(1992), 143-146.(MR 94d:47H10)

26. L. A. Khan, Integration of vector-valued continuous functions and the Riesz representation theorem, Studia Sci. Math. Hungarica 28(1993), 71-77. (MR 94k: 46071)

27. L. A. Khan, Multiplication operators on weighted spaces in the non-locally convex setting, Abstracts, International Congress of Mathematicians, Zurich, 3-11 August 1994, page 70.

28. L. A. Khan, Metrization and separation axioms for finite topological spaces, (Classroom Note),Int. J. Math. Edu. in Science and Technology(U.K) 25(1994), 473-474.

29. L. A. Khan, Riesz representation theorem for the dual of a space of vector-valued functions, Boll. Unione Mat. Italiana (7) 8-A (1994), 391-396. (MR 95k: 46055)

30. L. A. Khan, Some approximation results for the compact-open topology, Periodica Math. Hungarica 30(1995), 81-86. (MR 96b: 46056)

31. L. A. Khan, (with A.R. Khan): An extension of Brosowski-Meinardus theorem on invariant approximation, Approximation Theory and its Applications 11(4) (Dec. 1995), 1-5. (MR 97h: 41065)

32. L. A. Khan, (with K. Morishita): The minimum support for a functional on Cb(X), Topology and its Applications 73(1996), 285-294. (MR 97j: 54017)

33. L. A. Khan, (with A.B. Thaheem): On automorphisms of prime rings with involution, Demonstratio Math. 30(1997), 307-311.

34. L. A. Khan, (with A.B. Thaheem): Multiplication operators on weighted spaces in the non-locally convex framework, Internat. J. Math. & Math. Sci. 20(1997), 75-80. (MR 98b: 47042)

35. L. A. Khan, Mean value theorem in topological vector spaces, C. R. Math. Rep. Acad. Sci. Canada 19(1997), 24-27. (MR 98k: 58023)

36. L. A. Khan, (with N. Mohammad and A.B. Thaheem): Double multipliers on topological algebras, Internat. J. Math. & Math. Sci. 22(1999), 629-636. (MR 2000m: 46100).

37. L. A. Khan, (with N. Shahzad): Random fixed points of 1-set contractive random maps in Frechet spaces, J. Math. Anal. Appl. 231(1999), 68-75. (MR 2000b: 47135).

38. L. A. Khan, (with N. Shahzad): Some random fixed points in Frechet spaces, New Zealand J. Math. 28(1999), 107-110. (MR 2000b: 47136).

39. L. A. Khan, (with N. Shahzad): Random fixed point theorems for multivalued acyclic random maps, Stochastic Analysis and Applications 17(5) (1999), 835-840. (MR 2000e: 47100).

40. L. A. Khan, Generalized separability in vector-valued function spaces, Annales Univ. Sci. Budapst, 42(1999), 3-8. (MR 2001f: 54018)

41. L. A. Khan, (with H.A.S. Abujabal and M.A. Alghamdi): On the Riesz representation theorem in topological vector spaces Studia Sci. Math. Hungarica, 36(2000), 347- 352. (MR 2001k: 46058).

42. L. A. Khan, (with A.R. Khan and N. Hussain): A note on Kakutani type fixed point theorem, Internat. J. Math. & Math. Sci., 24(2000), 231-235. (MR 2003g: 46053)

43. L. A. Khan, A note on the Stone-Weierstrass theorem, Internat. J. Math. Game Theory and Algebra 10(2000), 325-326. (MR 2001d: 46079)

44. L. A. Khan, (with A.B. Thaheem): On the equivalence of the Heine-Borel theorem and the Bolzano-Weierstrass Theorem, Int. J. Math. Edu. in Science and Technology (U.K) 31(2001), 620-622. (MR 1-777-775)

45. L. A. Khan, (with N. Mohammad and A.B. Thaheem): On the closed range multipliers on topological algebras, Scientiae Math. Japonica, 53(2001), 89-96. (MR 2003g: 46053)

46. L. A. Khan, Random fixed point theorems for composites of acyclic multifunctions, Stochastic Analysis Appl., 19(2001), 925-930. (MR 2002h: 47086)

47. L. A. Khan, (with A. Latif): Some results on common fixed poits and best approximation in p-normed spaces, Demonstratio Math. 34(2001), (MR 2002i: 47074)

48. L. A. Khan, (with N. Mohammad and A.B. Thaheem): Inner derivations on locally C*-algebras, Far East J. Math., Special Volume (2001), Part I (Functional Analysis and its Applications), 101-108. (MR 2002c: 46018)

49. L. A. Khan, (with A.B. Thaheem): Operator-valued multiplication operators on weighted function spaces, Demonstratio Math. 35(2002), 599-605. (MR 2003e: 47058)

50. L. A. Khan, (with A.O. Badghaish and M.M. Saeed): Automatic continuity of multipliers and derivations, (Survey), Proc. 4th International Pure Math. Conf. (Islamabad, 2003), 36-65.

51. L. A. Khan, Trans-separability in spaces of continuous vector-valued functions, Demonstratio Math. 37(2004), 611-617. (MR 2005g: 46074)

52. L. A. Khan, (with N. Mohammad and A.B. Thaheem): The strict topology on topological algebras, Demonstratio Math 38(2005), 883-894. (MR 2006m:46061)

53. L. A. Khan, (with L. Oubbi): Arzela -Ascoli theorem for non-locally convex weighted function spaces, Revista Real Academia de Ciencias (Spain) (2) 60 (2005), 107-115. (MR 2006k:46055)

54. L.A. Khan, Some generalizations of the mean value theorem to topological vector spaces, Proc. 6th International Pure Math. Conf. (Islamabad, 2005), pp. 1-10.

55. L. A. Khan, The general strict topology on topological modules, Contemporary Math. 435(2006), 253-263.

56. L. A. Khan, Topological modules of continuous homomorphisms, J. Math. Anal. Appl. 343(2008), 141-150. (MR2409463; 2009a:46087)

57. L. A. Khan, Trans-separability in the strict and compact-open topologies, Bull. Korean Math. Soc. 45(2008), 681-687.

58. L. A. Khan, (with Saud M. Alsulami and Hamed H. Alsulami), Multiplication operators on non-locally convex weighted function spaces, Acta Universitatis Apulensis (Mathematics and Informatics), 18(2009), 35-50. MR2554314

59. L. A. Khan, (with Saud M. Alsulami and Hamed H. Alsulami), On precompact multiplication operators on weighted function spaces, Acta Universitatis Apulensis (Mathematics and Informatics), 19(2009), 125-137.

60. L. A. Khan, (with A.K. Katsaras and A.R. Khan), On maximal closed ideals in topological algebras of continuous vector-valued functions over non-Archimedean valued fields, Contemporary Math.

(AMS), Proc.11th Conference on p-adic Functional Analysis (accepted, 22 Dec, 2010).

61. L. A. Khan, (with M. Adib and A.H. Riazi), Quasi-multipliers on F-algebras, Abstract and Applied Analysis, Volume 2011, Article ID 235273, 30 pages.

Monograph:

"Linear Topological Spaces of Continuous Vector-valued Functions", (submitted).

Research Award:

Second Prize awarded by the National Book Council (Ministry of Education of Pakistan) under the scheme "Incentive for publication of Articles in International Journals" in Mathematics (1990).

Membership of Mathematical Societies:

1. Punjab Mathematical Society (1977-todate).
2. American Mathematical Society (1984-86, 96-todate).
3. London Mathematical Society (1985-2010).

Professional Services:

1. Incharge, Mathematics Department, Federal Government College, Islamabad (1971-73., 77-81, 86-88).
2. Referee to various journals.
3. Reviewer: American Mathematical Society, Zbl.
4. Seminar Co-ordinator: Quaid-i-Azam University, Islamabad (1992-96).

Co-Author of the Book:

"Business Mathematics and Statistics", (with S. Ibrar Hussain and others) (published as a text-book for B.A. course by Allama Iqbal Open University, Islambad, 1982).

Participation in Mathematical Conferences / Seminars:

1. British Mathematical Colloquium, University of Newcastle-upon-Tyne, 1974.
2. Gregynog Symposium, University of Wales, 1975.
3. British Mathematical Colloquium, Univeristy of Wales, Aberystwyth, 1976.
4. All Pakistan Math. Conference, University of Punjab, Lahore, 1977.
5. All Pakistan Math. Conference, Univeristy of Karachi, Karachi, 1978.
6. Seminars held at Quaid-i-Azam University, Islamabad, 1986-1996.
7. Workshop on Recent Developments in Mathematics and Computer Science, ICTP, Trieste, Italy, May - June, 1990.
8. Visiting Mathematician, ICTP, Trieste, Italy, June - Sept. 1991).
9. Second Regional Workshop on Applications of Mathematics (Under UNESCO), Islamia University, Bahawalpur (Jan. 10-14, 1992).
10. Visiting Associate, ICTP, Trieste, Italy (June-August, 1994).
11. All Pakistan Math. Conference, Engineering University, Lahore (March 11-13, 1995).
12. International Pure Mathematical Conference (IPMC, held Annually), Islamabad, Pakistan: I(2000), II(2001), III(2002), IV(2003), V(2004), VI(2005).