Fuad A. Kittaneh

CURRICULUM VITAE

Deanship of Academic Research

University of Jordan

Amman, Jordan

Phone: 962-6-5355000, ext. 25100

Fax: 962-6-5355599

fkitt@ju.edu.jo

EDUCATION

1. B.Sc. in Mathematics, University of Jordan, 1976.
2. M.Sc. in Mathematics, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, 1978.
3. Ph.D. in Mathematics, Indiana University, Bloomington, Indiana, U.S.A. 1982.

Title of M.Sc. Thesis: Conditions Implying Normality in Hilbert Space.

Title of Ph.D. Thesis: Commutators of C_p Type.

Specialization: Functional Analysis.

Research Interests: Functional Analysis, Matrix Analysis, and Operator Theory.

EXPERIENCE

1. Research Assistant, King Fahd University of Petroleum and Minerals, 1976-1977.
2. Instructor, King Fahd University of Petroleum and Minerals, 1977-1978.
3. Associate Instructor, Indiana University, 1978-1982.
4. Assistant Professor United Arab Emirates University, 1982-1987.
5. Assistant Professor, Kuwait University, 1987-1989.
6. Associate Professor, Kuwait University, 1989-1990.
7. Visiting Scholar, Indiana University, 1990-1991.

8. Associate Professor, University of Jordan, 1991-1994.

9. Professor, University of Jordan, 1994-Present.

10. Professor, Jordan University for Women (Petra University), 1998-1999 (On Sabbatical Leave).

11. Professor, Al-Zaytoonah University, 2005-2006 (On Sabbatical Leave).

TEACHING RECORD

I have taught the following courses:

I- At the University of Jordan

1. Calculus I

2. Mathematics for Business

3. Foundations of Mathematics

4. Linear Algebra I and II

5. Mathematical Analysis I and II

6. Real Analysis

7. Matrix Theory

8. Matrix Analysis

9. Complex Analysis

10. Functional Analysis

11. Operator Theory

12. Theory of Inequalities

13. Selected Topics in Mathematics

II- At Al-Zaytoonah University

1. Calculus I

2. Linear Algebra I and II

3. Set Theorey

4. Special Functions

5. Functional Analysis

6. Selected Topics in Mathematics

III- At Jordan University for Women (Petra University)

1. Linear Algebra I and II
2. Calculus III
3. Real Analysis
4. Applied Mathematics
5. Calculus of Variations

IV- At Indiana University

1. Finite Mathematics
2. Calculus I
3. Linear Algebra

V- At Kuwait University

1. Calculus I and II
2. Linear Algebra
3. Differential Equations
4. Real Analysis I and II

VI- At the United Arab Emirates University

1. Precalculus Mathematics
2. Calculus I
3. Mathematics for Medicine
4. Mathematics for Engineering III and IV
5. Linear Algebra I and II
6. Abstract Algebra I and II
7. Real Analysis
8. Complex Analysis
9. Differential Geometry
10. Measure Theory
11. Selected Topics in Mathematics

VII- At King Fahd University of Petroleum and Minerals

1. Precalculus Mathematics
2. Calculus II

VIII-I have supervised the theses of more than thirty five M.Sc. and Ph.D. students.

IX- I have been invited to give talks at several international leading universities, including Tohokou University, the University of Toronto, the Indian Statistical Institute, and the Institute of Mathematics of the Polish Academy of Sciences.

CONFERENCES

1. The American Mathematical Society Annual Meeting, Louisville, Kentucky, U.S.A., January 1984.
2. The Mathematical Analysis and Its Applications Conference, Department of Mathematics, Kuwait University, Kuwait, February 1985.
3. The Workshop on Global Differential Geometry, International Center for Theoretical Physics, Trieste, Italy, September 1986.
4. The American Mathematical Society Annual Meeting, Phoenix, Arizona, U.S.A., January 1989.
5. The Third International Linear Algebra Society Meeting, Pensacola, Florida, U.S.A., March 1993.
6. The First Annual Conference of the Palestinian Society of Mathematical Sciences, Birziet University, Palestine, June 1993.
7. The Fourth International Linear Algebra Society Meeting, Rotterdam, The Netherlands, August 1994.
8. The Second Jordanian Mathematical Conference, Muta University, Jordan, September 1994.
9. The Second Annual Conference of the Palestinian Society of Mathematical Sciences, Birziet University, Palestine, August 1998.
10. The Conference in Mathematical Analysis and Applications, American University of Sharjah, U.A.E., May 2001.

11. The 19th International Conference on Operator Theory, Timisoara, Romania, June 2002.

12. The Joint AMS-India Mathematics Meeting, Bangalore, India, December 2003.

13. The Second International Conference on Mathematical Sciences, Al-Ain, U.A.E., December 2004.

14. The Third Seminar on Linear Algebra and Its Applications, Kerman, Iran, December 2004.

15. The 2005 KOTAC International Conference: Operator Theory and Its Applications, Daegu, Korea, June 2005.

16. The Conference on Operator Theory and Operator Algebras, Tohokou University, Japan, November 2006.

17. Conference on Ordered Statistical Data and Inequalities, University of Jordan, Jordan, June 2007.

18. Conference on Inequalities and Applications 0'7, Noszvaj, Hungary, September 2007.

19. The Fifth Linear Algebra Workshop, Kranjska Gora, Slovenia, May 2008.

20. Conference on Numerical Matrix Analysis and Operator Theory, Helsinki, Finland, September 2008.

21. Ukrainian Mathematical Congress-2009, Kiev, Ukraine, August 2009.

22. Operator Theory and Applications: Perspectives and Challenges, Jurata, Poland, March 2010.

MEMBERSHIP IN MATHEMATICAL SOCIETIES AND EDITORIAL BOARDS

I am a member of the American Mathematical Society, a reviewer for Mathematical Reviews and Zentralblatt MATH, and a referee for many leading mathematical journals of highest international reputation. I am on the editorial boards of many international mathematical journals, including Banach Journal of Mathematical Analysis, Bulletin of Mathematical Analysis and Applications, Jordan Journal of Mathematics& Statistics, Journal of Inequalities in Pure and Applied Mathematics, Operators and Matrices, and Special Issue of Linear Algebra and its Applications in honor Roger Horn.

HONORS AND AWARDS

1. I was a winner of Abdul Hameed Shoman Prize for Young Arab Scientists, June 1987.

2. I was a winner of TWAS Associate Membership Scheme at Centers of Excellence in the South, August 1995.

3. I was a member of the Selection Committee of the King Faisal International Prize in Science, November 2001 and December 2005.

4. I was a winner of the Ministry of Higher Education Prize for Distinguished Scientific Research, May 2003.

5. I have been selected to participate in the EU Marie Curie Program of Transfer of Knowledge at the Institute of Mathematics of the Polish Academy of Sciences, August-September 2008 and May-June 2009.

6. I was a winner of Scopus Certificate Award, April 2009.

ADMINISTRATION AND COMMITTEE SERVICE

1. I was the chairman of the Mathematics Department at the University of Jordan, 2000-2005.

2. I am currently the president of Hamdi Mango Center for Scientific Research at the University of Jordan.

3. I have served in the following committees:

I- At the University of Jordan
1. Graduate Studies Committee
2. Curriculum Committee
3. Colloquium Committee
4. Library Committee
5. Council of Faculty of Science Committee
6. Promotion Committee
7. Several Ad Hoc Committees

II- At Al-Zaytoonah University

1. Research Committee
2. Curriculum Committee

III- At Jordan University for Women (Petra University)

1. Council of Faculty of Science Committee
2. Research Committee

IV- At Kuwait University

1. Arabization Committee
2. Textbooks Committee

V- At the United Arab Emirates University

1. Graduate Studies Committee
2. Curriculum Committee
3. Colloquium Committee
4. Search Committee

Publications

I have published about ninety research papers in international mathematical journals of high quality. Some of these papers were written jointly with very famous mathematicians.

1. Some conditions on an operator implying normality, Math. Sem. Notes 7 (1979), 629-631.
2. Linear operators for which $(\text{Re } T)^2 \leq |T|^2$, Tamkang J. Math. 11 (1980), 111-115.
3. On nearly θ-operators, Math. Sem. Notes 10 (1982), 411-415.
4. On generalized Fuglede-Putnam theorems of Hilbert-Schimdt type, Proc. Amer. Math. Soc. 88 (1983), 293-298.
5. On normality of operators, Rev. Roumaine Math. Pures Appl. 29 (1984), 703-705.

6. Some characterizations of self-adjoint operators, Acta Sci. Math (Szeged) 47 (1984), 441-444.

7. On the structure of polynomially normal operators, Bull. Austral. Math. Soc. 30 (1984), 11-18.

8. Inequalities for the Schatten p-norm, Glasgow Math. J. 26 (1985), 141-143.

9. On Lipschitz functions of normal operators, Proc. Amer. Math. Soc. 94 (1985), 416-418.

10. On the commutants modulo Cp of A2 and A3, J. Austral. Math. Soc. (Series A) 41 (1986), 47-50.

11. Inequalities for the Schatten p-norm III, Commun. Math. Phys. 104 (1986), 307-310.

12. On zero-trace commutators, Bull. Austral. Math. Soc. 34 (1986), 119-126.

13. Inequalities for the Schatten p-norm IV, Commun. Math. Phys. 106 (1986), 581-585.

14. A note on hyponormal operators, Math. Rep. Toyama Univ. 9 (1986), 105-107.

15. (with H. Kosaki) Inequalities for the Schatten p-norm V, Publ. RIMS, Kyoto Univ. 23 (1986), 433-443.

16. Inequalities for the Schatten p-norm II, Glasgow Math. J. 29 (1987), 99-104.

17. On normal derivations of Hilbert-Schmidt type, Glasgow Math. J. 29 (1987), 245-248.

18. Linear operators for which $||T|| = ||\mathrm{Re}\,T||$, Kyungpook Math. J. 27 (1987), 163-168.

19. Notes on some inequalities for Hilbert space operators, Publ. RIMS, Kyoto Univ. 24 (1988), 283-293.

20. On the operator equation $AX = XV^*$, Chinese J. Math. 16 (1988), 29-40.

21. (with R. Bhatia) On some perturbation inequalities for operators, Linear Algebra Appl. 106 (1988), 271-279.

22. On the continuity of the absolute value map in the Schatten classes, Linear Algebra Appl. 118 (1989), 61-68.

23. (with P. Szeptycki) On operators with positive real parts, Math. Japon. 34 (1989), 933-939.

24. (with R. Bhatia) On the singular values of a product of operators, SIAM J. Matrix Anal. Appl. 11 (1990), 272-277.

25. On some equivalent metrics for bounded operators on Hilbert space, Proc. Amer. Math. Soc. 110 (1990), 789-798.

26. (with R. Younis) Smooth points of certain operator spaces, Integral Equations Operator Theory 13 (1990), 849-855.

27. (with R. Bhatia) Norm inequalities for partitioned operators and an application, Math. Ann. 287 (1990),719-726.

28. (with R. Bhatia and R. Horn) Normal approximants to binormal operators, Linear Algebra Appl.147 (1991), 169-179.

29. On zero-trace matrices, Linear Algebra Appl. 151 (1991), 119-124.

30. On the selfadjointness of certain compact operators, Linear and Multilinear Algebra 28 (1991), 203-206.

31. Some trace class commutators of trace zero, Proc. Amer. Math. Soc. 113 (1991), 655-661.

32. (with R. Bhatia and C. Davis) Some inequalities for commutators and an application to spectral variation, Aequationes Math. 41 (1991), 70-78.

33. On the normality of operator products, Linear and Multilinear Algebra 30 (1991), 1-4.

34. (with R. Bhatia) Approximation by positive operators, Linear Algebra Appl. 161 (1992), 1-9.

35. A note on the arithmetic-geometric mean inequality for matrices, Linear Algebra Appl. 171 (1992),1-8.

36. Trace norm inequalities for hyponormal pairs of operators, Boll. UMI. (7) 6-A (1992), 333-338.

37. Norm inequalities for fractional powers of positive operators, Lett. Math. Phys. 27 (1993), 279-285.

38. On some operator inequalities, Linear Algebra Appl. 208/209 (1994), 19-28.

39. (with D. Jocic) Some perturbation inequalities for self-adjoint operators, J. Operator Theory 31 (1994), 3-10.

40. Normal derivations in norm ideals, Proc. Amer. Math. Soc. 123 (1995), 1779-1785.

41. Singular values of companion matrices and bounds on zeros of polynomials, SIAM J. Matrix Anal. Appl. 16 (1995), 333-340.

42. Operators that are orthogonal to the range of a derivation, J. Math. Anal. Appl. 203 (1996), 868-873.

43. Norm inequalities for certain operator sums, J. Funct. Anal. 143 (1997), 337-348.

44. Inequalities for weighted means and applications to positive definite matrices, J. Math. Anal. Appl. 214 (1997), 307-313.

45. (with R. Bhatia) Some inequalities for norms of commutators, SIAM J. Matrix Anal. Appl. 18 (1997), 258-263.

46. (with R. Bhatia and R.-C. Li) Some inequalities for commutators and an application to spectral variation II, Linear and Multilinear Algebra 43 (1997), 207-219.

47. (with R. Bhatia) Norm inequalities for positive operators, Lett. Math. Phys. 43 (1998), 225-231.

48. (with R. Horn) Two applications of a bound on the Hadamard product with a Cauchy matrix, Electronic Journal of Linear Algebra 3 (1998), 4-12.

49. (with R. Bhatia and R.-C. Li) Eigenvalues of symmetrizable matrices, BIT. 38 (1998), 1-11.

50. Some norm inequalities for operators, Canad. Math. Bull. 42 (1999), 87-96.

51. (with O. Hirzallah) Matrix Young inequalities for the Hilbert-Schmidt norm, Linear Algebra Appl. 308 (2000), 77-84.

52. (with R. Bhatia) Notes on matrix arithmetic-geometric mean inequalities, Linear Algebra Appl. 308 (2000), 203-211.

53. (with R. Bahtia) Cartesian decomposition and Schatten norms, Linear Algebra Appl. 318 (2000), 109-116.

54. (with O. Hirzallah) Norm inequalities for weighted power means of operators, Linear Algebra Appl. 341 (2002), 181-193.

55. (with O. Hirzallah) Non-commutative Clarkson inequalities for unitarily invariant norms, Pacific J. Math. 202 (2002), 363-369.

56. Commutator inequalities associated with the polar decomposition, Proc. Amer. Math. Soc. 130 (2002), 1279-1283.

57. (with O. Hirazllah) Commutator inequalities for the Hilbert-Schmidt norm, J. Math. Anal. Appl. 268 (2002), 67-73.

58. (with O. Hirzallah) On the chordal transforms of Hilbert space operators, Glasgow Math. J. 44 (2002), 275-284.

59. Norm inequalities for sums of positive operators, J. Operator Theory 48 (2002), 95-103.

60. A numerical radius inequality and an estimate for the numerical radius of the Frobenius companion matrix, Studia Math. 158 (2003), 11-17.

61. Bounds for the zeros of polynomials from matrix inequalities, Arch. Math. 81 (2003), 601-608.

62. Norm inequalities for sums and differences of positive operators, Linear Algebra Appl. 383 (2004), 85-91.

63. (with R. Bhatia) Clarkson inequalities with several operators, Bull. London Math. Soc. 36 (2004), 820-832.

64. Numerical radius inequalities for Hilbert space operators, Studia Math. 168 (2005), 73-80.

65. Spectral radius inequalities for Hilbert space operators, Proc. Amer. Math. Soc. 134 (2006), 385-390.

66. Norm inequalities for sums of positive operators. II, Positivity 10 (2006), 251-260.

67. (with K. Shebrawi) Some decomposition results for companion matrices, J. Math. Anal. Appl. 318 (2006), 626-633.

68. Some intertwining relations modulo operator ideals, Glasgow Math. J. 48 (2006), 111-117.

69. Bounds and a majorization for the real parts of the zeros of polynomials, Proc. Amer. Math. Soc.135 (2007), 659-664.

70. (with K. Shebrawi) Bounds for the zeros of polynomials from matrix inequalities. II, Linear and Multilinear Algebra 55 (2007), 147-158.

71. (with O. Hirazllah) Inequalities for sums and direct sums of Hilbert space operators, Linear Algebra Appl. 424 (2007), 71-82.

72. (with M. El-Haddad) Numerical radius inequalities for Hilbert space operators. II, Studia Math. 182 (2007), 133-140

73. Inequalities for commutators of positive operators, J. Funct Anal. 250 (2007), 132-143.

74. Norm inequalities for commutators of positive operators and applications, Math. Z. 258 (2008), 845-849.

75. (with R. Bhatia) The matrix arithmetic-geometric mean inequality revisited, Linear Algebra Appl. 428 (2008), 2177-2199.

76. (with R. Bhatia) Commutators, pinchings, and spectral variation, Oper. Matrices 2 (2008), 143-151.

77. (with O. Hirzallah) Non-commutative Clarkson inequalities for n-tuples of operators, Integral Equations Operator Theory 60 (2008), 369-379.

78. (with W. Bani-Domi) Norm equalities and inequalities for operator matrices, Linear Algebra Appl. 429 (2008), 57-67.

79. Norm inequalities for commutators of self-adjoint operators, Integral Equations Operator Theory 62 (2008), 129-135.

80. Norm inequalities for commutators of normal operators, Inequalities and Applications' 07, Internat. Ser. Numer. Math., Birkhäuser Verlag, Basel, Vol. 157 (2008), 147-154.

81. Singular value inequalities for commutators of Hilbert space operators, Linear Algebra Appl. 430 (2009), 2362-2367.

82. (with K. Shebrawi) Bounds and majorization relations for the zeros of polynomials, Numer. Funct. Anal. Optim. 30 (2009), 98-110.

83. (with W. Bani-Domi) Numerical radius inequalities for operator matrices, Linear and Multilinear Algebra 57 (2009), 421-427.

84. (with R. Bhatia) The singular values of A + B and A + iB, Linear Algebra Appl. 431 (2009), 1502-1508.

85. (with Y. Manasrah) Improved Young and Heinz inequalities for matrices, J. Math. Anal. Appl. 361 (2010), 262-269.

86. (with O. Hirzallah and M. Moslehian) Schatten p-norm inequalities related to a characterization of inner product spaces, Math. Inequal. Appl. 13 (2010), 235-241.

87. (with O. Hirzallah) Singular values, norms, and commutators, Linear Algebra Appl. 432 (2010), 1322-1336.

88. (with J.-C. Bourin and O. Hirzallah) Jensen matrix inequalities and direct sums, Linear and Multilinear Algebra, in press.

89. On the convexity of the Heinz means, Integral Equations Operator Theory, in press.

90. (with T. Kosem and C.-K, Li) Problems and conjectures in matrix and operator inequalities, preprint.

91. (with Y. Manasrah) Reverse Young and Heinz inequalities for matrices, preprint.

REFERENCES

1. Professor Tsuyoshi Ando
   Hokusei Gakuen University
   Faculty of Economics, Atsubetsu-Ku
   Sapporo 004, Japan
   ando@hokusei.ac.jp

2. Professor Rajendra Bhatia
   Indian Statistical Institute
   7, SJS Sansanwal Marg
   New Delhi 110016, India
   rbh@isid.ac.in

3. Professor Chandler Davis
   Department of Mathematics
   University of Toronto
   Toronto M5S 1A1
   Canada
   davis@math.toronto.edu

4. Professor Roger A. Horn
   Department of Mathematics
   University of Utah
   Salt Lake City, Utah 84112
   U.S.A.
   rhorn@math.utah.edu.

5. Professor Joseph G. Stampfli
   Department of Mathematics
   Indiana University
   Bloomington, Indiana 47405
   U.S.A.
   stampfli@indiana.edu

6. Professor Jaroslav Zemanek
   Institute of Mathematics
   Polish Academy of Sciences
   P.O. Box 137
   00-950 Warsaw
   Poland
   zemanek@impan.gov.pl