

LIST OF PUBLICATIONS of George Gasper (George Gasper, Jr.) (2/16/07 version)

Department of Mathematics, Northwestern University, Evanston, Illinois 60208, (847) 491-5592

E-mail: george at math.northwestern.edu

Preprints:

WWW: <http://www.math.northwestern.edu/~george/preprints/>

Homepage:

WWW: <http://www.math.northwestern.edu/~george/>

#### PUBLICATIONS:

1. On the Littlewood-Paley and Lusin functions in higher dimensions, Proc. Nat. Acad. Sci. 57 (1967), 25-28.
2. On the Littlewood-Paley  $g$ -function and the Lusin  $s$ -function, Transactions A.M.S. 134 (1968), 385-403.
3. On a positive trigonometric sum (with R. Askey and J. Fitch), Proceedings A.M.S. 19 (1968), 1507.
4. Non-negative sums of cosine, ultraspherical and Jacobi polynomials, J. Math. Anal. Appl. 26 (1969), 60-68.
5. Linearization of the product of Jacobi polynomials I, Can. J. Math. 22 (1970), 171-175.
6. Linearization of the product of Jacobi polynomials II, Can. J. Math. 22 (1970), 582-593.
7. On the extension of Turan's inequality to Jacobi polynomials, Duke Math. J. 38 (1971), 415-428.
8. Jacobi polynomial expansions of Jacobi polynomials with non-negative coefficients (with R. Askey), Proc. Camb. Phil. Soc. 70 (1971), 243-255.
9. Positivity and the convolution structure for Jacobi series, Annals of Math. 93 (1971), 112-118.
10. Linearization of the product of Jacobi polynomials III (with R. Askey), Can. J. Math. 23 (1971), 332-338.
11. Solution to Problem 69-9\* (A positive integral, by R. Askey), SIAM Rev. 13 (1971), 396-397.
12. Certain rational functions whose power series have positive coefficients (with R. Askey), Amer. Math. Monthly 79 (1972), 327-341.
13. Banach algebras for Jacobi series and positivity of a kernel, Annals of Math. 95 (1972), 261-280.
14. An inequality of Turan type for Jacobi polynomials, Proceedings A.M.S. 32 (1972), 435-439.
15. Solution to Problem 71-13 (A positive integral, by L. Carlitz), (with R. Askey), SIAM Review 14 (1972), 375-378.
16. Convolution structures for Laguerre polynomials (with R. Askey), J. d'Analyse Math. 31 (1977), 48-68.
17. On two conjectures of Askey concerning normalized Hankel determinants for the classical polynomials, SIAM J. Math. Anal. 4 (1973), 508-513.
18. Nonnegativity of a discrete Poisson kernel for the Hahn polynomials, J. Math. Anal. Appl. 42 (1973), 438-451.
19. Projection formulas for orthogonal polynomials of a discrete variable, J. Math. Anal. Appl. 45 (1974), 176-198.
20. An inequality for Tchebycheff polynomials and extensions (with R. Askey and L.A. Harris), J. Approx. Theory 14 (1975), 1-11.

21. Products of terminating  ${}_3F_2(1)$  series, *Pacific J. Math.* 56 (1975), 87-95.
22. Positive Jacobi polynomial sums II (with R. Askey), *Amer. J. Math.* 98 (1976), 709-737.
23. Positive integrals of Bessel functions, *SIAM J. Math. Anal.* 6 (1975), 868-881.
24. Formulas of the Dirichlet-Mehler type, *Fractional Calculus and Its Applications*, Lecture Notes in Math. 457, Springer-Verlag, New York (1975), 207-215.
25. A positive sum from summability theory (with R. Askey and M.E.H. Ismail), *J. Approx. Theory* 13 (1975), 413-420.
26. Positivity and special functions, *Theory and Applications of Special Functions*, ed. by R. Askey, Academic Press, New York (1975), 375-433.
27. Solution to problem 74-21\* (Two dimensional discrete probability distributions, by R. Beckman), *SIAM Review* 18 (1976), 126-129.
28. Positive sums of the classical orthogonal polynomials, *SIAM J. Math. Anal.* 8 (1977), 423-447.
29. Multiplier criteria of Marcinkiewicz type for Jacobi expansions (with W. Trebels), *Transactions A.M.S.* 231 (1977), 117-132.
30. A characterization of localized Bessel potential spaces and applications to Jacobi and Hankel multipliers (with W. Trebels), *Studia Math.* 65 (1979), 243-278.
31. Jacobi and Hankel multipliers of type  $(p, q)$ ,  $1 < p < q < \infty$  (with W. Trebels), *Math. Annalen* 237 (1978), 243-251.
32. Multiplier criteria of Hörmander type for Jacobi expansions (with W. Trebels), *Studia Math.* 68 (1980), 187-197.
33. Multiplier criteria of Hörmander type for Fourier series and applications to Jacobi series and Hankel transforms (with W. Trebels), *Math. Annalen* 242 (1979), 225-240.
34. Multipliers and Parseval type formulas for Jacobi series (with W. Trebels), *Proceedings Symposia in Pure Math.* 35 (1979), Part 2, 417-427.
35. A Hausdorff-Young type inequality and necessary multiplier conditions for Jacobi expansions (with W. Trebels), *Acta Sci. Math. (Szeged)* 42 (1980), 247-255.
36. On sharp necessary conditions for radial Fourier multipliers (with W. Trebels), *Quantitative Approximation*, ed. by R.A. Devore and K. Scherer, Academic Press (1980), 133-142.
37. Summation formulas for basic hypergeometric series, *SIAM J. Math. Anal.* 12 (1981), 196-200.
38. Orthogonality of certain functions with respect to complex valued weights, *Canad. J. Math.* 33 (1981), 1261-1270.
39. Necessary conditions for Hankel multipliers (with W. Trebels), *Indiana Univ. Math. J.* 31 (1982), 403-414.
40. A convolution structure and positivity of a generalized translation operator for the continuous  $q$ -Jacobi polynomials, *Conference on Harmonic Analysis in honor of Antoni Zygmund*, Wadsworth International Group, Belmont, Calif. (1983), 44-59.
41. Positivity of the Poisson kernel for the continuous  $q$ -ultraspherical polynomials (with Mizan Rahman), *SIAM J. Math. Anal.* 14 (1983), 409-420.
42. Nonnegative kernels in product formulas for  $q$ -Racah polynomials I (with Mizan Rahman), *J. Math. Anal. Appl.* 95 (1983), 304-318.
43. Product formulas of Watson, Bailey and Bateman types and positivity of the Poisson kernel for  $q$ -Racah polynomials (with Mizan Rahman), *SIAM J. Math. Anal.* 15 (1984), 768-789.

44. Hankel multipliers and extensions to radial and quasi-radial Fourier multipliers (with W. Trebels), *Recent Trends in Mathematics* (Reinhardtsbrunn, 1982), Teubner-Texte zur Math. 50, Teubner, Leipzig (1982), 133-142.
45. Positivity of the Poisson kernel for the continuous  $q$ -Jacobi polynomials and some quadratic transformation formulas for basic hypergeometric series (with Mizan Rahman), *SIAM J. Math. Anal.* 17 (1986), 970-999.
46. Radial Fourier multipliers of  $L^p(R^2)$  (with A. Carbery and W. Trebels), *Proc. Nat. Acad. Sci. USA* 81 (1984), 3254-3255.
47. Rogers' linearization formula for the continuous  $q$ -ultraspherical polynomials and quadratic transformation formulas, *SIAM J. Math. Anal.* 16 (1985), 1061-1071.
48. Solution to Problem 84-11, (Evaluation of a hypergeometric function, by O.J. Ruehr), *SIAM Review* 27 (1985), 255.
49. A short proof of an inequality used by de Branges in his proof of the Bieberbach, Robertson and Milin conjectures, *Complex Variables: Theory and Application* 7 (1986), 45-50.
50. On localized potential spaces (with A. Carbery and W. Trebels), *J. Approx. Theory* 48 (1986), 251-261.
51. Inequalities for polynomials (with R. Askey), *The Bieberbach Conjecture, Proceedings of the Symposium on the Occasion of the Proof, Surveys and Monographs*, No. 21, Amer. Math. Soc., Providence, RI (1986), 7-32.
52. Solution to Problem 6497 ( $q$ -Analogues of a gamma function identity, by R. Askey), *Amer. Math. Monthly* 94 (1987), 199-201.
53. Summation, transformation, and expansion formulas for bibasic series, *Trans. Amer. Math. Soc.* 312 (1989), 257-277.
54.  $q$ -Extensions of Barnes', Cauchy's, and Euler's beta integrals, *Topics in Mathematical Analysis*, ed. by Th. M. Rassias, World Scientific Publ. Company, London and Singapore (1989), 294-314.
55. An indefinite bibasic summation formula and some quadratic, cubic and quartic summation and transformation formulas (with M. Rahman), *Can. J. Math.* 42 (1990), 1-27.
56.  $q$ -Extensions of Clausen's formula and of the inequalities used by de Branges in his proof of the Bieberbach, Robertson, and Milin conjectures, *SIAM J. Math. Anal.*, 20 (1989), 1019-1034.
57. A nonterminating  $q$ -Clausen formula and some related product formulas (with M. Rahman), *SIAM J. Math. Anal.* 20 (1989), 1270-1282.
58. Bibasic summation, transformation and expansion formulas,  $q$ -analogues of Clausen's formula, and nonnegative basic hypergeometric series,  *$q$ -Series and Partitions*, ed. by D. Stanton, Springer-Verlag, Berlin and New York (1989), 15-34.
59. Using symbolic computer algebraic systems to derive formulas involving orthogonal polynomials and other special functions, *Orthogonal Polynomials: Theory and Practice*, ed. by P. Nevai, Kluwer Academic Publishers, Boston (1989), 163-179.
60. On necessary multiplier conditions for Laguerre expansions (with W. Trebels), *Canad. J. Math.*, 43 (1991), 1228-1242.
61. On necessary multiplier conditions for Laguerre expansions II. (with W. Trebels), *SIAM J. Math. Anal.*, 25 (1994), 384-391.
62. Using sums of squares to prove that certain entire functions have only real zeros, *Fourier Analysis: Analytic and Geometric Aspects*, ed. by W.O. Bray, P. Milojević and C.V. Stanojević, Marcel Dekker, Inc., New York-Basel (1994), 171-186.
63. In Memoriam, Ralph P. Boas, Jr. (1912-1992), *J. Math. Anal. Appl.* 173 (1993), 1-2.

64. DEDICATION (to a special issue of the SIAM Journal on Mathematical Analysis dedicated to Richard A. Askey and Frank W.J. Olver), (with G. Andrews, M. Ismail, and P. Nevai), *SIAM J. Math. Anal.* 25 (1994), vii–ix.
65. Fractional integration for Laguerre expansions (with K. Stempak and W. Trebels), *Methods and Applications of Analysis* 2(1) (1995), 67–75.
66. On a restriction problem of de Leeuw type for Laguerre multipliers (with W. Trebels), *Acta Math. Hungar.* 68 (1–2) (1995), 135–149.
67. Ultraspherical multipliers revisited (with W. Trebels), *Acta Sci. Math. (Szeged)* 60 (1995), 291–309.
68. A Riemann-Lebesgue lemma for Jacobi expansions (with W. Trebels), *Mathematical Analysis, Wavelets, and Signal Processing: an international conference on mathematical analysis and signal processes*, ed. by M.E.H. Ismail, M.Z. Nashed, A.I. Zayed, and A.F. Gholeb, *Contemporary Mathematics*, v. 90, Amer. Math. Soc., Providence, R.I., 1995, pp. 117–125.
69. Elementary derivations of summation and transformation formulas for  $q$ -series, *Fields Institute Communications* 14 (1997), M.E.H. Ismail, D.R. Masson and Mizan Rahman, eds., Amer. Math. Soc., Providence R.I., 55–70.
70. Solution to Problem 2 (with R. Askey), *SIAM Activity Group on Orthogonal Polynomials and Special Functions Newsletter* 8 (1) (1997), 18–19.
71. A lower estimate for the Lebesgue constants of linear means of Laguerre expansions (with W. Trebels), *Results in Mathematics* 34 (1998), 91–100.
72. Applications of weighted Laguerre transplantation theorems (with W. Trebels), *Methods and Applications of Analysis* 6 (1999), 337–346.
73. Norm inequalities for fractional integrals of Laguerre and Hermite expansions (with W. Trebels), *Tohoku Math. Jour.* 52 (2000), 251–260.
74.  $q$ -Extensions of Erdélyi’s fractional integral representations for hypergeometric functions and some summation formulas for double  $q$ -Kampé de Fériet series, *Contemporary Mathematics* 254 (2000), 187–198.
75. The mathematical contributions of Richard Askey (with M.E. Ismail, T. Koornwinder, P. Nevai, D. Stanton), *Contemporary Mathematics* 254 (2000), 1–18.
76.  $q$ -Analogues of some multivariable biorthogonal polynomials (with M. Rahman), *Dev. Math.* 13 (2005), 185–208.
77. Some systems of multivariable orthogonal Askey-Wilson polynomials (with M. Rahman), *Dev. Math.* 13 (2005), 209–219.
78. Summation, transformation, and expansion formulas for multibasic theta hypergeometric series (with M. Schlosser), *Advan. Stud. Contemp. Math.* 11 (2005), 67–84.
79. Some curious  $q$ -series expansions and beta integral evaluations (with M. Schlosser), *Ramanujan Jour.* 13 (2007), 227–240.
80. Some systems of multivariable orthogonal  $q$ -Racah polynomials (with M. Rahman), *Ramanujan Jour.* 13 (2007), 389–405.
81. Using integrals of squares of certain real-valued special functions to prove that the Pólya  $\Xi^*(z)$  function, the functions  $K_{iz}(a)$ ,  $a > 0$ , and some other entire functions have only real zeros, to appear.

#### PUBLISHED PROBLEMS:

1. Problem 2 in the SIAM Activity Group on Orthogonal Polynomials and Special Functions Newsletter 3

(1) (1992); solved and generalized by Askey and Gasper in 8 (1) (1997), 18–19.

2. Problem 19: Uniform bounds for shifted Jacobi multiplier sequences (with W. Trebels), SIAM Activity Group on Orthogonal Polynomials and Special Functions Newsletter 8 (3) (1998), 11–12.

#### LECTURE NOTES:

Lecture Notes For An Introductory Minicourse on  $q$ -Series, 1995 manuscript, available over the Word Wide Web at: <http://www.math.nwu.edu/~george/preprints>

#### BOOKS:

1. Basic Hypergeometric Series (joint with Mizan Rahman), Encyclopedia of Mathematics and Its Applications, Vol. 35 (First Edition, 1990), Vol. 96 (Second Edition, 2004), Cambridge University Press.

MIR published a Russian translation by N.M. Atakishiyev and S.K. Suslov of the First Edition of the above mentioned book in 1993.

2. Nonlinear Partial Differential Equations and Related Analysis (G.-Q. Chen, G. Gasper, and J. Jerome, eds.), Contemporary Mathematics, v. 371, Amer. Math. Soc., Providence, R.I., 2005.