

Publications of Oved Shisha

1. (with M. Fekete and Ch. Sternin) On the accuracy of approximation to given functions by certain interpolatory polynomials of given degree, *Riveon Lematematika (Mathematical Quarterly)*, Jerusalem, Israel, **8** (1954), 59–64. [in Hebrew, with an English summary]
2. A remark on Fejér's theorem on the convex hull of a point-set, *Riveon Lematematika (Mathematical Quarterly)*, Jerusalem, Israel **9** (1955), 75–77. [in Hebrew, with an English summary]
3. "Properties of Extremal Systems of Points," Ph.D. dissertation, The Hebrew University, Jerusalem, Israel, 1958. [in Hebrew]
4. (with J. Walsh) The zeros of infrapolynomials with some prescribed coefficients, *J. Analyse Math.* **9** (1961), 111–160.
5. An extension of Jensen's theorem for the derivative of a polynomial and for infrapolynomials, *J. Res. Nat. Bur. Standards Sect. B* **66B** (1962), 53–55.
6. (with G. T. Cargo) Bounds on ratios of means, *J. Res. Nat. Bur. Standards Sect. B* **66b** (1962), 169–170.
7. (with G. T. Cargo) Zeros of polynomials and fractional order differences of their coefficients, *J. Math. Anal. Appl.* **7** (1963), 176–182.
8. (with J. L. Walsh) The zeros of infrapolynomials with prescribed values at given points, *Proc. Amer. Math. Soc.* **14** (1963), 839–844.
9. "Some Aspects of Modern Mathematics," OAR Research Review, Office of Aerospace Research, U. S. Air Force, Washington, DC, Vol. II, No. 18 (November 1963), pp. 12–15.
10. (with J. L. Walsh) Extremal polynomials and the zeros of the derivative of a rational function, *Proc. Amer. Math. Soc.* **15** (1964), 753–758.
11. On the structure of infrapolynomials with prescribed coefficients, *Pacific J. Math.* **14** (1964), 1039–1051.
12. (with G. T. Cargo) On comparable means, *Pacific J. Math.* **14** (1964), 1053–1058.
13. (with J. L. Walsh) On the location of the zeros of some infrapolynomials with prescribed coefficients, *Pacific J. Math.* **14** (1964), 1103–1109.
14. (with M. Esser) A modified differentiation, *Amer. Math. Monthly* **71** (1964), 904–906.
15. (with B. Mond) Zeros of polynomials in several variables and fractional order differences of their coefficients, *J. Res. Nat. Bur. Standards Sect. B* **68B** (1964), 115–118.

16. Monotone approximation, *Pacific. J. Math.* **15** (1965), 667–671.
17. An approach to Darboux–Stieltjes integration, *Amer. Math. Monthly* **72** (1965), 890–892.
18. On sequences of power series with restricted coefficients, *Amer. Math. Monthly* **72** (1965), 533–537.
19. (with B. Mond) The rapidity of convergence of the Hermitean–Fejér approximation to functions of one or several variables, *Proc. Amer. Math. Soc.* **16** (1965), 1269–1276.
20. (with G. T. Cargo) The Bernstein form of a polynomial, *J. Res. Nat. Bur. Standards Sect. B* **70B** (1966), 79–81.
21. The Chebyshev polynomial of best approximation to a given function on an interval, *Math. Comp.* **20** (1966), 266–271.
22. (with B. Mond) On the approximation of functions of several variables, *J. Res. Nat. Bur. Standards Sect. B* **70B** (1966), 211–218.
23. On infrapolynomials with prescribed center of gravity of their zeros, *SIAM J. Numer. Anal.* **3** (1966), 349–354.
24. Means, *Math. Student J.* **13** (1966), 1–3.
25. Geometrical interpretations of the inequalities between the arithmetic, geometric and harmonic means, *Math. Mag.* **39** (1966), 268–269.
26. (with B. Mond) Ratios of means and applications, in “Inequalities” (Proc. Sympos. Wright–Patterson Air Force Base, OH., 1965), pp. 191–197, Academic Press, New York, 1967.
27. (with B. Mond) Bounds on differences of means, in “Inequalities” (Proc. Sympos. Wright–Patterson Air Force Base, OH., 1965), pp. 293–308, Academic Press, New York, 1967.
28. (with C. B. Mehr) On involutions, *J. Res. Nat. Bur. Standards Sect. B* **71B** (1967), 19–20.
29. (with B. Mond) A difference inequality for operators in Hilbert space, Blanch Anniversary volume, pp. 269–275, Aerospace Research Lab., U. S. Air Force, Washington, DC, 1967.
30. (with B. Mond) Differences of means, *Bull. Amer. Math. Soc.* **73** (1967), 328–333.
31. Best approximation on some finite sets, *J. Math. Anal. Appl.* **21** (1968), 347–355.
32. On Taylor’s theorem, *J. Res. Nat. Bur. Standards Sect. B* **72B** (1968), 5–6.
33. Trends in approximation theory, *Appl. Mech. Rev.* **21** (1968), 337–341.
34. (with B. Mond) The degree of convergence of sequences of linear positive operators, *Proc. Nat. Acad. Sci. U.S.A.* **60** (1968), 1196–1200.
35. (with B. Mond) The degree of approximation to periodic functions by linear positive operators, *J. Approx. Theory* **1** (1968), 335–339.
36. (with G. T. Cargo) A metric space connected with generalized means, *J. Approx. Theory* **2** (1969), 207–222.

37. (with B. Mond) Difference and ratio inequalities in Hilbert space, in "Inequalities II" (Proc. Second Sympos., U. S. Air Force Acad., CO, 1967), pp. 241–249, Academic Press, New York, 1970.
38. (with J. Edmunds) Extremal and acute bijections between finite point sets, in "Inequalities III" (Proc. Third Sympos., Univ. California, Los Angeles, CA, 1969; dedicated to the memory of Theodore S. Motzkin), pp. 93–96, Academic Press, New York, 1972.
39. (with H. Pollard) Variations on the binomial series, *Amer. Math. Monthly* **79** (1972), 495–499.
40. (with L. Flatto) A proof of Cauchy's integral theorem, *J. Approx. Theory* **7** (1973), 386–390.
41. (with L. Flatto) A proof of Cauchy's integral theorem using Bernstein polynomials, in "Approximation Theory" (Proc. Internat. Sympos., Univ. Texas, Austin, TX, 1973), pp. 345–346, Academic Press, New York, 1973.
42. (with R. J. Arms) A representation of the norm in finite-dimensional normed linear spaces, *Linear Algebra Appl.* **7** (1973), 173–174.
43. (with R. Bojanic) On the precision of uniform approximation of continuous functions by certain linear positive operators of convolution type, *J. Approx. Theory* **8** (1973), 101–113.
44. On the discrete version of Wirtinger's inequality, *Amer. Math. Monthly* **80** (1973), 755–760.
45. A characterization of functions having Zygmund's property, *J. Approx. Theory* **9** (1973), 395–397.
46. (with S. Haber) An integral related to numerical integration, *Bull. Amer. Math. Soc.* **79** (1973), 930–932.
47. (with S. Haber) Improper integrals, simple integrals, and numerical quadrature, *J. Approx. Theory* **11** (1974), 1–15.
48. (with R. Bojanic) Approximation of continuous, periodic functions by discrete linear positive operators, *J. Approx. Theory* **11** (1974), 231–235.
49. (with J. A. DeSanto) Numerical solution of a singular integral equation in random rough surface scattering theory, *J. Computational Phys.* **15** (1974), 286–292.
50. (with C. K. Chui and P. M. Smith) Padé approximants as limits of best rational approximants, *J. Approx. Theory* **12** (1974), 201–204.
51. Characterization of smoothness properties of functions by means of their degree of approximation by splines, *J. Approx. Theory* **12** (1974), 365–371.
52. On the degree of approximation by step functions, *J. Approx. Theory* **12** (1974), 435–436.
53. (with A. R. Reddy) A class of rational approximations on the positive real axis—a survey, *J. Approx. Theory* **12** (1974), 425–434.

54. (with R. Bojanic) Degree of L_1 approximation to integrable functions by modified Bernstein polynomials, *J. Approx. Theory* **13** (1975), 66–72.
55. On saturation with splines, *J. Approx. Theory* **13** (1975), 491–494.
56. (with J. T. Lewis) L_p convergence of monotone functions and their uniform convergence, *J. Approx. Theory* **14** (1975), 281–284.
57. (with C. W. Groetsch) On the degree of approximation by Bernstein polynomials, *J. Approx. Theory* **14** (1975), 317–318.
58. (with A. R. Reddy) A characterization of entire functions $\sum_{k=0}^{\infty} a_k z^k$ with all $a_k \geq 0$, *J. Approx. Theory* **15** (1975), 83–84.
59. (with G. T. Cargo) Least p th powers of deviations, *J. Approx. Theory* **15** (1975), 335–355.
60. (with A. C. Bacopoulos and G. D. Taylor) Relative approximation, *J. Approx. Theory* **15** (1975), 356–365.
61. (with S. Travis) L_p convergence of generalized convex functions and their uniform convergence, *J. Approx. Theory* **15** (1975), 366–370.
62. (with C. K. Chui and P. W. Smith) Best local approximation, *J. Approx. Theory* **15** (1975), 371–381.
63. (with E. Passow and L. Raymon) Piecewise monotone interpolation and approximation with Müntz polynomials, *Trans. Amer. Math. Soc.* **218** (1976), 197–205.
64. (with C. F. Osgood) On simple integrability and bounded coarse variation, in “Approximation Theory II” (Proc. Internat. Sympos., Univ. Texas, Austin, TX, 1976), pp. 491–501, Academic Press, New York, 1976.
65. (with C. F. Osgood) The dominated integral, *J. Approx. Theory* **17** (1976), 150–165.
66. (with C. F. Osgood) Numerical quadrature of improper integrals and the dominated integral, *J. Approx. Theory* **20** (1977), 139–152.
67. (with W. W. Cooper and K. M. Levasseur) “Design of Minimum Noise Digital Filters Using a Mixed Norm,” Technical Report No. 67, Department of Mathematics, University of Rhode Island, 1977.
68. (with G. R. Verma) On Lipschitz condition and Zygmund’s property for functions of several variables, in “General Inequalities 1” (Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach, 1976), pp. 115–123, Birkhäuser, Basel, 1978.
69. (with James T. Lewis and C. F. Osgood) Infinite Riemann sums, the simple integral and the dominated integral, in “General Inequalities 1” (Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach, 1976), pp. 233–242. Birkhäuser, Basel, 1978.
70. A simple differential proof of the inequality between the arithmetic and geometric means, in “General Inequalities 1” (Proc. First Internat. Conf., Math. Res. Inst., Oberwolfach, 1976), p. 305, Birkhäuser, Basel, 1978.

71. (with S. Haber) On the nonomnipotence of regular summability methods, *Adv. in Math.* **28** (1978), 231–232.
72. Integration rules of the second kind, *J. Approx. Theory* **24** (1978), 224–226.
73. (with S. Haber) On the location of the intermediate point in Taylor's theorem, in "General Inequalities 2" (Proc. Second Internat. Conf., Oberwolfach, 1978), pp. 143–144, Birkhäuser, Basel/Boston, 1980.
74. Area of a triangle and the product of its side lengths, in "General Inequalities 2," (Proc. Second Internat. Conf., Oberwolfach, 1978), pp. 465–466, Birkhäuser, Basel/Boston, 1980.
75. (with J. S. Byrnes) The order of magnitude of unbounded functions and their degree of approximation by piecewise interpolating polynomials, *J. Approx. Theory* **30** (1980), 53–58.
76. (with J. S. Byrnes) The order of magnitude of functions of a positive variable and their degree of approximation by piecewise interpolatory polynomials, in "Approximation Theory III" (Proceedings of a conference held in January 1980 in Austin, Texas; E. W. Cheney, Ed.), pp. 279–284, Academic Press, New York (1980).
77. Tchebycheff systems and best partial bases, *Pacific J. Math.* **86** (1980), 579–592.
78. (with A. C. Bacopoulos) Absolute and relative approximation with a singularity, *J. Approx. Theory* **30** (1980), 121–128.
79. (with D. Davis) Simple proofs of the fundamental theorem of arithmetic, *Math. Mag.* **54** (1981), 18.
80. (with M. Hasson) Approximation by lacunary polynomials: A converse theorem, in "Approximation Theory and Applications," (Proc. Workshop, Technion-Israel Inst. Tech., Haifa, 1980; Z. Ziegler, Ed.), pp. 311–317, Academic Press, New York/London, 1981.
81. (with N. S. Murthy and C. F., Osgood) The dominated integral of functions of two variables, in "Functional Analysis and Approximation" (Oberwolfach, 1980); P. L. Butzer, B. Sz. Nagy, and E. Görlich, Eds.), Internat. Ser. Numer. Math., Vol. 60, pp. 433–442, Birkhäuser, Basel/Boston, 1981.
82. (with A. Pinkus) Variations on the Chebyshev and L^q theories of best approximations, *J. Approx. Theory* **35** (1982), 148–168.
83. (with D. S. Lubinsky) Best approximation over the whole complex plane, *J. Approx. Theory* **36** (1982), 277–293.
84. (with J. S. Byrnes) On the order of magnitude of functions at infinity, *J. Approx. Theory* **36** (1982), 328–333.
85. (with E. Lapidot) Best approximation as a solution of a game, *Adv. Math.* **47** (1983), 233–240.
86. (with S. Beraha) e , in "General Inequalities 3" (Proceedings of the

- Third Internat. Conference on General Inequalities; E. F. Beckenbach and W. Walter, Eds.), pp. 505–507, Birkhäuser, Basel, 1983.
87. (with J. T. Lewis) The generalized Riemann, simple, dominated and improper integrals, *J. Approx. Theory* **38** (1983), 192–199.
 88. Mathematically civilized, *Notices Amer. Math. Soc.* **30** (1986), 603.
 89. (with A. Pinkus) A variation on the Chebyshev theory of best approximation, in “Constructive Function Theory ‘81” (Varna, 1981), pp. 479–481, Bulgar. Acad. Sci., Sofia, 1983.
 90. (with M. Hasson) On the condition $\sum_{n=1}^{\infty} n^{p-1} E_n^*(f) < \infty$, *J. Approx. Theory* **39** (1983), 389–393.
 91. (with M. Rosen) Rings all of whose additive group endomorphisms are left multiplications, *Internat. J. Math. Sci.* **7** (1984), 297–301.
 92. (with J. S. Byrnes and A. Giroux) Riemann sums and improper integrals of step functions related to the prime number theorem, *J. Approx. Theory* **40** (1984), 180–192.
 93. (with J. M. Anderson, P. Erdős, and A. Pinkus) The closed linear span of $\{x^k - c_k\}_1^{\infty}$, *J. Approx. Theory* **43** (1985), 75–80.
 94. (with U. Grenander) Experimental mathematics, *J. Approx. Theory* **43** (1985), 99–104.
 95. (with G. A. Anastassiou) Monotone approximation with linear differential operators, *J. Approx. Theory* **44** (1985), 391–393.
 96. Derivative without limit, *J. Math. Anal. Appl.* **113**(1986), 280–287.
 97. (with G. Cross) A new approach to integration, *J. Math. Anal. Appl.* **114** (1986), 289–294.
 98. A relation between best approximations in the Chebyshev and the gauges senses, *J. Approx. Theory* **47** (1986), 323–325.
 99. (with J. T. Lewis) On best partial bases, *J. Approx. Theory* **47** (1986), 326–335.
 100. On the fundamental properties of continuous functions, *Internat. J. Math. Ed. Sci. Tech.* **18** (1987), 89–92.
 101. (with N. Murthy and C. F. Osgood) On dominant integrability, *J. Approx. Theory* **51** (1987), 89–92.
 102. (with M. Falkowitz and N. N. Morsi) Note on derivative without limit, *J. Math. Anal. Appl.* **127** (1987), 595–597.
 103. (with D. S. Clark) Inductive construction of an infinite chessboard with maximal placement of non-attacking queens, *Math. Mag.* **61** (1988), 98.
 104. Proof of power series and Laurent expansions of complex differentiable functions without use of Cauchy’s integral formula or Cauchy’s integral theorem, *J. Approx. Theory* **57** (1989), 117–135. Erratum, *J. Approx. Theory* **58** (1989), 246.
 105. (with D. S. Clark) Invulnerable queens on an infinite chessboard, in “Combinatorial Mathematics: Proceedings of the Third International

- Conference" (New York, 1985), pp. 133–139, *Ann. New York Acad. Sci.* 555, New York Acad. Sci., New York, 1989.
106. (with S. A. Ali and G. A. Anastassiou) Discrete best L_1 approximation in the gauges sense, *Numer. Funct. Anal. Optim.* **11** (1990), 411–427.
107. On Ptolemy's theorem, *Internat. J. Math. Sci.* **14** (1991), 410.
108. (with D. J. Newman) Magnitude of Fourier coefficients and degree of approximation by Riemann sums, *Numer. Funct. Anal. Optim.* **12** (1991), 545–550.
109. A note on solid angles, *Math. Mag.* **65** (1992), 174.
110. (with C. Yang) Monotone approximation with first order linear differential operators, in "Approximation Theory" (Proceedings of the Sixth Southeastern Approximation Theorists Annual Conference; G. A. Anastassiou, Ed.), *Lecture Notes in Pure and Appl. Math.*, Vol. 138, pp. 453–462, Dekker, New York, 1992.
111. The genesis of the generalized Riemann integral, *Comput. Math. Appl.* (1995), 207–211.