# DANY LEVIATAN

Born February 21, 1942 in Jerusalem, ISRAEL.
Married, three children, four grandchildren.

## Education

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| B.Sc. | 1959-1962 | Hebrew University, Jerusalem |
| M.Sc. | 1962-1963 | Hebrew University, Jerusalem |
| Ph.D. | 1964-1966 | Hebrew University, Jerusalem |

## Academic Experience

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| 1963-1965 | Teaching Assistant, Hebrew University, Jerusalem, Israel. |
| 1964-1966 | Mathematician, Israel Air Force. |
| 1965-1966 | Instructor, Tel-Aviv University, Israel. |
| 1966-1967 | Lecturer, Tel-Aviv University, Israel. |
| 1967-1969 | Visiting Assistant Professor, University of Illinois at Champaign-Urbana – Fulbright scholar. |
| 1969-1970 | Visiting Associate Professor, University of Illinois at Champaign-Urbana, IL. |
| 1970-1972 | Senior Lecturer, Tel-Aviv University, Israel. |
| 1972-1976 | Associate Professor, Tel-Aviv University, Israel. |
| 1972-1974 | Head Department of Mathematics, Tel-Aviv University, Israel. |
| Fall 1973 | Research Associate, York University, Toronto, Canada. |

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| 1974-1975 | Visiting Professor, University of New South Wales, Australia. |
| 1976-to date | Professor, Tel-Aviv University, Israel. |
| 1976-1980 | Dean of Faculty of Exact Sciences, Tel-Aviv University, Israel. |
| Summer 1978 | Visiting Scholar, Universität Stuttgart, Germany – DAAD grant. |
| Fall 1979 | Visiting Professor, University of California, Riverside CA. |
| 1980-1981 | Visiting Professor, California Institute of Technology, Pasadena CA. |
| 1981-1982 | Visiting Professor, University of Connecticut, Storrs CT. |
| 1982-1985 | Head, School of Mathematics, Tel-Aviv University. |
| Summer 1983 | Visiting Scholar, Universität Würzburg Germany – DAAD grant. |
| 1984-to date | Incumbent, Dr. Irene Halmos Chair in Approximation Theory. |
| Summer 1985 | Visiting Scholar, Universitá di Firenze, Italy. |
| 1985-1986 | Visiting Professor, University of Texas at Austin TX. |
| Summer 1987 | Visiting Scholar, University of Alberta, Edmonton AB, Canada. |
| Summer 1988 | Visiting Scholar, Universidade Campinas, SP Brazil – FAPESP grant. |
| 1991- | Editor, Journal of Approximation Theory. |

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| Summer 1991 | Visiting Professor, University of Alberta, Edmonton AB, Canada. |
| Fall 1991 | Visiting Professor, University of California at Riverside CA. |
| Winter 1992 | Visiting Professor, University of South Carolina, Columbia SC. |
| Summer 1992 | Visiting Scholar, University of the Witwatersrand, Johannesburg, South Africa. |
| Summer 1993 | Visiting Professor, INSA, Rennes, France. |
| 1994- | Editor, Serdica Mathematical Journal. |
| 1995-1996 | Visiting Research Professor, University of South Carolina, Columbia SC. |
| Summer 1997 | Visiting Scholar, University of Alberta, Edmonton AB, Canada. |
| 1999- | Editor, Scientiae Mathematicae. |
| Fall 2000 | Visiting Research Professor, University of South Carolina, Columbia SC. |
| Summer 2001 | Visiting Scholar, University of Alberta, Edmonton AB, Canada. |
| 2005-2010 | Rector, Tel Aviv University. |
| Fall 2010 | Visiting Scientist, CSCAMM, University of Maryland, College Park MD. |
| Winter 2011 | Visiting Researcher, University of Georgia, Athens GA. |
| Spring 2011 | Visiting Researcher, University of Manitoba, Winnipeg MB, Canada |

## Books (edited)

Approximation Interpolation and Summability, S. Baron and D. Leviatan Eds, Israel Mathematical Conference Proceedings 4(1991),pp. 1- 284. Multivariate Approximation and Applications, N. Dyn, D. Leviatan, D. Levin and A. Pinkus Eds, Cambridge University Press 2001.

## List of Publications

1. "A generalized moment problem of self-adjoint operators", Israel J. Math. **4** (1966), 113–118.

2. "Generalized Bernstein polynomials" (with A. Jakimovski), Math. Z. **93** (1966), 416–426.

3. "On Hausdorff and related moment problems" (with A. Jakimovski and M. S. Ramanujan), Publ. Math., Debrecen **13** (1966), 17–23.

4. "A generalized moment problem", Israel J. Math. **5** (1967), 97–103.

5. "Generalized Bernstein power-series" (with A. Jakimovski), Math. Z. **96** (1967), 333–342.

6. "A property of approximation operators and applications to Tauberian constants" (with A. Jakimovski), Math. Z. **102** (1967), 177–204.

7. "Tauberian constants for generalized Hausdorff transformations", J. London Math. Soc. **43** (1968), 308–314.

8. "Some moment problems in a finite interval", Canadian J. Math. **20** (1968), 960–966.

9. "Moment problems and quasi-Hausdorff transformations", Canadian Math. Bull. **11** (1968), 225–236.

10. "On approximation operators of the Bernstein type", J. Approx. Theory **1** (1968), 275–278.

11. "Completeness and approximation operators" (with A. Jakimovski), Publ. Ramanujan Institute No. **1** (1969), 123–129.

12. "On the representation of functions as Laplace integrals", J. London Math. Soc. **44** (1969), 88–92.

13. "On moment sequences of operators", Illinois J. Math. **13** (1969), 249–255.

14. "Some Tauberian theorems for quasi-Hausdorff transforms", Math. Z. **108** (1969), 213–222.

15. "On a representation theorem and application to moment sequences in locally convex spaces", Math. Ann. **182** (1969), 251–262.

16. "Tauberian theorems concerning $(S^*, \mu)$ transformations", Tôhoku Math. J. **21** (1969), 389-405.

17. "A characterization of totally regular $[J, f(x)]$ transformations" (with L. Lorch), Proc. Amer. Math. Soc. **23** (1969), 315–319.

18. "Generalized Szász operators for the approximation in the infinite interval" (with A. Jakimovski), Mathematica (Cluj) **11** (34) (1969), 97–103.

19. "On the remainder in the approximation of functions by Bernstein-type Operators", J. Approx. Theory **2** (1969), 400–409.

20. "Some applications of the Gamma-operators" (with M. Müller), Archiv der Math. **20** (1969), 638–647.

21. "Tauberian estimates for the differences of Hausdorff and of quasi-Hausdorff transforms", J. London Math. Soc. (2) **2** (1970), 1–13.

22. "Gibbs phenomenon and Lebesgue constants for regular $[J, f(x)]$ means" (with L. Lorch), Acta Math. Hungarica **21** (1970), 64–85.

23. "Moment problems with functions in some köthe spaces", J. Math. Analysis and Appl. **30** (1970), 295–307.

24. "Absolute Tauberian conditions for absolute Hausdorff and quasi-Hausdorff methods", Israel J. Math. **8** (1970), 138–146.

25. "The $L^p$ moment problems for operators in Banach spaces" (with M. S. Ramanujan), Indiana Univ. Math. J. **20** (1971), 97–106.

26. "A new approach to representation theory for convolution transforms", Pacific J. Math. **35** (1970), 441–449.

27. "An application of a convolution transform to the sequence to function analogues of Hausdorff transformations", J. d'Analyze Math. **24** (1971), 173–189.

28. "A generalization of the Mean Ergodic Theorem" (with M. S. Ramanujan), Studia Math. **39** (1971), 113–117.

29. "Remarks on some Tauberian theorems of Meyer-König, Tietz and Stieglits",
Proc. Amer. Math. Soc. **29** (1971), 126–132.

30. "On the connectedness of the sets of limit points of certain transforms of bounded sequences" (with L. Lorch), Canadian Math. Bull. **14** (1971), 175–181.

31. "A representation theorem and approximation operators arising from inequalities involving differential operators", Trans. Amer. Math. Soc. **168** (1972), 85–99.

32. "On Gamma-type approximation Operators", Math. Z. **124** (1972), 208–212.

33. "On the representation of the remainder in the variation-diminishing spline approximation", J. Approx. Theory **7** (1973), 63–70.

34. "Generalized polynomial approximation" (with J. Bak, D. J. Newman and J. Tzimbalario), Israel J. Math. **15** (1973), 337–349.

35. "Some vector valued Laplace transforms", Israel J. Math. **16** (1973), 73–86.

36. "Representation of functions related to generalized completely monotonic functions", J. London Math. Soc. (2) **7** (1973), 407–416.

37. "Saturation and the mean ergodic theorem" (with U. Westphal), Mathematica (Cluj) **15** (38) (1973), 83–88.

38. "On the Jackson Müntz theorem", J. Approx. Theory **10** (1974), 1–5.

39. "Saturation theorems related to the mean ergodic theorem", Indiana Univ. Math. J. **24** (1974), 86–91.

40. "Remarks on some representation theorems for convolution transforms", Rendiconti Academia Nazionale dei Lincei **54** (1974), 382–386.

41. "The Müntz-Jackson approximation theorem", ISNM **25** Birkhäuser (1974), 353–361.

42. "On the Jackson Müntz approximation", Revue D'Analyze Numerique et de la Théorie de L'Approximation **3** (1974), 205–208.

43. "On restricted best approximation to functions with restricted derivatives" (with E. Kimchi), SIAM J. on Numer. Analysis **13** (1976), 51–53.

44. "Approximation by polynomials with restricted coefficients", Approx. Theory, II, Proc. Conference on Approx. Theory, Austin, Texas 1976, G.G. Lorentz, C.K. Chui and L.L. Schumaker, Eds., Academic Press (1976), 417-422.

45. "A representation theorem for convolution transform with determining function in $L^p$" (with Ch. Danon), Pacific J. Math. **62** (1976), 81–86.

46. "On the rate of approximation by polynomials with complex exponents", J. London Math. Soc. (2) **15** (1977), 305–318.

47. "The rate of approximation of functions by means of polynomials with restricted coefficients" (with J. Bak and M. v. Golitschek), Israel J. Math. **26** (1977), 265–275.

48. "Permissible bounds on the coefficients of approximating polynomials with real or complex exponents" (with M. v. Golitschek), J. Math. Analysis and Appl. **60** (1977), 123–138.

49. "On the rate of approximation by generalized polynomials with restricted coefficients", Approx. Theory III, Proc. Conference on Approx. Theory, Austin, Texas 1980. E.W. Cheney, ed., Academic Press (1980), 583–588.

50. "On the rate of approximation by Müntz polynomials satisfying constraints",
Proc. Conference on Operator Theory and Approx., Oberwolfach 1980, ISNM **60** (1981), 365–370.

51. "The rate of monotone spline approximation in the $L_p$ norm" (with H. N. Mhaskar), SIAM J. Math. Anal. **13** (1982), 866–874.

52. "The behavior of the derivatives of the algebraic polynomials of best approximation," J. Approx. Theory **35** (1982), 169–176.

53. "Comonotone approximation by splines of piecewise monotone functions" (with H. N. Mhaskar), J. Approx. Theory **35** (1982), 364–369.

54. "On comonotone approximation" (with R. K. Beatson), Canadian Math. Bull. **26** (1983), 220–224.

55. "The degree of comonotone approximation of differentiable functions", Proc. 2nd Edmonton Conference on Approximation Theory 1982, Canadian Math. Soc. Conf. Proc. **3** (1983), 239–249.

56. "The degree of copositive approximation by polynomials", Proc. Amer. Math. Soc. **88** (1983), 101–105.

57. "Degree of copositive approximation", Approx. Theory IV, Proc. International Symposium on Approx. Theory, College Station, Texas 1983, C.K. Chui, L.L. Schumaker and J.C. Ward, Eds., Academic Press (1983), 587–592.

58. "Pointwise estimates for convex polynomial approximation", Proc. Amer. Math. Soc. **98** (1986), 471–474.

59. "New estimates on the rate of shape preserving approximation", Approx. Theory V (1986), 423–426.

60. "Monotone and comonotone polynomial approximation revisited", J. Approx. Theory **53** (1988), 1–16.

61. "Monotone polynomial approximation in $L^p$", Rocky Mountain Math J. **19** (1989), 231–241.

62. "On approximation in the $L^p$-norm by reciprocals of polynomials" (with A. L. Levin and E. B. Saff), J. Approx. Theory **75** (1989), 322–331.

63. "Polynomials with restricted coefficients", Approximation Theory VI (1989), 387–390.

64. "Approximation in the $L^p$-norm by reciprocals of trigonometric and algebraic polynomials" (with R. A. DeVore and X. M. Yu), Canadian J. Math. **33** (1990), 460–469.

65. "Improved estimates in Müntz-Jackson theorems", Progress in Approx. Theory (1991), 575–582.

66. "Degree of approximation by polynomials with restricted coefficients", Progress in Approx. Theory (1991), 567–573.

67. "Shape preserving approximation by polynomials in $L^p$" (with X. M. Yu), preprint.

68. "Professor Amnon Jakimovski- on his sixty fifth birthday" (with S. Baron), Approximation Interpolation and Summability, S. Baron and D. Leviatan Eds, Israel Mathematical Conference Proceedings **4** (1991), 1–24.

69. "Polynomial approximation in $L_p$ $(0 < p < 1)$" (with R. A. DeVore and X. M. Yu), Constructive Approx. **8** (1992), 187–201.

70. "Shape preserving polynomial approximation in $C[-1, 1]$" (with Z. Ditzian and D. Jiang), Proc. Cambridge Phil. Soc. **112** (1992), 309–316.

71. "Copositive polynomial approximation in $C[0, 1]$" (with Y. K. Hu and X. M. Yu), J. of Analysis **1** (1993), 85–90.

72. "Convex polynomial approximation in $L_p$ $(0 < p < 1)$" (with R. A. DeVore), J. Approx. Theory **75** (1993), 79–84.

73. "Simultaneous polynomial approximation" (with Z. Ditzian and D. Jiang), SIAM J. Math. Anal. **24** (1993), 1652–1661.

74. "Compression and nonlinear n–widths" (with R. A. DeVore, G. Kyriazis and V. M. Tikhomirov), J. Advances in Computational Mathematics **1** (1993), 197–214.

75. "Inverse theorems for best polynomial approximation in $L_p$ $0 < p < 1$" (with Z. Ditzian and D. Jiang), Proc. Amer. Math. Soc. **120** (1994), 151–155.

76. "Convex polynomial and spline approximation in $C[-1,1]$" (with Y. K. Hu and X. M. Yu), Constructive Approx. **10** (1994), 31–64.

77. "Degree of approximation by rational functions with prescribed numerator degree" (with D. S. Lubinsky), Canadian J. Math. **46** (1994), 619–633.

78. "Copositive polynomial and spline approximation" (with Y. K. Hu and X. M. Yu), J. Approx. Theory **80** (1995), 204–218.

79. "Shape preserving approximation in $L_p$" (with V. Operstein) Constr. Approx. **11** (1995), 299–319.

80. "Rational Müntz approximation" (with M. v. Golitschek) Annals of Numer. Math. **2** (1995), 425–438.

81. "Counter examples in convex and higher order constrained approximation" (with I. A. Shevchuk) East J. on Approx. **1** (1995), 391–398.

82. "Recent developments in shape preserving approximation" in Approximation Theory, Proc. IDoMAT 1995, M. W. Müller, M. Felten and D. H. Mache Eds, Akademie Verlag, Math. Research **86** (1995), 189–200.

83. "Convex polynomial and spline approximation in $L_p[-1,1]$, $0 < p < \infty$" (with R. A. DeVore and Y. K. Hu) Constr. Approx. **12** (1996), 409–422.

84. "Some estimates for convex polynomial approximation in $L_p$" (with Y. K. Hu and X. M. Yu) J. Orissa Math. Soc. **12-15**(1993-96), 49–57.

85. "Shape preserving approximation by polynomials and splines" Proc. International Meeting on Approximation Theory and Function Series, Budapest 1995. Budapest 1996, 63–84.

86. "On monotone and convex approximation by splines with free knots" (with A. Shadrin) Annals of Numer. Math. **4**(1997), 415–434.

87. "G. G. Lorentz and the theory of Summability" (with S. Baron) in G. G. Lorentz: Mathematics from Leningrad to Austin, Selected works in real, functional, and numerical analysis Vol. 1, Birkhäuser Boston 1997, 41–57.

88. "Approximation of monotone functions: a counter example" (with R. A. DeVore and I. A. Shevchuk) in Curves and Surfaces with Applications in CAGD, Proceedings of the Chamonix Conference 1996, A. Le Méhauté, C. Rabut and L. L. Schumaker, Eds, Vanderbilt Univ. Press 1997, 95–102.

89. "Some positive results and counter examples in comonotone approximation" (with I. A. Shevchuk) J. Approx. Theory **89** (1997), 195–206.

90. "Comonotone polynomial approximation in $L_p[-1,1]$, $0 < p \leq \infty$" (with K. Kopotun) Acta Math. Hungarica **77** (1997), 301–310.

91. "Nearly comonotone approximation" (with I. A. Shevchuk) J. Approx. Theory **95** (1998), 53–81.

92. "Degree of simultaneous coconvex polynomial approximation" (with K. Kopotun) Results in Math. **34** (1998), 150–155.

93. "Monotone approximation estimates involving the third modulus of smoothness" (with I. A. Shevchuk) Approx. Theory IX, Ch. K. Chui and L. L. Schumaker eds., Vanderbilt University Press, Nashville TN, 1998, 223–230.

94. "The Bernstein operator is the closest positive operator to a projection" (with B. L. Chalmers and M. P. Prophet) Approx. Theory IX, Ch. K. Chui and L. L. Schumaker eds., Vanderbilt University Press, Nashville TN, 1998, 75–82.

95. "The degree of coconvex polynomial approximation" (with K. Kopotun and I. A. Shevchuk) Proc. Amer. Math. Soc. **127** (1999), 409–415.

96. "Optimal interpolating spaces preserving shape" (with B. L. Chalmers and M. P. Prophet) J. Approx. Theory **98** (1999), 354–373.

97. "Constants in comonotone polynomial approximation- a survey" (with I. A. Shevchuk) Proc. IDoMAT 1998 M. W. Müller, M. D. Buhmann, D. H. Mache and M. Felten Eds, International Series of Numer. Math. Birkhäuser Verlag Basel, **132** (1999), 145–158.

98. "Some positive results and counter examples in comonotone approximation II" (with I. A. Shevchuk) J. Approx. Theory **100** (1999), 113–143.

99. "Nearly comonotone approximation II" (with I. A. Shevchuk) Acta Sci. Math. (Szeged) **66** (2000), 115–135.

100. "More on comonotone polynomial approximation" (with I. A. Shevchuk) Constr. Approx. **16** (2000), 475–486.

101. "Interpolatory pointwise estimates for polynomial approximation" (with H. H. Gonska, I. A. Shevchuk and H.-J. Wenz) Constr. Approx. **16** (2000), 603–629.

102. "Shape preserving approximation by polynomials" J. Comp. and Applied Math. **121** (2000), 73–94.

103. "Estimates on the approximation of 3-monotone functions by 3-monotone quadratic splines" (with V. N. Konovalov) East J. Approx. **7** (2001), 333–349.

104. "Kolmogorov and linear widths of weighted Sobolev-type classes on a finite interval II" (with V. N. Konovalov) J. Approx. Theory **113** (2001), 266–297.

105. "Wavelet decompositions of non-refinable shift invariant spaces" (with Shai Dekel) Appl. and Comp. Harmonic Analysis **12** (2002), 230–258.

106. "Kolmogorov and linear widths of weighted Sobolev-type classes on a finite interval" (with V. N. Konovalov) Analysis Math. **28** (2002), 251–278.

107. "Coconvex approximation" (with I. A. Shevchuk) J. Approx. Theory **118** (2002), 20–65.

108. "Nonstationary wavelets" (with Shai Dekel) in Wavelet Analysis, Twenty years' development, Series in Analysis vol. 1, Proceedings of ICCHA, Hong Kong, June 2001, Ed. D. X. Zhou, World Scientific 2002, pp. 81–99.

109. "Nearly coconvex approximation" (with I. A. Shevchuk) Serdica Math. J. **28** (2002), 361–378.

110. "Shape preserving widths of weighted Sobolev-type classes of positive, monotone, and convex functions on a finite interval" (with V. N. Konovalov) Constr. Approx. **19** (2003), 23–58.

111. "Shape preserving widths of Sobolev-type classes of $s$-monotone functions on a finite interval" (with V. N. Konovalov) Israel J. Math. **133** (2003), 239–268.

112. "Shape preserving widths of weighted Sobolev-type classes" (with V. N. Konovalov) in Advanced Problems in Constructive Approximation Proc. IDoMAT 2001, M. Buhmann and D. H. Mache Eds., International Series of Numer. Math. **142** Birkhäuser Verlag Basel (2003), 79–94.

113. "Coconvex polynomial approximation" (with I. A. Shevchuk) J. Approx. Theory **121** (2003), 100–118.

114. "Adaptive multivariate piecewise polynomial approximation" (with Shai Dekel), SPIE **5207** in Wavelets: Appl. in Signal and Image Processing X, M. A. Unser, A. Aldroubi, and F. Laine Eds (2003), 125–133.

115. "On the relation between piecewise polynomial and rational approximation in $L_p(R^2)$" (with Shai Dekel) Constr. Approx. **20** (2004), 73–91.

116. "On measuring the efficiency of kernel operators in $L_p(R^d)$" (with Shai Dekel) Advances in Comp. Math. **20** (2004), 53–65.

117. "Free knot splines approximation of $s$-monotone functions" (with V. N. Konovalov) Advances in Comp. Math. **20** (2004), 347–366.

118. "On bivariate smoothness spaces associated with nonlinear approximation" (with Shai Dekel and Micha Sharir) Constr. Approx. **20** (2004), 625–646.

119. "The Bramble-Hilbert lemma for convex domains" (with S. Dekel), SIAM J. Math. Anal. **35** (2004), 1203–1212.

120. "Whitney estimates for convex domains with applications to multivariate piecewise polynomial approximation" (with Shai Dekel), Foundations of Comp. Math. **4** (2004), 345–368.

121. "Widths of Sobolev-type classes with quasi-seminorms" (with Z. Ditzian and V. N. Konovalov), Rocky Mountain Math. J. **35** (2005), 445–478.

122. "On 3-monotone approximation by piecewise polynomials" (with A. V. Prymak), J. Approx. Theory **133** (2005), 147–172.

123. "Convex approximation in the uniform norm: conclusion" (with K. Kopotun and I. A. Shevchuk), Canadian Math. J. **57** (2005), 1224–1248.

124. "Adaptive multivariate approximation using binary space partitions and geometric wavelets" (with Shai Dekel), SIAM J. Numer. Analysis SIAM J. Numer. Anal. **43** (2005), 707–732.

125. "Simultaneous greedy approximation in Banach spaces" (with V. N. Temlyakov), J. of Complexity **21** (2005), 275–293.

126. "Simultaneous approximation by greedy algorithms" (with V. N. Temlyakov), Advances in Comp. Math. **25** (2006), 73–90.

127. "Coconvex approximation in the uniform norm- the final frontier" (with K. Kopotun and I. A. Shevchuk), Acta Math. Hungar. **110** (2006), 117–151.

128. "Nearly monotone spline approximation in $L_p$" (with K. Kopotun and A. V. Prymak), Proc. Amer. Math. Soc. **134** (2006), 2037–2047.

129. "Kolmogorov and linear widths of Sobolev-type classes of $s$-monotone functions" (with J. Gilewicz and V. N. Konovalov), J. Approx. Theory **140** (2006), 101–126.

130. "Freeknot splines approximation of Sobolev-type classes of $s$-monotone functions" (with V. N. Konovalov), Adv. Comput. Math. **27** (2007), 211–236.

131. "Constrained spline smoothing" (with K. A. Kopotun and A. V. Prymak), SIAM J. Numer. Anal. **46** (2008), 1985–1997.

132. "Approximation by polynomials and ridge functions of classes of $s$-monotone radial functions" (with V. N. Konovalov and V. E. Maiorov), J. Approx. Theory **152** (2008), 20–51.

133. "Are the degrees of best (co)convex and unconstrained polynomial approximation the same?" (with K. Kopotun and I. A. Shevchuk), Acta Math. Hungar. **123** (2009), 273–290.

134. "Approximation of Sobolev classes by polynomials and ridge functions" (with V. N. Konovalov and V. E. Maiorov), J. Approx. Theory **159** (2009), 97–108.

135. "Nearly monotone and nearly convex approximation by smooth spline in $L_p$, $p > 0$" (with K. Kopotun and A. V. Prymak), J. Approx. Theory **160** (2009), 103–112.

136. "Nikolskii-type estimates for coconvex approximation of functions with one inflection point" (with G. Dzyubenko and I. A. Shevchuk), Jaen J. Approx. **2** (2010), 51–64.

137. "Are the degrees of best (co)convex and unconstrained polynomial approximation the same? II" (with K. Kopotun and I. A. Shevchuk), Ukrainian J. Math. **62** (2010), 369–386.

138. "Coconvex pointwise approximation" (with G. Dzyubenko and I. A. Shevchuk), Sapplemento ai Rendiconti del circolo matematico di Palermo, Serie II, **82** (2010), 359–374.

139. "Uniform and pointwise shape preserving approximation (SPA) by algebraic polynomials" (with K. A. Kopotun, A. Prymak and I. A. Shevchuk), Surveys in Approx. Theory **6** (2011), 24–74.
(see http://www.math.technion.ac.il/sat/papers/16/)

140. "The Degree of Shape Preserving Weighted Polynomial Approximation" (with Doron Lubinsky), J. Approx. Theory **164** (2012), 218–228.

141. "Pointwise estimates for 3-monotone approximation" (with Andriy Bondarenko and Andriy Prymak), J. Approx. Theory **164** (2012), 1205–1232.

142. "Positive results and counterexamples in comonotone approximation" (with D. V. Radchenko and I. A. Shevchuk), Constr. Approx. **36** (2012), 243–266.

143. "65 years since the paper 'On the value of the best approximation of functions having a real singular point' by I. I. Ibragimov" (with I. A. Shevchuk), Azerbaijan J. Math. **2** (2012), 94–104.

144. "On the stability and accuracy of least squares approximations" (with Albert Cohen and Mark A. Davenport), J. FoCM **13** (2013), 819–834.

145. "Positive results and counterexamples in comonotone approximation II" (with I. A. Shevchuk and O. V. Vlasiuk), J. Approx. Theory **179** (2014), 1–23.

146. "New moduli of smoothness" (with K. Kopotun and I. A. Shevchuk), Publications de l'Institut Mathmatique, Serbian Academy of Sciences and Arts of Belgrade, **96**(110) (2014), 169–180.

147. "Pointwise estimates of coconvex approximation" (with G. Dzyubenko and I. A. Shevchuk), Jaén J. Approx. **6** (2014), 261-295.

148. "New moduli of smoothness: weighted DT moduli revisited and applied" (with K. Kopotun and I. A. Shevchuk), Constr. Approx. **42** (2015), 129–159.

149. "Monotone trigonometric approximation" (with Jean Sidon), Med. J. Math. **12** (2015), 877–887.

150. "Constrained approximation with Jacobi weights" (with K. A. Kopotun and I. A. Shevchuk), Can. Math. J. **68** (2016), 109–128.

151. "Jackson type estimates for piecewise $q$-monotone approximation, $q \geq 3$, are not valid" (with I. A. Shevchuk), Pure and Applied Functional Analysis **1** (2016), 85–96.

152. "Yet another look at positive linear approximation operators, $q$-monotonicity and applications" (with K. Kopotun, A. Prymak and I. A. Shevchuk), J. Approx. Theory **210** (2016), 1–22.

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