

List of Publications of I. J. Schoenberg

The numbering corresponds to the listing in the Schoenberg *Selecta* (see last item below). In particular, the unnumbered items failed to appear in that listing.

- [1] I. J. Schoenberg (1929), “Über total monotone Folgen mit stetiger Belegungsfunktion”, *Math. Z.* **30**, 761–767.
- [2] I. J. Schoenberg (1928), “Über die asymptotische Verteilung reeller Zahlen mod 1”, *Math. Z.* **28**, 171–199.
- [3] I. J. Schoenberg (1930), “Sur un théorème de Steiner relatif à la quadrature des courbes roulettes”, *Ann. Sci. Univ. Jassy* **16**, 6–13.
- [4] I. J. Schoenberg (1930), “Über variationsvermindernde lineare Transformationen”, *Math. Z.* **32**, 321–328.
- [5] G. A. Bliss and I. J. Schoenberg (1931), “On separation, comparison, and oscillation theorems for self-adjoint systems of linear second order differential equations”, *Amer. J. Math.* **LIII**, 781–800.
- [6] I. J. Schoenberg (1931), “The minimizing properties of geodesic arcs with conjugate end points”, *Ann. Math. (2)* **32**, 763–776.
- [7] I. J. Schoenberg (1932), “On finite and infinite completely monotonic sequences”, *Bull. Amer. Math. Soc. Feb.*, 72–76.
- [8] I. J. Schoenberg (1932), “On finite-rowed systems of linear inequalities in infinitely many variables. I”, *Trans. Amer. Math. Soc.* **34**, 594–619.
- [9] I. J. Schoenberg (1932), “On finite-rowed systems of linear inequalities in infinitely many variables. II”, *Trans. Amer. Math. Soc.* **35**, 452–478.
- [10] A. G. Bliss and I. J. Schoenberg (1932), “On the derivation of necessary conditions for the problem of Bolza”, *Bull. Amer. Math. Soc. Dec.*, 858–864.
- [11] I. J. Schoenberg (1932), “Some applications of the calculus of variations to Riemannian geometry”, *Ann. Math* **33**, 485–495.
- [12] I. J. Schoenberg (1933), “Convex domains and linear combinations of continuous functions”, *Bull. Amer. Math. Soc. April*, 273–280.
- [13] T. H. Hildebrandt and I. J. Schoenberg (1933), “On linear functional operations and the moment problem for a finite interval in one or several dimensions”, *Ann. Math.* **34**, 317–328.
- [14] I. J. Schoenberg (1934), “A remark on the preceding note by Bochner”, *Bull. Amer. Math. Soc. April*, 277–278.
- [15] I. J. Schoenberg (1934), “Zur Abzählung der reellen Wurzeln algebraischer Gleichungen”, *Math. Z.* **38**, 546–564.
- [16] I. J. Schoenberg (1935), “Remarks to Maurice Fréchet’s article ‘Sur la définition axiomatique d’une classe d’espace distanciés vectoriellement applicable sur l’espace de Hilbert’”, *Ann. Math.* **36**, 724–732.
- [17] I. J. Schoenberg (1935), “On the zeros of the successive derivatives of integral functions”, *Proc. Amer. Math. Soc.* **21**, 674–676.
- [18] I. J. Schoenberg (1936), “On asymptotic distributions of arithmetical functions”, *Trans. Amer. Math. Soc.* **39**, 315–330.

- [19] I. J. Schoenberg (1936), “Extensions of theorems of Descartes and Laguerre to the complex domain”, *Duke Math. J.* **2**, 84–94.
- [20] I. J. Schoenberg (1936), “On certain two-point expansions of integral functions of exponential type”, *Bull. Amer. Math. Soc.* ???, 284–288.
- [21] I. J. Schoenberg (1936), “On the zeros of successive derivatives of integral functions”, *Trans. Amer. Math. Soc.* **40**, 12–23.
- [22] I. J. Schoenberg (1937), “Regular simplices and quadratic forms”, *J. London Math. Soc.* **12**, 48–55.
- [23] I. J. Schoenberg (1937), “On certain metric spaces arising from Euclidean spaces by a change of metric and their imbedding in Hilbert space”, *Ann. Math.* **38**(4), 787–793.
- [24] I. J. Schoenberg (1938), “On the Peano curve of Lebesgue”, *Bull. Amer. Math. Soc.* **44**, 519.
- [25] I. J. Schoenberg (1938), “Metric spaces and positive definite functions”, *Trans. Amer. Math. Soc.* **44**, 522–536.
- [26] I. J. Schoenberg (1938), “Metric spaces and completely monotone functions”, *Ann. Math.* **39**(4), 811–841.
- [27] I. J. Schoenberg (1940), “On metric arcs of vanishing Menger curvature”, *Ann. Math.* **41**, 715–726.
- [28] J. von Neumann and I. J. Schoenberg (1941), “Fourier integrals and metric geometry”, *Trans. Amer. Math. Soc.* **50**, 226–251.
- [29] I. J. Schoenberg (1942), “Positive definite functions on spheres”, *Duke Math. J.* **9**, 96–108.
- [30] I. J. Schoenberg (1942), “On local convexity in Hilbert space”, *Bull. Amer. Math. Soc.* **48**, 432–436.
- [31] I. J. Schoenberg (1946), “Contributions to the problem of approximation of equidistant data by analytic functions, Part A: On the problem of smoothing or graduation, a first class of analytic approximation formulas”, *Quart. Appl. Math.* **4**, 45–99.
- [32] I. J. Schoenberg (1946), “Contributions to the problem of approximation of equidistant data by analytic functions, Part B: On the problem of osculatory interpolation, a second class of analytic approximation formulae”, *Quart. Appl. Math.* **4**, 112–141.
- [33] H. Rademacher and I. J. Schoenberg (1946), “An iteration method for calculation with Laurent series”, *Quart. Appl. Math.* **IV**, 142–159.
- [34] I. J. Schoenberg (1947), “On totally positive functions, Laplace integrals and entire functions of the Laguerre–Pólya–Schur type”, *Proc. Nat. Acad. Sci.* **33**, 11–17.
- [—] H. B. Curry and I. J. Schoenberg (1947), “On spline distributions and their limits: The Polya distribution functions”, *Bull. Amer. Math. Soc.* **53**, 1114.
- [35] I. J. Schoenberg (1948), “Some analytic aspects of the problem of smoothing”, in *Courant Anniv. Vol.* (xxx, ed), xxx (xxx), 35??–370.
- [36] I. J. Schoenberg (1948), “On variation diminishing integral operators of the convolution type”, *Proc. Nat. Acad. Sci.* **34**, 164–169.
- [37] I. J. Schoenberg and A. Whitney (1949), “Sur la positivité des déterminants de translations des fonctions de fréquence de Pólya avec une application à un problème d’interpolation”, *C. R. Acad. Sci. Paris Ser. A* **228**, 1996–1998.

- [38] H. Rademacher and I. J. Schoenberg (1950), “Convex domains and Chebychev’s approximation problem”, *Canad. J. Math.* **2**, 245–256.
- [39] I. J. Schoenberg (1950), “On Pólya frequency functions. II. Variation-diminishing integral operators of the convolution type”, *Acta Sci. Math. (Szeged)* **12**, 97–106.
- [40] I. J. Schoenberg (1950), “The finite Fourier series and elementary geometry”, *Amer. Math. Monthly* **57**, 390–404.
- [41] M. Aissen, A. Edrei, A. M. Whitney, and I. J. Schoenberg (1951), “On the generating functions of totally positive sequences”, *Proc. Nat. Acad. Sci.* **37**, 303–307.
- [42] A. M. Whitney and I. J. Schoenberg (1951), “A theorem on polygons in n dimensions with applications to variation-diminishing and cyclic variation-diminishing linear transformations”, *Compositio Math.* **9**, 141–160.
- [43] I. J. Schoenberg (1951), “On Pólya frequency functions. I. The totally positive functions and their Laplace transforms”, *J. Analyse Math.* **1**, 331–374.
- [44] T. S. Motzkin and I. J. Schoenberg (1952), “On lineal entire functions of n complex variables”, *Proc. Amer. Math. Soc.* **3**, 517–526.
- [45] M. Aissen, A. M. Whitney, and I. J. Schoenberg (1952), “On the generating functions of totally positive sequences. I”, *J. Analyse Math.* **2**, 93–103.
- [46] I. J. Schoenberg (1952), “A remark on M. M. Day’s characterization of inner-product spaces and a conjecture of L. M. Blumenthal”, *Proc. Amer. Math. Soc.* **3**, 961–964.
- [47] I. J. Schoenberg and A. Whitney (1953), “On Pólya frequency functions. III. The positivity of translation determinants with an application to the interpolation problem by spline curves”, *Trans. Amer. Math. Soc.* **74**, 246–259.
- [48] I. J. Schoenberg (1953), “On smoothing operations and their generating functions”, *Bull. Amer. Math. Soc.* **59**, 199–230.
- [49] I. J. Schoenberg (1953), “On a theorem of Kirzbraun and Valentine”, *Amer. Math. Monthly* **60**, 620–622.
- [50] T. S. Motzkin and I. J. Schoenberg (1954), “The relaxation method for linear inequalities”, *Canad. J. Math.* **6**, 393–404.
- [51] I. J. Schoenberg (1954), “An isoperimetric inequality for closed curves in even-dimensional Euclidean spaces”, *Acta Math.* **91**, 143–164.
- [52] I. J. Schoenberg (1955), “A note on multiply positive sequences and the Descartes rule of signs”, *Rend. Circ. Mat. Palermo (2)* **4**, 123–131.
- [53] I. J. Schoenberg (1955), “On the zeros of the generating functions of multiply positive sequences and functions”, *Ann. Math.* **62**, 447–471.
- [54] I. J. Schoenberg (1958), “Some extremal problems for positive definite sequences and related extremal convex conformal maps of the circle”, *Kon. Ned. Akad. Amsterdam* **61**, 28–37.
- [55] G. Pólya and I. J. Schoenberg (1958), “Remarks on de la Vallée Poussin means and convex conformal maps of the circle”, *Pacific J. Math.* **8**, 295–334.
- [56] I. J. Schoenberg (1958), “Spline functions, convex curves and mechanical quadratures”, *Bull. Amer. Math. Soc.* **64**, 352–357.
- [57] I. J. Schoenberg (1959), “On variation diminishing approximation methods”, in *On Numerical Approximation* (R. E. Langer, ed), U. Wis. Press (Madison), 249–274.

- [58] I. J. Schoenberg (1959), “The integrability of certain functions and related summability methods”, *AMMo* **66**, 361–375 and 562–563.
- [59] I. J. Schoenberg (1959), “On the maxima of certain Hankel determinants and the zeros of the classical orthogonal polynomials”, *Kon. Ned. Akad. Amsterdam* **21**, 282–290.
- [60] B. Epstein and I. J. Schoenberg (1959), “On a conjecture concerning schlicht functions”, *Bull. Amer. Math. Soc.* **65**, 273–275.
- [61] A. S. Besicovitch and I. J. Schoenberg (1959), “Sur les arcs ascendants à pente partout nulle et des problèmes qui s'y rattachent”, *C. R. Acad. Sci. Paris* **249**, 1079–1080.
- [62] I. J. Schoenberg (1960), “On the question of unicity in the theory of best approximation”, *Ann. New York Acad. Sci.* **86**, 682–692.
- [63] J. C. Mairhuber, R. E. Williamson, and I.J. Schoenberg (1959), “On variation diminishing transformations on the circle”, *Rend. Circ. Mat. Palermo (2)* **8**, 241–270.
- [64] G. Szegö and I. J. Schoenberg (1960), “An extremum problem for polynomials”, *Compositio Math.* **14**, 260–268.
- [—] I. J. Schoenberg (1960), “Solution to Problem 59-2, N-dimensional Volume”, *SIAM Rev.* **2(1)**, 43–45.
- [65] C. T. Yang and I. J. Schoenberg (1961), “On the unicity of solutions of problems of best approximation”, *Ann. Mat. Pura Appl. (4)* **54**, 1–12.
- [66] A. S. Besicovitch and I. J. Schoenberg (1961), “On Jordan arcs and Lipschitz classes of functions defined on them”, *Acta Math.* **106**, 113–136.
- [67] I. J. Schoenberg (1962), “On two theorems of P. Erdős and A. Renyi”, *Illinois J. Math.* **6**, 53–58.
- [68] I. J. Schoenberg (1962), “On two theorems of Archimedes and F. J. van den Berg”, *Simon Stevin* **5**, 133–138.
- [69] I. J. Schoenberg (1962), “Extrema for gap power series of positive real part”, *Proc. Nat. Acad. Sci.* **48**, 1151–1154.
- [70] I. J. Schoenberg (1962), “On the Besicovitch–Perron solution of the Kakeya problem”, in *Studies in Mathematical Analysis and Related Topics, Pólya volume* (xxx, ed), Stanford Univ. Press (Stanford CA), 359–363.
- [71] I. J. Schoenberg (1962), “On certain minima related to the Besicovitch–Kakeya problem”, *Mathematica (Cluj)* **4**, 145–148.
- [72] I. J. Schoenberg (1964), “Spline interpolation and best quadrature formulae”, *Bull. Amer. Math. Soc.* **70**, 143–148.
- [73] I. J. Schoenberg (1964), “Spline interpolation and the higher derivatives”, *Proc. Nat. Acad. Sci.* **51**, 24–28.
- [74] Ch. Pisot and I. J. Schoenberg (1964), “Arithmetic problems concerning Cauchy’s functional equation. I”, *Illinois J. Math.* **8**, 40–56.
- [75] I. J. Schoenberg (1964), “On best approximations of linear operators”, *Indag. Math.* **26**, 155–163.
- [76] I. J. Schoenberg (1964), “Spline functions and the problem of graduation”, *Proc. Amer. Math. Soc.* **52**, 947–950.
- [77] I. J. Schoenberg (1964), “On trigonometric spline interpolation”, *J. Math. Mech.* **13(5)**, 795–825.

- [78] I. J. Schoenberg (1964), “A note on the cyclotomic polynomial”, *Mathématika* **11**, 131–136.
- [79] I. J. Schoenberg (1964), “Arithmetic problems concerning Cauchy’s functional equation”, *Compositio Math.* **16**, 169–175.
- [80] I. J. Schoenberg (1964), “On interpolation by spline functions and its minimal properties”, in *On Approximation Theory (Proc. Oberwolfach Conf. 4–10 Aug, 1963)* (P. L. Butzer and J. Korevaar, eds), ISNM Vol. 5, Birkhäuser (Basel), 109–129.
- [81] Ch. Pisot and I. J. Schoenberg (1965), “Arithmetic problems concerning Cauchy’s functional equation. II”, *Illinois J. Math.* **9**, 129–136.
- [82] I. J. Schoenberg (1965), “Extrema for gap power series of positive real part”, *J. Analyse Math.* **14**, 379–391.
- [83] I. J. Schoenberg (1965), “On monosplines of least deviation and best quadrature formulae”, *SIAM J. Numer. Anal.* **2**, 144–170.
- [—] I. J. Schoenberg (1965), “Letter to Philip J. Davis”, 31 May.
- [84] F. Cunningham and I. J. Schoenberg (1965), “On the Kakeya constant”, *Canad. J. Math.* **17**, 946–956.
- [85] I. J. Schoenberg (1964), “Extremum problems for mass-distributions in a finite interval”, *Rend. Circ. Mat. Palermo (2)* **13**, 1–12.
- [86] H. B. Curry and I. J. Schoenberg (1966), “On Pólya frequency functions IV: the fundamental spline 09 functions and their limits”, *J. Analyse Math.* **17**, 71–107.
- [87] I. J. Schoenberg (1966), “On monosplines of least deviation and best quadrature formulae II.”, *SIAM J. Numer. Anal.* **3**, 321–328.
- [88] S. J. Einhorn and I. J. Schoenberg (1966), “On Euclidean sets having only two distances between points”, *Indag. Math.* **28**, 479–488 and 489–504.
- [89] I. J. Schoenberg (1966), “On Hermite-Birkhoff interpolation”, *J. Math. Anal. Appl.* **16**, 538–543.
- [90] M. Marsden and I. J. Schoenberg (1966), “On variation diminishing spline approximation methods”, *Mathematica* **8**, 61–82.
- [91] S. K. Zaremba and I. J. Schoenberg (1967), “On Cauchy’s lemma concerning convex polygons”, *Canad. J. Math.* **19**, 1062–1071.
- [—] F. R. Loscalzo and I. J. Schoenberg (1967), “On the use of spline functions for the approximation of solutions of ordinary differential equations”, MRC 723.
- [92] I. J. Schoenberg (1967), “On spline functions (with a supplement by T. N. E. Greville)”, in *Inequalities I* (O. Shisha, ed), Academic Press (New York), 255–291.
- [93] I. J. Schoenberg (1968), “On the Ahlberg-Nilson extension of spline interpolation: the g-splines and their optimal properties”, *J. Math. Anal. Appl.* **21**, 207–231.
- [94] I. J. Schoenberg (1968), “On spline interpolation at all integer points of the real axis”, *Matematica (Cluj)* **10**, 151–170.
- [95] I. J. Schoenberg (1969), “Monosplines and quadrature formulae”, in *Theory and Applications of Spline Functions* (T. N. E. Greville, ed), Academic Press (New York), 157–207.
- [96] I. J. Schoenberg (1968), “Spline interpolation and the higher derivatives”, in *Abhandlungen aus Zahlentheorie und Analysis* (P. Turan, ed), Deutscher Verlag der Wissenschaften (Berlin), 279–295.

- [—] I. J. Schoenberg (1968), “Publications of Edmund Landau”, in *Abhandlungen aus Zahlentheorie und Analysis. Zur Erinnerung an Edmund Landau (1877–1938)* (xxx, ed), VEB Deutscher Verlag der Wissenschaften (Berlin), 337–355.
- [97] I. J. Schoenberg (1969), “Linkages and distance geometry. I and II.”, *Indag. Math.* **31**, 43–63.
- [98] I. J. Schoenberg (1969), “Cardinal interpolation and spline functions”, *J. Approx. Theory* **2**, 167–206.
- [—] I. J. Schoenberg (ed.) (1969), *Approximation with Special Emphasis on Spline Functions*, Academic Press (New York).
- [99] I. J. Schoenberg and Z. Ziegler (1970), “On cardinal monosplines of least L_∞ -norm on the real axis”, *J. Analyse Math.* **23**, 409–436.
- [100] A. Cavaretta and I. J. Schoenberg (1972), “Solution of Landau’s problem concerning higher derivatives on the halfline”, in *Constructive Function Theory* (B. Penkov and D. Vacov, eds), Bulgarian Academy of Sciences (Sofia), 297–308. (The version in Schoenberg’s *Selecta* is much to be preferred.)
- [101] I. J. Schoenberg (1970), “A second look at approximate quadrature formulae and spline interpolation”, *Advances in Math.* **4**, 277–300.
- [102] I. J. Schoenberg (1971), “On equidistant cubic spline interpolation”, *Bull. Amer. Math. Soc.* **77**, 1039–1044.
- [103] I. J. Schoenberg and A. Sharma (1971), “The interpolatory background of the Euler-Maclaurin quadrature formula”, *Bull. Amer. Math. Soc.* **77**, 1034–1038.
- [104] I. J. Schoenberg (1971), “On polynomial spline functions on the circle. I and II”, in *Proceedings of the Conference on Constructive Theory of Functions* (xxx, ed), Hungarian Acad. Sci. (Budapest), 403–433.
- [105] I. J. Schoenberg (1971), “The perfect B-splines and a time-optimal control problem”, *Israel J. Math.* **10**, 261–274.
- [106] I. J. Schoenberg (1971), “Norm inequalities for a certain class of C^∞ functions”, *Illinois J. Math.* **10**, 364–372.
- [107] I. J. Schoenberg (1972), “Notes on spline functions I. The limits of the interpolating periodic spline functions as their degree tends to infinity”, *Indag. Math.* **34(5)**, 412–422.
- [108] I. J. Schoenberg (1972), “Cardinal interpolation and spline functions: II. Interpolation of data of power growth”, *J. Approx. Theory* **6**, 404–420.
- [109] P. R. Lipow and I. J. Schoenberg (1973), “Cardinal interpolation and spline functions III. 09 Cardinal Hermite interpolation”, *Linear Algebra Appl.* **6**, 273–304.
- [—] I. J. Schoenberg (1972), “Notes on spline functions II. On the smoothing of histograms”, University of Wisconsin-Madison, Mathematics Research Center, Rpt. # 1222.
- [110] I. J. Schoenberg (1972), “Cardinal interpolation and spline functions IV. The exponential Euler splines”, in *Linear Operators and Approximation, ISNM 20* (P. L. Butzer, J. P. Kahane, and B. Sz.-Nagy, eds), Birkhäuser (Basel), 382–404.
- [111] I. J. Schoenberg and A. Sharma (1973), “Cardinal Interpolation and spline functions V. The B-splines for cardinal Hermite interpolation”, *Linear Algebra Appl.* **7**, 1–42.
- [112] I. J. Schoenberg (1974), “Cardinal interpolation and spline functions VI. Semi-cardinal interpolation and quadrature formulae”, *J. Analyse Math.* **XXVII**, 159–204.

- [113] I. J. Schoenberg (1974), “Cardinal interpolation and spline functions VII. The behavior of cardinal spline interpolation as their degree tends to infinity”, *J. Analyse Math.* **XXVII**, 205–229.
- [114] I. J. Schoenberg (1973), *Cardinal Spline Interpolation*, CBMS, SIAM (Philadelphia).
- [115] I. J. Schoenberg (1973), “Notes on spline functions III: On the convergence of the interpolating cardinal splines as their degree tends to infinity”, *Israel J. Math.* **16**, 87–93.
- [116] F. B. Richards and I. J. Schoenberg (1973), “Notes on spline functions IV: A cardinal spline analogue of the theorem of the brothers Markov”, *Israel J. Math.* **16**, 94–102.
- [—] I. J. Schoenberg (1973), “List of Publications of I. J. Schoenberg”, *J. Approx. Theory* **8**, x–xiv.
- [117] I. J. Schoenberg and S. D. Silliman (1974), “On semi-cardinal quadrature formulae”, *Math. Comp.* **28(126)**, 483–497.
- [—] I. J. Schoenberg and S. D. Silliman (1973), “On semi-cardinal quadrature formulae”, in *Approximation Theory* (G. G. Lorentz *et al.*, eds), Academic Press (New York), 461–467.
- [118] I. J. Schoenberg (1973), “Splines and histograms (with an Appendix by C. de Boor)”, in *Spline Functions and Approximation Theory, ISNM 21* (A. Meir and A. Sharma, eds), Birkhäuser Verlag (Basel), 277–327.
- [119] I. J. Schoenberg (1974), “Spline functions and differential equations – First order equations”, in *Studies in Numerical Analysis* (B.K.P. Scaife, ed), Academic Press (London), 311–324.
- [120] I. J. Schoenberg (1973), “Remarks concerning the numerical inversion of the Laplace transform due to Bellman, Kalaba, and Lockett”, *J. Math. Anal. Appl.* **43**, 823–828.
- [—] T. N. E. Greville, I. J. Schoenberg, and A. Sharma (1973), “The spline interpolation of sequences satisfying a linear recurrence relation”, in *Approximation Theory* (G. G. Lorentz *et al.*, eds), Academic Press (New York), 365–367.
- [121] C. de Boor and I. J. Schoenberg (1973), “Unique prime factorization and lattice points”, *Math. Mag.* **46**, 198–203.
- [122] I. J. Schoenberg (1973), “The elementary cases of Landau’s problem of inequalities between derivatives”, *Amer. Math. Monthly* **80**, 121–158.
- [123] I. J. Schoenberg (1975), “Notes on spline functions V. Orthogonal or Legendre splines”, *J. Approx. Theory* **13**, 84–104.
- [124] I. J. Schoenberg (1976), “Notes on spline functions VI. Extremum problems of the Landau-type for the differential operators $D^2 \pm 1$ ”, in *Studies in Spline Functions and Approximation Theory* (S. Karlin, C. Micchelli, A. Pinkus, and I. Schoenberg, eds), Academic Press (New York), 353–368.
- [125] I. J. Schoenberg (1975), “Remarks on two geometric conjectures of L. Fejes Tóth”, *Analele științifice ale Universității “Al.I. Cuza” din Iași* **XXI**, 9–13.
- [126] D. J. Newman and I. J. Schoenberg (75), “Splines and the logarithmic function”, *Pacific J. Math.* **61**, 241–258.
- [127] I. J. Schoenberg (1975), “On the motion of a billiard ball in two dimensions”, *Delta* **5**, 1–17.

- [128] I. J. Schoenberg (1976), “On Micchelli’s theory of cardinal L-splines”, in *Studies in Spline Functions and Approximation Theory* (S. Karlin, C. Micchelli, A. Pinkus, and I. Schoenberg, eds), Academic Press (New York), 251–276.
- [129] I. J. Schoenberg (1976), “On the remainders and the convergence of cardinal spline interpolation for almost periodic functions”, in *Studies in Spline Functions and Approximation Theory* (S. Karlin, C. Micchelli, A. Pinkus, and I. Schoenberg, eds), Academic Press (New York), 277–303.
- [130] I. J. Schoenberg (1976), “On the location of the frets on the guitar”, *Amer. Math. Monthly* **83**, 550–552.
- [131] I. J. Schoenberg (1976), “Extremum problems for the motions of a billiard ball. I. The L_p norm, $1 \leq p < \infty$ ”, *Indag. Math.* **38**, 66–75.
- [—] I. J. Schoenberg (1976), “Problem 75-21, n-dimensional simple harmonic motion”, *SIAM Rev.* **18(4)**, 772–773.
- [132] I. J. Schoenberg (1976), “Extremum problems for the motion of a billiard ball. II. The L_∞ norm”, *Indag. Math.* **38**, 263–279.
- [133] I. J. Schoenberg (1976), “On Chebyshev and Markov-type problems for polynomials in a circular ring”, in *Fourier Analysis and Approximation Theory* (xxx, ed), Colloquia Mathematica Societatis Janos Bolyai, 19, (Budapest), 679–712.
- [134] C. de Boor and I. J. Schoenberg (1976), “Cardinal interpolation and spline functions VIII: The Budan 09 Fourier theorem for splines and applications”, in *Spline Functions, Karlsruhe 1975* (K. Böhmer, G. Meinardus, and W. Schempp, eds), Lecture Notes in Math. 501, Springer (Heidelberg), 1–77.
- [135] I. J. Schoenberg (1977), “The Landau problem for motions in a ring and in bounded continua”, *Amer. Math. Monthly* **84**, 1–12. A somewhat expanded version appeared as MRC TSR 1563, Oct 1975.
- [136] I. J. Schoenberg (1976), “The Landau problem of the differential operator $D^2 - \alpha^2$ in a circular ring”, in *Fourier Analysis and Approximation Theory* (xxx, ed), Colloquia Mathematica Societatis Janos Bolyai, 19, (Budapest), 713–723.
- [137] I. J. Schoenberg (1977), “On the zeros of the successive derivatives of integral functions. II”, in *Complex Analysis, Kentucky 1976* (J. D. Buchholz and T. J. Suffridge, eds), Lecture Notes in Mathematics **599**, Springer-Verlag (New York), 109–116.
- [138] I. J. Schoenberg (1977), “Approximating lengths, areas and volumes by polygons and polyhedra”, *Delta* **7**, 32–46.
- [139] T. N. E. Greville, A. Sharma, and I. J. Schoenberg (1976), “The spline interpolation of sequences satisfying a linear recurrence relation”, *J. Approx. Theory* **17**, 200–221.
- [140] J. M. Pollin and I. J. Schoenberg (1980), “On the matrix approach to Fibonacci numbers and Fibonacci pseudoprimes”, *Fibonacci Quart.* **18**, 261–268.
- [141] I. J. Schoenberg (1978), “The Landau problem. I. The case of motions on sets”, *Indag. Math.* **40**, 276–286.
- [142] I. J. Schoenberg (1977), “On the arithmetic–geometric mean”, *Delta* **7**, 49–65.
- [143] I. J. Schoenberg (1979), “On cardinal spline smoothing”, in *Proc. Internat. Symp. Approx. Theory, Campinas, Brazil* (J. B. Prolla, ed), North-Holland Publ., Doordrecht (Holland), 383–407.

- [144] I. J. Schoenberg (1979), “On a problem of Steinhaus on lattice points”, *AMMo* **86**, 765–766.
- [145] I. J. Schoenberg (1980), “On Jacobi–Bertrand’s proof of a theorem of Poncelet”, in *Studies in Pure Mathematics to the Memory of Paul Turán* (xxx, ed), Hungarian Academy of Sciences (Budapest), 623–627.
- [146] I. J. Schoenberg (1978), “Extremum problems for the multi-dimensional case of König and Szücs of billiard ball motions”, *Math. Rep. Acad. Sci. Canada* **1**, 37–40.
- [147] I. J. Schoenberg (1978), “Extremum problems for the motions of a billiard ball. III: The multidimensional case of König and Szücs”, *Studia Math.* **13**, 53–78.
- [148] I. J. Schoenberg (1979), “Extremum problems for the motion of a billiard ball. IV. A higher-dimensional analogue of Kepler’s Stella octangula”, *Studia Sci. Math. Hungar.* **14**, 273–292.
- [149] I. J. Schoenberg (1981), “The Landau problem. II. The case of motions on curves”, *Indag. Math.* **43**, 325–335.
- [150] I. J. Schoenberg (1981), “The Landau problem. III. Motions on special curves and time-optimal control problems”, *Indag. Math.* **43**, 337–351.
- [151] I. J. Schoenberg (1982), “The harmonic analysis of skew polygons as a source of outdoor sculptures”, in *The Geometric Vein, The Coxeter Festschrift* (C. Davis, B. Grünbaum, F.A. Sherk, eds), Springer Verlag (New York), 165–176.
- [152] I. J. Schoenberg (1980), “The Landau problem for motions on curves and time-optimal control problems”, in *Approximation Theory III* (E. W. Cheney, ed), Academic Press (New York), 1980. 811–821;
- [153] T. S. Motzkin and I. J. Schoenberg (1980), “On Fejér sets in linear and spherical spaces (NBS Report of August 25, 1952, 19 pages)”, *Colloq. Math. Soc. János Bolyai* **35**, 861–875.
- [154] R. Askey, A. Sharma, and I. J. Schoenberg (1982), “Hausdorff’s moment problem and expansion in Legendre polynomials”, *J. Math. Anal. Appl.* **89**, 251–261.
- [155] I. J. Schoenberg (1981), “A direct derivation of a Jacobian identity from elliptic functions”, *AMMo* **88**, 616–618.
- [156] I. J. Schoenberg (1982), “Two applications of approximate differentiation formulae: An extremum problem for multiply monotone functions and the differentiation of asymptotic expansions”, *J. Math. Anal. Appl.* **89**, 251–261.
- [157] I. J. Schoenberg (1981), “On polynomial interpolation at the points of a geometric progression”, *Proc. Roy. Soc. Edinburgh Sect. A* **90A**, 195–207.
- [158] I. J. Schoenberg (1983), “Interpolating splines as limits of polynomials”, *Linear Algebra Appl.* **52/53**, 617–628.
- [159] I. J. Schoenberg (1983), “A new approach to Euler splines”, *J. Approx. Theory* **39**, 324–337.
- [—] I. J. Schoenberg (1982), *Mathematical Time Exposures*, Math. Assoc. America (xxx).
- [160] T. N. T. Goodman, I. J. Schoenberg, and A. Sharma (1986), “Piecewise smooth solutions of some difference-differential equations”, *J. Approx. Theory* **48**, 262–271.
- [161] T. N. E. Greville, A. Sharma, and I. J. Schoenberg (1982), “The behavior of the exponential Euler spline $S_n(x; t)$ as $n \rightarrow \infty$ for negative values of the base t ”, *Canad. Math. Soc. Conf. Proceedings* **3**, 185–198.

- [162] I. J. Schoenberg (1984), “Euler’s contribution to cardinal spline interpolation: The exponential Euler spline”, in *Leonhardt Euler 1707–1783, Beiträge zu Leben und Werk* (xxx, ed), Birkhäuser (Basel), 199–213. J. Approx. Theory; 39; 1983; 324–337;
- [163] I. J. Schoenberg (1985), “A direct approach to the Villarceau circles of a torus”, *Simon Stevin* **59**, 365–372.
- [164] I. J. Schoenberg (1983), “Self-reflecting skew polygons and polytopes in the 4-dimensional hypercube”, *Geom. Dedicata* **14**, 355–373.
- [—] I. J. Schoenberg (1984), “On a theorem of Szegő on univalent convex maps of the unit circle”, MRC Technical Summary Report #2647.
- [165] A. W. Goodman and I. J. Schoenberg (1984), “On a theorem of Szegő on univalent convex maps of the unit circle”, *J. Analyse Math.* **44**, 200–204.
- [166] D. W. Crowe and I. J. Schoenberg (1984), “On the equidecomposability of a regular triangle and a square of equal area”, *Giessener Mitteilungen* **164**, 59–64.
- [—] I. J. Schoenberg (1984), “On the spans of polynomials and the spans of a Laguerre-Polya-Schur sequence of polynomials”, MRC Technical Summary Report #2757.
- [—] I. J. Schoenberg (1984), “On the quadratic mean radius of a polynomial in $\mathbb{C}[z]$ ”, MRC Technical Summary Report #2773.
- [167] I. J. Schoenberg (1985), “On hypocycloids and their diameters”, *J. College Math.* **16**, 262–267.
- [168] I. J. Schoenberg (1986), “A conjectured analogue of Rolle’s theorem for polynomials with real and complex coefficients”, *AMMo* **93**, 8–13.
- [169] I. J. Schoenberg (1985), “On the anti-cylinder”, MRC Technical Summary Report #2842.
- [170] A. W. Goodman and I. J. Schoenberg (1987), “A proof of Grace’s theorem by induction”, *Honam Math. J.* **9**, 1–6.
- [171] I. J. Schoenberg (8), “Outdoor sculptures”, *Libertas Mathematica*. 1988; 11–17;
- [—] I. J. Schoenberg (1986), “Review of *Mathematical Snapshots, 3rd American Ed.*, by H. Steinhaus”, *College Mathematics J.* **17(2)**, 197–199.
- [172] I. J. Schoenberg (1988), “The Chinese remainder problem and polynomial interpolation”, *College Math. J.* **18(4)**, 320–322.
- [—] I. J. Schoenberg (1986), “On the theory and practice of multi-dim. indices mod m . A circular slide-rule for the modulus $m = 100$ ”, MRC Technical Summary Report #2955.
- [173] I. J. Schoenberg (1988), “On vector indices mod m ”, *Math. Mag.* **61(4)**, 246–252.
- [—] I. J. Schoenberg (1988), *Selected Papers, Vols. 1 & 2*, C. de Boor (ed.), Birkhäuser (Basel).