

Erwin Lutwak

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EDUCATION	Ph.D. Mathematics; Polytechnic, 1974 M.S. Mathematics; Polytechnic, 1972 B.S. Mathematics; Polytechnic, 1968	
EMPLOYMENT	Mathematics Department Chair - Polytechnic SoE (2014 - pres.) Mathematics Department Head - Polytechnic (1998 - 2014) Professor - Polytechnic (1986 - pres.) Associate Professor - Polytechnic (1981-1986) Assistant Professor - Polytechnic (1977-1981) Instructor - Polytechnic (1975-1977)	
HONORS	PhD (honoris causa) Vienna University of Technology - to be awarded October 2014 Fellow of the American Mathematical Society, 2012- pres.	
INVITED ADDRESSES	Invited Address, Eastern Sectional Meeting of the American Mathematical Society, 2000 Plenary Speaker, Summer Meeting of the Canadian Mathematical Society, 1998 Invited Address, Summer Meeting of the Mathematical Association of America, 1987	
EDITORIAL BOARDS	Advances in Mathematics, 1995 - pres. Encyclopedia of Mathematics, Cambridge University Press, 1993 - pres.	
NFS GRANTS	Isoperimetric Inequalities. DMS-1312181, 2013 - 2016 Isoperimetric Inequalities. DMS-1007347, 2010 - 2013 Isoperimetric Inequalities. DMS- 0706859, 2007 - 2010 Isoperimetric Inequalities. DMS- 0405707, 2004 - 2007 Isoperimetric Inequalities. DMS- 0104363, 2001 - 2004 Isoperimetric Inequalities. DMS- 9803261, 1998 - 2001 Isoperimetric Inequalities. DMS- 9507988, 1995 - 1998 Isoperimetric Inequalities. DMS- 9123571, 1992 - 1995 Isoperimetric Inequalities. DMS- 8902550, 1989 - 1992 Isoperimetric Inequalities. DMS- 8704474, 1987 - 1989	
MAJOR CONFERENCES CO-ORGANIZED	January 1996 - Aug 1996, Berkley, Convex Geometry and Geometric Functional Analysis, (Organizers: K. Ball, E. Carlen, E. Lutwak, V. D. Milman, E. Odell, and N. Tomczak.).	

PUBLICATIONS

1. Affine images of isotropic measures (with K.J. Böröczky, D. Yang, G. Zhang) *J. Differential Geom.*, in press.
2. A Unified Approach to Cramér-Rao Inequalities (with A. Cianchi, D. Yang, G. Zhang) *IEEE Trans. on Inform. Theory*, 60 (2014), 643–650.
3. The logarithmic Minkowski problem (with K.J. Böröczky, D. Yang, and G. Zhang), *J. Amer. Math. Soc.* 26 (2013), 831–852.
4. Affine Moments of a Random Vector (with S. Lv, D. Yang, and G. Zhang), *IEEE Trans. Inform. Theory* 59 (2013), 5592 - 5599.
5. The log-Brunn-Minkowski inequality (with K.J. Böröczky, D. Yang, and G. Zhang), *Adv. Math.* 231 (2012), 1974–1997.
6. Extensions of Fisher Information and Stam’s Inequality (with S. Lv, D. Yang, and G. Zhang), *IEEE Trans. Inform. Theory* 58 (2012), 1319 - 1327.
7. The Brunn-Minkowski-Firey inequality for nonconvex sets (with D. Yang and G. Zhang), *Adv. in Appl. Math.* 48 (2012), 407–413.
8. A countable set of directions is sufficient for Steiner symmetrization (with G. Bianchi, D.A. Klain, D. Yang, and G. Zhang), *Adv. in Appl. Math.* 47 (2011), 869–873.
9. Orlicz centroid bodies (with D. Yang and G. Zhang), *J. Differential Geom.* 84 (2010), 365–387.
10. The even Orlicz Minkowski problem (with C. Haberl, D. Yang and G. Zhang), *Adv. Math.* 224 (2010), 2485–2510.
11. Orlicz projection bodies (with D. Yang and G. Zhang), *Adv. Math.* 223 (2010), 220–242.
12. A volume inequality for polar bodies (with D. Yang and G. Zhang), *J. Differential Geom.* 84 (2010), 163–178.
13. Affine Moser-Trudinger and Morrey-Sobolev inequalities (with A. Cianchi, D. Yang and G. Zhang), *Calc. Var. Partial Differential Equations* 36 (2009), 419–436.
14. Volume inequalities for isotropic measures (with D. Yang and G. Zhang), *Amer. J. Math.* 129 (2007), 1711–1723.
15. Moment-entropy inequalities for a random vector (with D. Yang and G. Zhang), *IEEE Trans. Inform. Theory* 53 (2007), 1603–1607.
16. Optimal Sobolev norms and the L_p Minkowski problem (with D. Yang and G. Zhang), *Int. Math. Res. Not.* 2006, Art. ID 62987.
17. Cramér-Rao and moment-entropy inequalities for Renyi entropy and generalized Fisher information (with D. Yang and G. Zhang), *IEEE Trans. Inform. Theory* 51 (2005), 473–478.
18. L_p John ellipsoids (with D. Yang and G. Zhang), *Proc. London Math. Soc.* 90 (2005), 497–520.
19. On the L_p Minkowski problem for polytopes (with D. Hug, D. Yang and G. Zhang), *Discrete Comput. Geom.* 33 (2005), 699–715.
20. Volume inequalities for subspaces of L_p (with D. Yang and G. Zhang), *J. Differential Geom.* 68 (2004), 159–184.
21. A generalized affine isoperimetric inequality (with D. Zhang, G. Zhang, R. Howard and W. Chen), *J. Geom. Anal.* 14 (2004), 597–612.
22. On the L_p -Minkowski problem (with D. Yang and G. Zhang), *Trans. Amer. Math. Soc.* 356 (2004), 4359–4370.
23. Moment-entropy inequalities (with D. Yang and G. Zhang), *Ann. Probab.* 32 (2004), 757–774.
24. Sharp affine L_p Sobolev inequalities (with D. Yang and G. Zhang), *J. Differential Geom.* 62 (2002), 17–38.

25. Information-theoretic inequalities for contoured probability distributions (with O. Guleryuz, D. Yang, and G. Zhang) *IEEE Trans. Inform. Theory* 48 (2002), 2377-2383.
26. The Cramer-Rao inequality for star bodies (with D. Yang and G. Zhang), *Duke Math. J.* 112 (2002), 59-81.
27. A new affine invariant for polytopes and Schneider's projection problem (with D. Yang and G. Zhang), *Trans. Amer. Math. Soc.* 353 (2001), 1767-1779.
28. Lp affine isoperimetric inequalities (with D. Yang and G. Zhang), *J. Differential Geom.* 56 (2000), 111-132.
29. A new ellipsoid associated with convex bodies (with D. Yang and G. Zhang), *Duke Math. J.* 104 (2000), 375-390.
30. Containment and circumscribing simplices, *Discrete Comput. Geom.* 19 (1998), 229-235.
31. Blaschke-Santaló inequalities (with G. Zhang), *J. Differential Geom.* 47 (1997), 1-16.
32. Inequalities for mean circumscribing simplices, *Geom. Dedicata* 66 (1997), 119-124.
33. Bodies with similar projections (with G. D. Chakerian), *Trans. Amer. Math. Soc.* 349 (1997), 1811-1820.
34. Functional analytic characterizations of classes of convex bodies (with P. Goodey and W. Weil), *Math. Z.* 222 (1996), 244-294.
35. The Brunn-Minkowski-Firey theory II. Affine and geominimal surface areas, *Adv. Math.* 118 (1996), 244-294.
36. On the regularity of solutions to a generalization of the Minkowski problem (with V. Oliker), *J. Differential Geom.* 41 (1995), 227-246.
37. Selected affine isoperimetric inequalities. *Handbook of convex geometry*, Vol. A, B, 151-176, North-Holland, Amsterdam, 1993.
38. The Brunn-Minkowski-Firey theory I. Mixed volumes and the Minkowski problem, *J. Differential Geom.* 38 (1993), 131-150.
39. A minimax inequality for inscribed cones, *J. Math. Anal. Appl.* 176 (1993), 148-155.
40. Inequalities for mixed projection bodies, *Trans. Amer. Math. Soc.* 339 (1993), 901-916.
41. On the Petty-Schneider theorem. Geometric analysis (Philadelphia, PA, 1991), 31-37, *Contemp. Math.* 140, *Amer. Math. Soc.* 1992.
42. On the semicontinuity of curvatures, *Comment. Math. Helv.* 67 (1992), 664-669.
43. On some ellipsoid formulas of Busemann, Furstenberg and Tzkon, Guggenheimer, and Petty, *J. Math. Anal. Appl.* 159 (1991), 18-26.
44. Extended affine surface area, *Adv. Math.* 85 (1991), 39-68.
45. On a conjectured projection inequality of Petty. Integral geometry and tomography (Arcata, CA, 1989), 171-182, *Contemp. Math.* 113, *Amer. Math. Soc.* 1989.
46. On the affine isoperimetric inequality, Differential geometry and its applications (Brno, 1989), 109-118, *World Sci. Publ.* 1990.
47. On quermassintegrals of mixed projection bodies, *Geom. Dedicata* 33 (1990), 51-58.
48. Centroid bodies and dual mixed volumes, *Proc. London Math. Soc.* 60 (1990), 365-391.
49. Intersection bodies and dual mixed volumes, *Adv. Math.* 71 (1988), 232-261.
50. Inequalities for Hadwiger's harmonic quermassintegrals, *Math. Ann.* 280 (1988), 165-175.
51. Rotation means of projections, *Israel J. Math.* 58 (1987), 161-169.
52. Mixed affine surface area, *J. Math. Anal. Appl.* 125 (1987), 351-360.
53. On some affine isoperimetric inequalities, *J. Differential Geom.* 23 (1986), 1-13.
54. Volume of mixed bodies, *Trans. Amer. Math. Soc.* 294 (1986), 487-500.

55. On the Blaschke-Santaló inequality, *Ann. New York Acad. Sci.* 440 (1985), 106-112.
56. Mixed projection inequalities, *Trans. Amer. Math. Soc.* 287 (1985), 91-105.
57. On power means of positive quadratic forms, *Linear Algebra Appl.* 57 (1984), 13-19.
58. A general isepiphanic inequality, *Proc. Amer. Math. Soc.* 90 (1984), 415-421.
59. A width-diameter inequality for convex bodies, *J. Math. Anal. Appl.* 93 (1983), 290-295.
60. On packing curves into circles, Convexity and related combinatorial geometry (Norman, Okla., 1980), 107111, *Lecture Notes in Pure and Appl. Math.* 76 (1982).
61. Isoperimetric inequalities involving bisectors, *Bull. London Math. Soc.* 12 (1980), 289-295.
62. On a complementary Minkowski inequality, *J. Math. Anal. Appl.* 72 (1979), 70-74.
63. Mean dual and harmonic cross-sectional measures, *Ann. Mat. Pura Appl.* 119 (1979), 139-148.
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66. Mixed width-integrals of convex bodies, *Israel J. Math.* 28 (1977), 249-253.
67. On cross-sectional measures of polar reciprocal convex bodies, *Geom. Dedicata* 5 (1976), 79-80.
68. A dual of isepiphanic inequality, *Arch. Math.* 27 (1976), 206-208.
69. A characterization of the n-dimensional parallelotope (with H. Guggenheimer), *Amer. Math. Monthly* 83 (1976), 475-478.
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71. Width-integrals of convex bodies, *Proc. Amer. Math. Soc.* 53 (1975), 435-439.
72. A general Bieberbach inequality, *Math. Proc. Cambridge Philos. Soc.* 78 (1975), 493-495.
73. Dual mixed volumes, *Pacific J. Math.* 58 (1975), 531-538.