

## BIOGRAPHICAL SKETCH: ESTELLE BASOR

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### Education

University of California at Santa Cruz, B.A. 1969  
University of California at Santa Cruz, Ph.D. 1975  
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### Academic Experience

April 2004	Member, Isaac Newton Institute of Mathematical Sciences Cambridge, England
Winter 1999	Member, Mathematical Sciences Research Institute Berkeley, California
1976-2008	Assistant/Associate Professor/Professor California Polytechnic State University
1983-1984	Sabbatical Leave at Bryn Mawr College
Winter, Spring 1991	Sabbatical Leave at University of California, Santa Cruz
Winter 1982 Winter, Spring 1985	Visiting Associate Professor, University of California, Santa Cruz

## PUBLICATIONS

1. Painlevé V and the distribution function of a discontinuous linear statistics in the Laguerre Unitary Ensembles (with Y. Chen), *J. Phys. A: Math. Theor.* 42, (2009).
2. Determinant computations for some classes of Toeplitz-hankel matrices, (with T. Ehrhardt), *Operators and matrices*, to appear.
3. Asymptotics of block Toeplitz determinants and the classical dimer model, (with T. Ehrhardt), *Comm. Math. Phys.* 274, No. 2, 427-455 (2007).
4. Extremal non-compactness of composition operators with linear fractional symbol, (with D. Retsek), *J. of Mathematical Analysis and Applications*, 322, No. 2, 749-763 (2006).
5. Toeplitz Determinants and Statistical Mechanics, *Encyclopedia of Mathematical Physics*, Elsevier, vol. 5, 244-251 (2006).
6. Factorization of a class of Toeplitz + Hankel operators and the  $A_p$ -condition, (with T. Ehrhardt), *J. Operator Theory*, 55, No. 2, 269-283 (2006).
7. Perturbed Hankel determinants, (with Y. Chen), *J. Phys. A: Math.* 38, No. 47, 10101-10106, (2005).
8. Computing Toeplitz Determinants from Compatibility Conditions, (with Y. Chen), *Ramanujan Journal*, 16, No.1, 25-40, (2008).
9. On the asymptotics of certain Wiener-Hopf-plus-Hankel determinants, (with T. Ehrhardt), *New York Journal of Mathematics*, 11, 171-203 (2005).
10. Toeplitz Determinants, Fisher-Hartwig Symbols, and Random Matrices, *Recent Perspectives in Random Matrix Theory and Number Theory*, Cambridge University Press, LMS Lecture Note Series, 322, (2005).
11. Wiener-Hopf Determinants with Fisher-Hartwig Symbols, (with H. Widom), *Oper. Th. Adv. and Appl.* 147, 131-149 (2004).
12. Factorization Theory for a Class of Toeplitz Plus Hankel Operators, (with T. Ehrhardt), *J. Operator Theory*, 51, 411-433 (2004).
13. The X-ray Problem Revisted, (with Y. Chen), *J. Phys. A: Math. Gen.* 36, L175L180 (2003).
14. A Note on Wiener-Hopf Determinants and the Borodin-Okounkov Identity, (with Y. Chen) *Integr. Equ. Oper. Theory*, 45, 301-308 (2003).
15. On the Determinant of a Certain Wiener-Hopf + Hankel Operator, (with T. Ehrhardt and H. Widom), *Integral Equations Operator Theory*, 47 no. 3, 275-288 (2003).
16. Asymptotics of Determinants of Bessel Operators, (with T. Ehrhardt), *Comm. Math Physics*, 234, 291-516, (2003).
17. Asymptotic Formulas for the Determinants of Symmetric Toeplitz plus Hankel Matrices, (with T. Ehrhardt) *Operator Theory: Adv. and Appl.* 135, 61-90, (2002).

18. Some Identities for Determinants of Structured Matrices, (with T. Ehrhardt), *Linear Algebra and its Applications*, 343, 5-19 (2002).
19. Determinants of Hankel Matrices, (with Yang Chen and H. Widom), *Journal of Functional Analysis*, 179, 214-234 (2001).
20. Hankel Determinants as Fredholm Determinants, (with Yang Chen and H. Widom) *Random Matrix Models and Their Applications*, Mathematical Sciences Research Institute Publications, 40, (2001).
21. Asymptotic Formulas for the Determinant of a Sum of Finite Toeplitz and Hankel Matrices, (with T. Ehrhardt), *Mathematische Nachrichten*, 228, (2001).
22. Featured review of The spectrum of coupled random matrices by Adler and VanMoebeke, *Math Reviews* (2001).
23. On a Toeplitz Identity of Borodin and Okounkov, (with H. Widom), *Integral Equations and Operator Theory*, 37, 397-401 (2000). [This paper received a featured review in *Math Reviews*.]
24. Determinants of Airy Operators and Applications to Random Matrices, (with H. Widom), *Journal of Statistical Physics* 96, (1999).
25. On a Class of Toeplitz and Hankel Operators, (With T. Ehrhardt), *New York Journal of Mathematics* 5, (1999).
26. Connections Between Random Matrices and Strong Szeg Limit Theorems, *Contemporary Mathematics, Spectral Problems in Geometry and Arithmetic*. 237 (1999).
27. Distribution Functions for Random Variables for Ensembles of Positive Hermitian Matrices, *Commun. Math Phys.* 188 327-350 (1997).
28. Formulas for the Evaluation of Toeplitz Determinants with Rational Generating Functions, (with P. J. Forrester), *Math. Nach.* (1995).
29. Editor for Toeplitz Operators and Related Topics, (with I. Gohberg) *The Harold Widom Anniversary Volume, Operator Theory, Advances and Applications*, 71, Birkhauser, (1994).
30. The Extended Fisher-Hartwig Conjecture for Symbols with Multiple Jump Discontinuities, (with Kent Morrison), *Operator Theory, Advances and Applications*, 71 16-28 (1994).
31. Variance Calculations and the Bessel Kernel, (with C. Tracy), *Journal of Statistical Physics* 73 (1993).
32. Biography of Harold Widom, (with E. Landesmann), *Operator Theory, Advances and Applications*, 71, (1994).
33. The Fisher-Hartwig Conjecture and Toeplitz Eigenvalues, (with Kent Morrison), *Linear Algebra and Its Applications*, 202, 129-142 (1994).
34. Asymptotics of Level Spacing Distributions for Random Matrices, (with C. Tracy, H. Widom), *Physical Review Letters*, 69, (1992).

35. Some Problems Associated with the Asymptotics of  $t$ -functions, (with C. Tracy), translated into Japanese for Swikagaku, 345, (1992).
36. Asymptotics of a tau-function and Toeplitz Determinants with Singular Generating Functions, (with C. Tracy), International Journal of Modern Physics A, vol. 7, Suppl. 1A, (1992).
37. The Fisher-Hartwig Conjecture and its Generalizations, (with C. Tracy), Physica A 177 (1991).
38. Toeplitz Operators on Weighted  $l_p$  Spaces and Related Asymptotics, Integral Equations and Operator Theory, 13 (1990).
39. Trace Formulas for Toeplitz Operators with Piecewise Continuous Symbol, J. of Mathematical Analysis and Applications, 120, 1 (1986).
40. Invertibility and Asymptotics of Toeplitz Matrices by A. Bottcher and B. Silbermann, Linear Algebra and its Applications, 68 (1985).
41. Toeplitz and Wiener-Hopf Determinants with Piecewise Continuous Symbols, (with H. Widom), J. Functional Analysis 50, 3 (1983).
42. Asymptotic Formulas for Toeplitz and Wiener-Hopf Operators, Integral Equations and Operator Theory, 5 (1982).
43. A New Proof of the Szeg Limit Theorem and New Results for Toeplitz Operators with Discontinuous Symbol, (with J. W. Helton), Journal of Operator Theory, 3 (1980).
44. A Localization Theorem for Toeplitz Determinants, Indiana Univ. Math Journal, 28, No. 6 (1979).
45. Remarks About Divergent Series, MATYC Journal, Spring (1978).
46. Asymptotic Formulas for Toeplitz Determinants, Trans. of the AMS, 239, (1978).