Curriculum Vitæ for Dante DeBlassie

Department of Mathematical Sciences   (575) 646-3901

New Mexico State University   e-mail: deblass@nmsu.edu

P.O. Box 30001   http://www.sofia.nmsu.edu/∼deblass/

MSC 3MB

Las Cruces, NM 88003-8001

Education

Ph.D.	Mathematics, Massachusetts Institute of Technology (1984)
B.S.	Physics, New Mexico State University (Highest Honors, 1980)
B.S.	Mathematics, New Mexico State University (Highest Honors, 1980)

Current Position

Associate Department Head

Charles and Nita Swartz Endowed Professor of Mathematical Sciences

Professional Societies

- American Mathematical Society
- Institute of Mathematical Statistics

Research Interests

- Brownian motion, reflected Brownian motion and conditioned Brownian motion
- Stochastic differential equations and diffusion processes
- Symmetric stable processes
- Exit times
- The p-Laplacian and probabilistic connections

Publications in Refereed Journals

1. (with H. Alayed) Brownian Motion with a Horizontal Bessel Drift in a Parabolic-type Domain, *Stochastic Processes and their Applications*, **140** 183–215 (2021).

2. (with R. Smits) The Behavior at Infinity of p-Harmonic Measure in an Infinite Slab, *Michigan Mathematical Journal,* **70** 561–585 (2021).

3. (with R. Smits) The p-Harmonic Measure of Small Axially Symmetric Sets, *Potential Analysis,* **49** 583–608 (2018).

4. (with R. Smits) The p-harmonic measure of a small spherical cap, *Le Matematiche*, **71** 149–171 (2016).

5. (with R. Bañuelos) On the first eigenfunction of the symmetric stable process in a bounded Lipschitz domain, *Potential Analysis,* **42** 573–583 (2015).

6. (with R. Smits) The tug-of-war without noise and the Infinity Laplacian in a wedge, *Stochastic Processes and their Applications*, **123** 4219–4255 (2013).

7. (with R. Smits) The Expected Time to End the Tug-of-War in a Wedge, *Probability Theory and Related Fields*, **155** 347-378 (2013).

8. Brownian motion in a quasi-cone, *Probability Theory and Related Fields*, **154** 127–148 (2012).

9. The Martin kernel for unbounded domains, *Potential Analysis*, **32** 389-404 (2010).

10. The exit place of Brownian motion in an unbounded domain, *Electronic Journal of Probability*, **14** 2657-2690 (2009).

11. The growth of the Martin kernel in a horn-shaped domain, *Indiana University Mathematics Journal*, **57** 3115–3130 (2008).

12. The exit place of Brownian motion in the complement of a horn, *Electronic Journal of Probability* **13** 1068–1095 (2008).

13. (with P. J. Méndez-Hernández) α-continuity properties of the symmetric α-stable process, *Transactions of the American Mathematical Society* **359** 2343–2359 (2007).

14. The chance of a long lifetime for Brownian motion in a horn-shaped domain, *Electronic Communications in Probability* **12** 134–139 (2007).

15. (with R. Smits) The influence of a power of a Bessel drift on the exit time of Brownian motion from a half-line, *Stochastic Processes and Their Applications* **117** 629–654 (2007).

16. (with R. Smits) Brownian motion in self-similar domains, *Bernoulli* **12** 113-132 (2006).

17. (with R. Bañuelos) The exit distribution for iterated Brownian motion in cones, *Stochastic Processes and Their Applications* **116** 36–69 (2006).

18. (with R. Smits) Brownian motion in twisted domains, *Transactions of the American Mathematical Society* **357** 1245-1274 (2005).

19. Uniqueness for diffusions degenerating at the boundary of a smooth bounded set, *Annals of Probability* **32** 3167–3190 (2004).

20. Higher order PDEs and symmetric stable processes, *Probability Theory and Related Fields* **129** 495–536 (2004). Correction, **133** 141–143 (2005).

21. The lifetime of iterated Brownian motion in an open set, *Annals of Applied Probability* **14** 1529–1558 (2004).

22. The cone of positive harmonic functions for scale-invariant diffusions, *Stochastics and Stochastics Reports* **75** 181–203 (2003).

23. The adjoint process of reflected Brownian motion in a cone, *Stochastics and Stochastics Reports* **71** 201–216 (2001).

24. (with R. Bañuelos and R. Smits) The first exit time of planar Brownian motion from the interior of a parabola, *Annals of Probability* **29** 882–901 (2001).

25. One dimensional scale invariant diffusions, *Stochastics and Stochastics Reports* **70** 131–151 (2000).

26. The adjoint process of killed reflected Brownian motion in a cone and applications, *Annals of Probability* **27** 1679–1737 (1999).

27. Scale invariant diffusions: transience and nonpolar points, *Bernoulli* **5** 589-614 (1999).

28. On hitting single points by a multidimensional diffusion, *Stochastics and Stochastics Reports* **65** 1–11 (1998).

29. (with D. Hobson, E. H. Toby and E. Housworth) Escape rates for transient reflected Brownian motion in wedges and cones, *Stochastics and Stochastics Reports* **57** 199–211 (1996).

30. Brownian motion in a wedge with variable reflection: existence and uniqueness, *Annals of Probability* **24** 148–181 (1996).

31. Invariant measures for transient reflected Brownian motion in a wedge: existence and uniqueness, *Journal of Multivariate Analysis* **48** 203–227 (1994).

32. (with E. H. Toby), Reflecting Brownian motion in a cusp, *Transactions of the American Mathematical Society* **339** 297–321 (1993).

33. (with E. H. Toby), On the semimartingale representation of reflecting Brownian motion in a cusp, *Probability Theory and Related Fields* **94** 505–524 (1993).

34. Explicit semimartingale representation of Brownian motion in a wedge, *Stochastic Processes and their Applications* **34** 67–97 (1990).

35. The first exit time of a two-dimensional symmetric stable process from a wedge, *Annals of Probability* **18** 1034–1070 (1990).

36. Remark on "Exit times from cones in $\mathbb{R}^n$ of Brownian motion", *Probability Theory and Related Fields* **79** 95–97 (1988).

37. Doob's conditioned diffusions and their lifetimes, *Annals of Probability* **16** 1063–1083 (1988).

38. Stopping times of Bessel processes, *Annals of Probability* **15** 1044–1051 (1987).

39. The lifetime of conditioned Brownian motion in certain Lipschitz domains, *Probability Theory and Related Fields* **75** 55–65 (1987).

40. Exit times from cones in $\mathbb{R}^n$ of Brownian motion, *Probability Theory and Related Fields* **74** 1–29 (1987).

41. L^p-inequalities for stopping times of diffusions, *Transactions of the American Mathematical Society* **295** 765–782 (1986).