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Department of Statistics, The Wharton School  
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**Education**

Ph.D.            Mathematics    Cornell University    1989  
Sc.B.            Mathematics    Brown University    1983

**Professional Experience**

Walter C Bladstrom Professor	Univ. of Pennsylvania	3/08 - present
Full Professor	Univ. of Pennsylvania	7/04 - present
Visiting Research Scholar	Australian National University	7/00-6/01
Associate Professor	Univ. of Pennsylvania	7/96 - 6/04
Anheuser-Busch Term Assistant Prof.	Univ. of Pennsylvania	7/91 - 6/96
Neyman Visiting Assistant Professor	Univ. of California, Berkeley	7/89 - 6/91
Visiting Assistant Professor	Univ. of Illinois, Champaign-Urbana	1/89 - 7/89

**Research Interests**

Nonparametric function estimation  
Statistical decision theory  
Theory of Experiments

**Honors, Fellowships and Grants**

Medallion Lecturer 2008  
Fellow of the Institute of Mathematical Statistics (IMS) 2004  
NSF Mathematical Sciences Grant 2006-2009  
NSF Mathematical Sciences Grant 2003-2006  
NSA Mathematical Sciences Grant 1995-1997  
NSF Postdoctoral Research Fellowship 1991-1994

**Publications**

1. Brown, L.D. and Low, M.G. (1991). Information inequality bounds on the minimax risk. *The Annals of Statistics* **19**, 329-337.
2. Low, M.G. (1992). Non-existence of an adaptive estimator for the value of an unknown probability density. *The Annals of Statistics* **20**, 598-602.

3. Low, M.G. (1992). Renormalization and white noise approximation for nonparametric functional estimation problems. *The Annals of Statistics* **20**, 545-554.
4. Donoho, D.L. and Low, M.G. (1992). Renormalization exponents and optimal pointwise rates of convergence. *The Annals of Statistics* **20**, 944-970.
5. Low, M.G. (1993). Renormalizing upper and lower bounds for integrated risk in the white noise model. *The Annals of Statistics* **21**, 577-590.
6. Low, M.G. (1994). Estimating linear functionals in density estimation models. *Statistical Decision Theory and Related Topics* **5**, 99-106. Edited by S.S. Gupta and J.O. Berger.
7. Efromovich, S. and Low, M.G. (1994). Adaptive estimates of linear functionals. *Probability Theory and Related Fields* **98**, 261-275.
8. Low, M.G. (1995). Bias-variance tradeoffs in functional estimation problems. *The Annals of Statistics* **23**, 824-835.
9. Efromovich, S. and Low, M.G. (1996). On Bickel and Ritov's conjecture about adaptive estimation of some quadratic functionals. *The Annals of Statistics* **24**, 682-686.
10. Efromovich, S. and Low, M.G. (1996). On optimal adaptive estimation of a quadratic functional. *The Annals of Statistics* **24**, 1106-1125.
11. Brown, L.D. and Low, M.G. (1996). Asymptotic equivalence of nonparametric regression and white noise. *The Annals of Statistics* **24** 2384-2398.
12. Brown, L.D. and Low, M.G. (1996). A constrained risk inequality with applications to nonparametric function estimation. *The Annals of Statistics* **24**, 2524-2535.
13. Low, M.G. (1997). On nonparametric confidence intervals. *The Annals of Statistics* **25**, 2547-2554.
14. Brown, L.D., Low, M.G. and Zhao, L.H. (1997). Anomalous behaviour of fixed parameter asymptotic rates of convergence in nonparametric function estimation problems. *The Annals of Statistics* **25**, 2607-2625.
15. Brown, L.D., Cai, T., Low, M.G. and Zhang, C.-H. (2002). Asymptotic equivalence theory for nonparametric regression with random design. *The Annals of Statistics* **30**, 688-707.
16. Kang, Y.-G. and Low, M.G. (2002). Estimating monotone functions. *Statistics and Probability Letters* **56**, 361-367.

17. Cai, T. and Low, M.G. (2003). A note on nonparametric estimation of linear functionals. *The Annals of Statistics* **31**, 1140-1153.
18. Cai, T. and Low, M.G. (2004). Minimax estimation of linear functionals over non-convex parameter spaces. *The Annals of Statistics* **32**, 552-576
19. Cai, T. and Low, M. G. (2004). An adaptation theory for nonparametric confidence intervals. *The Annals of Statistics* **32**, 1805-1840.
20. Brown, L.D., Carter, A. , Low, M.G. and Zhang, C.-H. (2004). Equivalence theory for density estimation, Poisson processes and Gaussian white noise with drift. *The Annals of Statistics* **32**, 2074-2097
21. Cai, T. and Low, M. G. (2005). Nonparametric function estimation over shrinking neighborhoods: Superefficiency and adaptation. *The Annals of Statistics* **33**, 184-213
22. Cai, T. and Low, M. G. (2005). Adaptive estimation of linear functionals under different performance measures. *Bernoulli*, **11**, 341-358.
23. Cai, T. and Low, M. G. (2005). On adaptive estimation of linear functionals. *The Annals of Statistics*, **33**, 2311-2343.
24. Cai, T. and Low, M. G. (2005). Non-quadratic estimators of a quadratic functional. *The Annals of Statistics*, **33**, 2930-2956.
25. Cai, T. and Low, M. G. (2006). Adaptation under probabilistic error for estimating linear functionals. *Journal of Multivariate Analysis* **97**, 231-245.
26. Cai, T. and Low, M. G. (2006). Adaptive confidence balls. *The Annals of Statistics*, **34**, 202-228.
27. Cai, T. and Low, M. G. (2006). Optimal adaptive estimation of a quadratic functional. *The Annals of Statistics*, **34**, 2298-2325.
28. Low, M.G. and Zhou, H. (2007). A complement to Le Cam's Theorem. *The Annals of Statistics*, **35**, 1146-1165.
29. Cai, T., Jin, J and Low, M.G. (2007). Estimation and confidence sets for sparse normal mixtures. *The Annals of Statistics*, **35**, 2421-2449.
30. Cai, T., Low, M.G. and Zhao, L. (2007). Tradeoffs between global and local risks in nonparametric function estimation. *Bernoulli*, **13**, 1-19.
31. Cai, T., Low, M.G. and Zhao, L. (2009). Sharp adaptive estimation by a blockwise method. *Journal of Nonparametric Statistics*, **21**, 839-850.

32. Cai, T., Low, M.G. (2010). Testing Composite Hypotheses, Hermite Polynomials, and Optimal Estimation of a Nonsmooth Functional. *The Annals of Statistics*, to appear.
33. Low, M.G. (2010). Chi-Square Lower Bounds. *IMS Collections*, to appear.

## Service

1. *Departmental Service:*  
member of the Wharton School executive education committee (1997-1999), member of the Wharton School undergraduate curriculum committee (1999-2000), Undergraduate Chair (2002-2006), member of the Dean's Task Force on Wharton Undergraduate Programs (2003-2004).
2. *Professional Service:* Joint Organiser for IMS sessions at Joint Statistical Meetings, Utah (2007). Served as an associate editor for *The Annals of Statistics* (1995-1998, 2010-present). Served as the organizer of a function estimation session at IMS/ENAR meeting in Richmond, Virginia, March 1996. Served as a referee for many professional journals including *the Annals of Applied Probability*, *Annals of Statistics*, *Bernoulli*, *Canadian Journal of Statistics*, *IEEE Transactions on Information Theory*, *Journal of the American Statistical Association*, *Probability and Related Fields*, *Scandinavian Journal of Statistics*, *Statistica Sinica*, *Statistics and Probability Letters*, *Test*. Also served as a reviewer for the National Science Foundation, National Security Agency and Dutch National Research Council.
3. *Service on National Committees:* IMS Nominating Committee 1996. Served on the AMS-IMS-SIAM Committee to Select Summer Conferences (2001-2003). IMS Nominating Committee 2003. NSF Postdoctoral Research Fellowship Panel (2003-2004).