Curriculum Vitae

Philip Bradford Stark

Biographical Information

- **Born:** 7 October 1960, Houston, Texas.
- **Citizenship:** U.S.A.

Interests

- **Theory**: Inverse problems, multiplicity, nonparametrics, optimization, restricted parameters
- **Applications**: Astrophysics, educational technology, elections, geophysics, hearing, litigation, marketing, public policy, risk assessment and control

Education

- A.B. 1980, Princeton University, Princeton, New Jersey
- Ph.D. 1986, University of California, San Diego, La Jolla, California

Awards and Fellowships

- Mellon Library/Faculty Fellow for Undergraduate Research (2006–2007)
- Presidential Chair Fellow, University of California, Berkeley (2003–2004)
- Fellow, Institute of Physics (elected 1999)
- Miller Research Professor, Miller Institute for Basic Research in Science (1999)
- Dobson Fellow, University of California, Berkeley (1998, 1999)
- Presidential Young Investigator (1989–1995)
- National Science Foundation Postdoctoral Fellowship in Mathematical Sciences (1987–1989)
- University Fellowship, University of Texas at Austin (1982–1983)

Societies and Affiliations

- American Geophysical Union
- American Statistical Association
- Bernoulli Society for Mathematical Statistics and Probability
- Center for Astrostatistics (Penn State)
- Center for Data Analysis Technology and Applications (DATA)
- Global Oscillation Network Group (GONG)
- Institute of Mathematical Statistics
- Fellow and Chartered Physicist, Institute of Physics
- National Partnership for Advanced Computational Infrastructure (NPACI)

- Royal Astronomical Society
- Society for Empirical Legal Studies
- Solar and Heliospheric Observatory Solar Oscillations Investigation (SOHO-SOI)
- Space Sciences Laboratory, University of California, Berkeley
- Theoretical Astrophysics Center, University of California, Berkeley

Appointments

7/2008–present	Faculty, Designated Emphasis in Computational Science and Engineering, University of California, Berkeley
7/1998–present	Professor, Department of Statistics, University of California, Berkeley
7/2001–6/2003	Faculty Assistant in Educational Technology (to Vice Provost for Undergraduate Education), University of California, Berkeley
6/1996	Visiting Associate Professor, School of Mathematical Sciences, Tel Aviv University, Tel Aviv, Israel
7/1994–6/1998	Associate Professor, Department of Statistics, University of California, Berkeley
7/1988–6/1994	Assistant Professor, Department of Statistics, University of California, Berkeley
7/1987–6/1990	National Science Foundation Postdoctoral Fellow in Mathematical Sciences
1/1987–6/1987	Postgraduate Research, Department of Statistics, University of California, Berkeley
8/1986–12/1986	Postgraduate Research, Institute for Geophysics and Planetary Physics, University of California, San Diego

Mentors

- Robert L. Parker, Institute for Geophysics and Planetary Physics, Scripps Institution of Oceanography, University of California, San Diego (PhD dissertation advisor)
- George E. Backus, Institute for Geophysics and Planetary Physics, Scripps Institution of Oceanography, University of California, San Diego (postdoctoral advisor)

- David L. Donoho, Department of Statistics, Stanford University (postdoctoral advisor)

Publications

Refereed Publications

1. Stark, P.B., and C. Frohlich, 1985. The depths of the deepest deep Earthquakes, *Journal of Geophysical Research*, *90*, 1859–1869.
2. Stark, P.B., R.L. Parker, G. Masters and J.A. Orcutt, 1986. Strict bounds on seismic velocity in the spherical Earth, *Journal of Geophysical Research*, *91*, 13,892–13,902.
3. Stark, P.B. 1986. *Travel–Time Inversion: Regularization and Inference*, Ph.D. Thesis, Scripps Instution of Oceanography, University of California, San Diego, 106pp.
4. Stark, P.B., and R.L. Parker, 1987. Smooth profiles from tau (p) and X(p) data, *Geophysical Journal of the Royal Astronomical Society*, *89*, 2713–2719.
5. Stark, P.B., and R.L. Parker, 1987. Velocity bounds from statistical estimates of tau(p) and X(p), *Journal of Geophysical Research*, *92*, 2713–2719.
6. Stark, P.B., 1987. Rigorous velocity bounds from soft tau (p) and X(p) data, *Geophysical Journal of the Royal Astronomical Society*, *89*, 987–996.
7. Orcutt, J.A., R.L. Parker, P.B. Stark and J.D. Garmany, 1988. Comment concerning "A method of obtaining a velocity-depth envelope from wide-angle seismic data" by R. Mithal and J.B. Diebold. *Geophysical Journal*, *95*, 209–212.
8. Stark, P.B., and R.L. Parker, 1988. Correction to "Velocity bounds from statistical estimates of tau(p) and X(p)." *Journal of Geophysical Research*, *93*, 13,821–13,822.
9. Donoho, D.L., and P.B. Stark, 1989. Uncertainty principles and signal recovery. *SIAM Journal of Applied Mathematics*, *49*, 906–931.
10. Stark, P.B., 1992. Affine minimax confidence intervals for a bounded Normal mean, *Statistics and Probability Letters*, *13*, 39–44.
11. Stark, P.B., 1992. Minimax confidence intervals in geomagnetism, *Geophysical Journal International*, *108*, 329–338.
12. Stark, P.B., 1992. Inference in infinite-dimensional inverse problems: Discretization and duality, *Journal of Geophysical Research*, *97*, 14,055–14,082. (reprint: http://www.agu.org/journals/jb/v097/iB10/92JB00739/92JB00739.pdf)
13. Donoho, D.L., and P.B. Stark, 1993. A note on rearrangements, spectral concentration, and the zero-order prolate spheroidal wavefunction. *IEEE Transactions on Information Theory*, *39*, 257–260.
14. Pulliam, R.J., and P.B. Stark, 1993. Bumps on the core-mantle boundary: Are they facts or artifacts?, *Journal of Geophysical Research*, *98*, 1943–1956.
15. Stark, P.B., and N.W. Hengartner, 1993. Reproducing Earth's kernel: Uncertainty of the shape of the core-mantle boundary from PKP and PcP travel–times, *Journal of Geophysical Research*, *98*, 1957–1972.
16. Stark, P.B., 1993. Uncertainty of the COBE quadrupole detection, *Astrophysical Journal Letters*, *408*, L73–L76.

17. Stark, P.B., and D.I. Nikolayev, 1993. Toward tubular tomography, *Journal of Geophysical Research, 98*, 8095–8106.
18. Constable, C.G., R.L. Parker and P.B. Stark, 1993. Geomagnetic field models incorporating frozen-flux constraints, *Geophysical Journal International*, *113*, 419–433.
19. Gough, D.O., and P.B. Stark, 1993. Are the 1986–1988 changes in solar free-oscillation frequency splitting significant?, *Astrophysical Journal*, *415*, 376–382.
20. Stark, P.B., M.M. Herron and A. Matteson, 1993. Empirically minimax affine mineralogy estimates from Fourier-transform infrared spectroscopy data using a decimated wavelet basis, *Applied Spectroscopy*, *47*, 1820–1829.
21. Pulliam, R.J. and P.B. Stark, 1994. Confidence regions for mantle heterogeneity, *Journal of Geophysical Research*, *99*, 6931–6943.
22. Genovese, C.R., P.B. Stark and M.J. Thompson, 1995. Uncertainties for Two-Dimensional Models of Solar Rotation from Helioseismic Eigenfrequency Splitting, *Astrophysical Journal*, *443*, 843–854.
23. Stark, P.B., and R.L. Parker, 1995. Bounded-variable least-squares: an algorithm and applications, *Computational Statistics*, *10*, 129–141.
24. Hengartner, N.W., and P.B. Stark, 1995. Finite-sample confidence envelopes for shape-restricted densities, *The Annals of Statistics*, *23*, 525–550.
25. Stark, P.B., 1995. Reply to Comment by Morelli and Dziewonski, *Journal of Geophysical Research*, *100*, 15,399–15,402.
26. Gough, D.O., T. Sekii, and P.B. Stark, 1996. Inferring spatial variation of solar properties from helioseismic data, *Astrophysical Journal*, *459*, 779–791.
27. Benjamini, Y., and Stark, P.B., 1996. Non-equivariant simultaneous confidence intervals less likely to contain zero, *Journal of the American Statistical Association*, *91*, 329–337.
28. Hill, F., P.B. Stark, R.T. Stebbins, E.R. Anderson, H.M. Antia, T.M. Brown, T.L. Duvall, Jr., D.A. Haber, J.W. Harvey, D.H. Hathaway, R. Howe, R. Hubbard, H.P. Jones, J.R. Kennedy, S.G. Korzennik, A.G. Kosovichev, J.W. Leibacher, K.G. Libbrecht, J.A. Pintar, E.J. Rhodes, Jr., J. Schou, M.J. Thompson, S. Tomczyk, C.G. Toner, R. Toussaint, and W.E. Williams, 1996. The solar acoustic spectrum and eigenmode parameters, *Science*, *272*, 1292–1295.
29. Thompson, M.J., J. Toomre, E.R. Anderson, H.M. Antia, G. Berthomieu, D. Burtonclay, S.M. Chitre, J. Christensen-Dalsgaard, T. Corbard, M. DeRosa, C.R. Genovese, D.O. Gough, D.A. Haber, J.W. Harvey, F. Hill, R. Howe, S.G. Korzennik, A.G. Kosovichev, J.W. Leibacher, F.P. Pijpers, J. Provost, E.J. Rhodes, Jr., J. Schou, T. Sekii, P.B. Stark, and P.R. Wilson, 1996. Differential rotation and dynamics of the solar interior, *Science*, *272*, 1300–1305.
30. Stark, P.B., 1996. A few considerations for ascribing statistical significance to earthquake predictions, *Geophysical Research Letters*, *23*, 1399–1402.
31. Evans, S.N., and P.B. Stark, 1996. Shrinkage estimators, Skorokhod's problem, and stochastic integration by parts, *The Annals of Statistics*, *24*, 809–815.
32. Genovese, C.R., and P.B. Stark, 1996. Data Reduction and Statistical Consistency in Linear Inverse Problems, *Physics of the Earth and Planetary Interiors*, *98*, 143–162.

33. Stark, P.B., 1997. Earthquake prediction: the null hypothesis, *Geophysical Journal International*, *131*, 495–499.
34. Benjamini, Y., Y. Hochberg, and P.B. Stark, 1998. Confidence Intervals with more Power to determine the Sign: Two Ends constrain the Means, *Journal of the American Statistical Association*, *93*, 309–317.
35. Tenorio, L., P.B. Stark, and C.H. Lineweaver, 1999. Bigger uncertainties and the Big Bang, *Inverse Problems*, *15*, 329–341.
36. Stark, P.B., 1999. Geophysics, Statistics in, in *Encyclopedia of Statistical Sciences, Update Volume 3*, S. Kotz, C.B. Read, and D.L. Banks, eds., John Wiley and Sons, NY. Invited.
37. Komm, R., Y. Gu, P.B. Stark, and I. Fodor, 1999. Multitaper Spectral Analysis and Wavelet Denoising Applied to Helioseismic Data, *Astrophysical Journal*, *519*, 407–421.
38. Freedman, D.A., and P.B. Stark, 1999. The swine flu vaccine and Guillain-Barré syndrome: a case study in relative risk and specific causation, *Evaluation Review*, *23*, 619–647.
39. Fodor, I., and P.B. Stark, 2000. Multitaper Spectrum Estimation for Time Series with Gaps, *IEEE Transactions on Signal Processing*, *48*, 3472–3483.
40. Freedman, D.A., P.B. Stark, and K.W. Wachter, 2001. A probability model for census adjustment, *Mathematical Population Studies*, *9*, 165–180.
41. Freedman, D.A., and P.B. Stark, 2001. The swine flu vaccine and Guillain-Barré syndrome, *Law and Contemporary Problems*, *64*, 49–62.
42. Evans, S.N., and P.B. Stark, 2002. Inverse Problems as Statistics, *Inverse Problems*, *18*, R1–R43. Invited.
43. Stark, P.B., and D.A. Freedman, 2003. What is the Chance of an Earthquake? in *Earthquake Science and Seismic Risk Reduction*, F. Mulargia and R.J. Geller, eds., NATO Science Series IV: Earth and Environmental Sciences, v. 32, Kluwer, Dordrecht, The Netherlands, 201–213. Invited. (preprint: http://statistics.berkeley.edu/~stark/Preprints/611.pdf)
44. Stark, P.B., 2003. Capture-recapture. *Encyclopedia of Social Science Research Methods*, Sage Publications, Thousand Oaks, CA. Invited.
45. Stark, P.B., 2003. Census Adjustment. *Encyclopedia of Social Science Research Methods*, Sage Publications, Thousand Oaks, CA. Invited.
46. Schafer, C.M., and P.B. Stark, 2004. Using what we know: inference with physical constraints, *Proceedings of the Conference on Statistical Problems in Particle Physics, Astrophysics and Cosmology PHYSTAT2003*, L. Lyons, R. Mount and R. Reitmeyer, eds., Stanford Linear Accelerator Center, Menlo Park, CA, 25–34.
47. Evans, S.N., B. Hansen, and P.B. Stark, 2005. Minimax Expected Measure Confidence Sets for Restricted Location Parameters. *Bernoulli, 11,* 571–590.
48. Divenyi, P., P.B. Stark, and K. Haupt, 2005. Decline of Speech Understanding and Auditory Thresholds in the Elderly, *Journal of the Acoustical Society of America*, *118*, 1089–1100.
49. Freedman, D.A., and P.B. Stark, 2007. Ecological Inference, *1 Encyclopedia of Law and Society: American and Global Perspectives,* 447–448, David S. Clark,

ed., Sage Publications. Invited. (preprint: http://statistics.berkeley.edu/~stark/Preprints/ecoInf07.txt)

50. Luen, B., and P.B. Stark, 2008. Testing earthquake predictions. *IMS Lecture Notes—Monograph Series. Probability and Statistics: Essays in Honor of David A. Freedman,* 302–315. Institute for Mathematical Statistics Press, Beachwood, OH. Invited. (reprint: http://arxiv.org/abs/0805.3032)
51. Stark, P.B., 2008. The effectiveness of Internet content filters, *I/S: A Journal of Law and Policy for the Information Society*, *4,* 411–429. (preprint: http://statistics.berkeley.edu/~stark/Preprints/filters07.pdf)
52. Stark, P.B., 2008. Conservative Statistical Post-Election Audits. *The Annals of Applied Statistics, 2*, 550–581. (reprint: http://arxiv.org/abs/0807.4005)
53. Stark, P.B., 2008. A Sharper Discrepancy Measure for Post-Election Audits, *The Annals of Applied Statistics*, *2*, 982–985. (reprint: http://arxiv.org/abs/0811.1697)
54. Stark, P.B., 2008. Generalizing Resolution, *Inverse Problems*, *24,* 034014. Invited; selected for 2008 Highlights for *Inverse Problems* (http://herald.iop.org/IPhighlights/m44/avh//link/2659). (preprint: http://statistics.berkeley.edu/~stark/Preprints/resolution08.pdf)
55. Schafer, C.M., and P.B. Stark, 2009. Constructing Confidence Sets of Optimal Expected Size, *Journal of the American Statistical Association*, *104*, 1080–1089. (preprint: http://www.stat.cmu.edu/~cschafer/cmspbs.pdf)
56. Berlow, E.L., J.A. Dunne, N.D. Martinez, P.B. Stark, R.J. Williams and U. Brose, 2009. Simplicity on the other side of ecological complexity. *Proceedings of the National Academy of Sciences*, *106*, 187–219. (reprint: http://www.pnas.org/content/106/1/187.full.pdf+html)
57. Hall, J.L., L.W. Miratrix, P.B. Stark, M. Briones, E. Ginnold, F. Oakley, M. Peaden, G. Pellerin, T. Stanionis and T. Webber, 2009. Implementing Risk-Limiting Audits in California, *2009 USENIX EVT/WOTE.* (preprint: http://arxiv.org/abs/0905.4691, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1411219. SSRN's Top Ten download list for ERN: Models of Political Processes: Rent-Seeking, Elections, Legislatures, & Voting Behavior)
58. Stark, P.B., and L. Tenorio, 2009. A Primer of Frequentist and Bayesian Inference in Inverse Problems. In *Large Scale Inverse Problems and Quantification of Uncertainty*, Biegler, L., G. Biros, O. Ghattas, M. Heinkenschloss, D. Keyes, B. Mallick, L. Tenorio, B. van Bloemen Waanders and K. Willcox, eds. John Wiley and Sons, NY. In press. (preprint: http://statistics.berkeley.edu/~stark/Preprints/freqBayes09.pdf)
59. Stark, P.B., 2009. CAST: Canvass Audits by Sampling and Testing. *IEEE Transactions on Information Forensics and Security*, Special Issue on Electronic Voting, In press. (preprint: http://statistics.berkeley.eu/~stark/Preprints/cast09.pdf)
60. Miratrix, L.W., and P.B. Stark, 2009. Election audits using a trinomial bound. *IEEE Transactions on Information Forensics and Security*, In press. (preprint:. http://statistics.berkeley.edu/~stark/Preprints/trinomial09.pdf)
61. Stark, P.B., 2009. Risk-limiting post-election audits: *P*–values from common probability inequalities. *IEEE Transactions on Information Forensics and*

Security, In press. (preprint: http://statistics.berkeley.edu/~stark/Preprints/pvalues09.pdf)

62. Stark, P.B., 2009. Efficient post-election audits of multiple contests: 2009 California tests. Refereed paper to be presented at 2009 Conference on Empirical Legal Studies. (preprint: http://ssrn.com/abstract=1443314)

Technical Reports and Unrefereed Publications

63. Stark, P.B., 1988. Strict bounds and applications. in *Some Topics on Inverse Problems*, P.C. Sabatier, ed., World Scientific, Singapore.
64. Donoho, D.L., and Stark, P.B., 1988. Rearrangements and Smoothing, Tech. Rept. 148, Dept. Stat., Univ. Calif. Berkeley.
65. Donoho, D.L., and P.B. Stark, 1989. Recovery of a Sparse Signal When the Low Frequency Information is Missing, Tech. Rept. 179, Dept. Statistics, Univ. Calif. Berkeley.
66. Stark, P.B., 1990. Rigorous computer solutions to infinite-dimensional inverse problems. in *Inverse Methods in Action*, P.C. Sabatier, ed., Springer-Verlag. 462–467.
67. Hengartner, N.W., and P.B. Stark, 1992. Conservative finite-sample confidence envelopes for monotone and unimodal densities, Tech. Rept. 341, Dept. Statistics, Univ. Calif. Berkeley.
68. Hengartner, N.W., and P.B. Stark, 1992. Confidence bounds on the probability density of aftershocks, Tech. Rept. 352, Dept. Statistics, Univ. Calif. Berkeley.
69. Stark, P.B., 1992. The Cosmic Microwave Background and Earth's Core-Mantle Boundary: A Tale of Two CMB's, Tech. Rept. 371, Dept. Statistics, Univ. Calif. Berkeley.
70. Genovese, C., and P.B. Stark, 1993. l_1 spectral estimation: Algorithms and tests of super-resolution, in *GONG 1992: Seismic Investigations of the Sun and Stars, Proc. Astr. Soc. Pac. Conf. Ser.*, *42*, T. Brown, ed., 453–456.
71. Gough, D.O., and P.B. Stark, 1993. The significance of changes in solar free-oscillation splitting from 1986–1990, in *GONG 1992: Seismic Investigations of the Sun and Stars, Proc. Astr. Soc. Pac. Conf. Ser.*, *42*, T. Brown, ed., 221–224.
72. Stark, P.B., 1994. Simultaneous Confidence Intervals for Linear Estimates of Linear Functionals, Tech. Rept. 417, Dept. Statistics, Univ. Calif. Berkeley.
73. Sekii, T., C.R. Genovese, D.O. Gough, and P.B. Stark, 1995. Observational constraints on the internal solar angular velocity, in *Fourth SOHO Workshop: Helioseismology*, J.T. Hoeksema, V. Domingo, B. Fleck and B. Battrick, eds., ESA Publications Division SP-376, Noordwijk, **2**, 279–283.
74. Stark, P.B., 1997. Data Sampling Rate Reduction for the OERSTED Geomagnetic Satellite.
75. Fodor, I.K., J. G. Berryman, and P. B. Stark, 1997. Comparison of Autoregressive and Multitaper Spectral Analysis for Long Time Series, *Stanford Exploration Project*, **95**, 331–355.
76. Stark, P.B., 1997. SticiGui: Statistics Tools for Internet and Classroom Instruction with a Graphical User Interface. http://statistics.berkeley.edu/~stark/SticiGui
77. Borrill, J., and P.B. Stark, 1998. A fast method for bounding the CMB power spectrum likelihood function.

78. Komm, R.W., Y. Gu, F. Hill, P.B. Stark, and I.K. Fodor, 1998. Multitaper Spectral Analysis and Wavelet Denoising Applied to Helioseismic Data, *Proc. Tenth Cambridge Workshop on Cool Stars, Stellar Systems and the Sun*, ASP Conference Series, **154**, CDR 783–790.
79. Komm, R.W., E. Anderson, F. Hill, R. Howe, A.G. Kosovichev, P.H. Scherrer, J. Schou, I. Fodor, and P. Stark, 1998. Comparison of SOHO-SOI/MDI and GONG Spectra, *Proceedings of the SOHO 6/GONG 98 Workshop*, 'Structure and Dynamics of the Interior of the Sun and Sun-like Stars,' Boston, USA, 1–4 June 1998, ESA SP-418, 253–256.
80. Komm, R.W., E. Anderson, F. Hill, R. Howe, I. Fodor, and P. Stark, 1998. Multaper analysis applied to a 3-month time series, *Proceedings of the SOHO 6/GONG 98 Workshop*, 'Structure and Dynamics of the Interior of the Sun and Sun-like Stars,' Boston, USA, 1–4 June 1998, ESA SP-418, 257–260.
81. Stark, P.B., 1999. The 1990 and 2000 Census Adjustment Plans, Tech. Rept. 550, Dept. Statistics, Univ. Calif. Berkeley (revised May 2000)
82. Fodor, I.K. and P.B. Stark, 1999. Multitaper Spectrum Estimates for Time Series with Missing Values, *Computing Science and Statistics, 31: Models, Predictions, and Computing*. K. Berk and M. Pourahmadi, eds., 383–387.
83. Stark, P.B., 2000. Inverse Problems as Statistics, in *Surveys on Solution Methods for Inverse Problems*, Colton, D., H.W. Engl, A.K. Louis, J.R. Mclaughlin and W. Rundell, eds., Springer-Verlag, New York, 253–275. Invited.
84. Stark, P.B., 2004. Estimating power spectra of galactic structure: can Statistics help?, in *Penetrating Bars Through Masks of Cosmic Dust: The Hubble Tuning Fork Strikes a New Note*, D.L. Block, I. Puerari, K.C. Freeman, R. Groess and E.K. Block, eds., Springer, The Netherlands, 613–617. Invited.
85. Schafer, C.M., and P.B. Stark, 2006. Constructing Confidence Sets of Optimal Expected Size, Technical Report 836, Department of Statistics, Carnegie Mellon University.
86. Jefferson, D., K. Alexander, E. Ginnold, A. Lehmkuhl, K. Midstokke and P.B. Stark, 2007. *Post Election Audit Standards Report—Evaluation of Audit Sampling Models and Options for Strengthening California's Manual Count*. http://www.sos.ca.gov/elections/peas/final_peaswg_report.pdf
87. Stark, P.B., 2009. Auditing a collection of races simultaneously. http://arxiv.org/abs/0905.1422v1

Editorials, Reviews and Comments

88. Stark, P.B., 2001. Review of *Who Counts?* by Margo J. Anderson and Stephen E. Fienberg, *Journal of Economic Literature*, **XXXIX**, 593–595. Invited.
89. Tenorio, L., E. Haber, P.B. Stark, D. Cox, O. Ghattas and W.W. Symes, 2008. Guest editors' introduction to the special section on statistical and computational issues in inverse problems, *Inverse Problems*, *24*, 034001. (reprint: http://www.iop.org/EJ/article/0266-5611/24/3/034001/ip8_3_034001.pdf)
90. Stark, P.B., 2008. Obituary: David A. Freedman. *IMS Bulletin, 38*, 10–11. (preprint: http://statistics.berkeley.edu/~stark/Preprints/dafObituary.htm)

91. Collier, D., J. Sekhon and P.B. Stark, 2009. Preface to David A. Freedman, 2009. *Statistical Models: Theory and Practice, Revised edition*, Cambridge University Press, New York.
92. Ash, A., S. Pierson and P.B. Stark, 2009. Thinking outside the urn. Statisticians make their marks on US ballots, *AMSTAT News*, *384*. 37–40. (reprint: http://www.amstat.org/outreach/pdfs/SP_ANJun09.pdf)
93. Freedman, D.A., 2009. *Statistical Models and Causal Inference: A Dialog with the Social Sciences*, D. Collier, J.S. Sekhon and P.B. Stark, eds., Cambridge University Press, New York. In press.

Manuscripts in Review

None.

Working Drafts

94. Huttunen, J.M.J., and P.B. Stark, 2009. Cheap contouring of costly functions. http://statistics.berkeley.edu/~stark/Preprints/contour09.pdf
95. Higgins, M., R.L. Rivest and P.B. Stark, 2009. Optimal attacks against stratified simple random audits. http://statistics.berkeley.edu/~stark/Preprints/stratAttack09.pdf
96. Stark, P.B., 2009. The status and near future of post-election audits. http://statistics.berkeley.edu/Preprints/auditingPosition09.htm

Other Published Documents

1. Testimony before U.S. House of Representatives Subcommittee on the Census, 5 May 1998. http://statistics.berkeley.edu/~stark/Census/house-5-5-98-pbs.pdf
2. Response to 25 Questions from Representative C. Maloney, Ranking Minority Member, U.S. House of Representatives Subcommittee on the Census, 13 May 1998. http://statistics.berkeley.edu/~stark/Census/maloney-5-13-98-pbs.pdf
3. Stark, P.B., 1999. Letter to the Editor of USA Today regarding Sampling to Adjust the 2000 Census, 19 January.
4. Audit working group, 2009. Data Requirements for Vote-Tabulation Audits: Statement to NIST, http://electionaudits.org/niststatement 29 October.
5. Stark, P.B., 2009. Null and Vetoed: "Chance Coincidence"? http://statistics.berkeley.edu/~stark/Preprints/acrosticVeto09.htm

Software

- Stark, P.B., and R.L. Parker, 1994. BVLS (Bounded-Variable Least Squares), STATLIB (Carnegie-Mellon University ftp server)
- unofficially published software: see http://statistics.berkeley.edu/~stark/Code

Invited Presentations

(For slides from some recent seminars, see http://statistics.berkeley.edu/~stark/Seminars)

2009

- **Efficient Post-Election Audits of Multiple Contests: 2009 California Tests,** Conference on Empirical Legal Studies, University of Southern California Gould School of Law, Los Angeles, CA, 20–21 November.
- **Risk-Limiting Audits,** Audit Working Meeting, American Statistical Association, Alexandria, VA, 23–24 October.
- **Panelist, Uncertainty Quantification and Error Analysis,** Scientific Grand Challenges in National Security: the Role of Computing at the Extreme Scale, 6–8 October.
- **Some Ado about (mostly) Nothing: Zero-dominated Data,** Alameda County Workshop on Avian Mortality at Altamont Pass, Emeryville, CA, 22 September.
- **Freedman's Dialogue with the Social Sciences**, 2009 Joint Statistical Meetings, Washington, DC, 5 August.
- **Panelist: David A. Freedman's Dialogue with the Social Sciences**, The Society for Political Methodology 26th Annual Summer Meeting, Institution for Social and Policy Studies, Yale University, New Haven, CT, 23 July.
- **Election Auditing: How Much is Enough?**, The Society for Political Methodology 26th Annual Summer Meeting, Institution for Social and Policy Studies, Yale University, New Haven, CT, 23 July.
- **Uncertainty quantification qualification**, Lawrence Livermore National Laboratory, Livermore, CA, 26 March.
- **2008 Risk-limiting audits in California**, The Pew Charitable Trusts Audit Workshop, Salt Lake City, UT, 23–24 February.

2008

- **CAST: Canvass Audits by Sampling and Testing**, 2008 American Political Science Association Annual Meeting, *Panel 2008MP04292 Catch Me If You Can: Techniques to Detect Electoral Fraud,* Boston, MA, 28–31 August.
- **Panelist,** Joint Statistical Meetings session *Statistical Measures Can Help Restore Confidence in U.S.* Elections, Denver, CO, 3–7 August.
- **Panel on Post-Election Auditing: The Academic & Advocacy Perspective,** *California Association of Clerks and Election Officials (CACEO) 100th Anniversary Celebration Conference*, Long Beach, CA, 8–11 July.
- **Statistical Audits: Why and How Much?, Panel on Post-Election Auditing: Practical Experience and Best Practices,** *California Association of Clerks and Election Officials (CACEO) 100th Anniversary Celebration Conference*, Long Beach, CA, 8–11 July.
- **Panel on Online Learning**, *UC21st Century, Teaching, Learning and Technology: Past, present and future*, University of California, Davis, Davis, CA 20–21 June.

- **Election Auditing: How Much is Enough?**, Mathematical Sciences Research Institute, Annual Meeting of Academic Sponsors and Steering Committee, Berkeley, CA, 7 March.

2007

- **Panelist,** 2007 Post Election Audit Summit, Minneapolis, MN, 25-27 October.
- Frequentist Methods in Inverse Problems, *Sandia CSRI Workshop on Large-Scale Inverse Problems and Quantification of Uncertainty*, Santa Fe, NM, 10-12 September.
- **How Statistics Helps***, 9th US National Congress on Computational Mechanics*, San Francisco, CA, 22–26 July. (Keynote)

2006

- **Measuring Resolution in Nonlinear and Constrained Inverse Problems,** *Workshop on Statistical Inverse Problems*, Institute for Mathematical Stochastics, Göttingen, Germany, 23–25 March.

2005

- **Resolution in Nonlinear and Constrained Inverse Problems,** *Workshop on Computational and Mathematical Geoscience,* Colorado School of Mines, Golden CO, 15–17 June.

2004

- **Quantifying uncertainty in inverse problems**, *Summer school: Mathematical Geophysics and Uncertainty in Earth Models*, Colorado School of Mines, Golden CO, 14–25 June.
- **Estimating power spectra of galaxy structure: can Statistics help?,** *Penetrating bars through masks of cosmic dust: the Hubble tuning fork strikes a new note*, Pilanesberg National Park, South Africa, 7-12 June.

2003

- **Quantifying uncertainty in inverse problems,** *Institute for Pure and Applied Mathematics (IPAM) Conference on Statistical Methods for Inverse Problems,* IPAM, Los Angeles, CA, 5–6 November,
- **Guest,** *The Fred Ebert Show* program on probability and statistics, KIRO 710, Seattle, WA, 27 October.
- **Using what we know: inference with physical constraints**, *PhyStat 2003: Statistical Problems in Particle Physics, Astrophysics and Cosmology*, Stanford Linear Accelerator Center, Stanford, CA, 8–10 September.

2002

- **Strategic Planning and Implementation I: The Challenge of Adapting Organizations and Creating Partnerships to Target New Markets**, *University Teaching as E-business?*, Center for Studies in Higher Education, Berkeley, CA, 26-27 October.
- **Inverse Problems and Data Errors**, *New Developments in Astrophysical Fluid Dynamics*, Chateau de Mons, Caussens, France, 25–29 June.
- **Data Reduction and Inverse Problems in Helioseismology**, *Workshop Statistics of inverse problems*, Institut Henri Poincaré, Paris, France, 28–29 May.

- **Why Statistics is worth the Stigma**, *Letters and Sciences Faculty Forum*, University of California, Berkeley, 23 April.
- **Inverse Problems in Helioseismology**, Second MaPhySto Workshop on Inverse Problems: Inverse problems from a Statistical Perspective, Aalborg, Denmark, 28–31 March.

2000

- **What are the Chances?** *NATO Advanced Research Workshop: State of scientific knowledge regarding earthquake occurrence and implications for public policy*, Le Dune, Piscinas - Arbus, Sardinia, Italy, 15–19 October.
- **Why Unadjusted Census Results should be Used for Reapportionment and Funding within the State of California**. *13th Annual Demographic Workshop*, U.S. Bureau of the Census, California State Census Data Center, and the Population Research Laboratory of the University of Southern California, Los Angeles, CA, 15 May.
- Invited Discussant, *Workshop of the National Academy of Sciences Panel to Review the 2000 Census*, Washington, D.C., 2–3 February.

1999

- Invited Discussant, *Panel Discussion on the role of sampling in the US Census*, San Francisco Bay Area Chapter of the American Statistical Association, 20 December.
- Lecturer, *Mathematical Geophysics Summer School*, Stanford University, Stanford, CA, 2–20 August.
- **Less Asymptotic Tomography**. *9th SOHO Workshop: Helioseismic Diagnostics of Solar Convection and Activity*, Stanford University, Stanford, CA, 12–15 July.
- Panelist, *Reinventing Undergraduate Education: Technology Enhanced Learning in the Sciences, Math, and Engineering*, University of California, Berkeley, CA, 23 April.
- **Error in Numerical Models Fitted to Data**. *DSRC/DARPA Study on Numerical Simulation of Physical Systems: The State of the Art, and Opportunities for Further Advances, Kick-Off Meeting*, Arlington, VA, 19–20 January.
- **Sampling to Adjust the U.S. Census.** *Miller Institute for Basic Research in Science*, University of California, Berkeley, CA, 12 January.

1998

- **A Statistician's Perspective on Census Adjustment,** *Berkeley Breakfast Club*, Berkeley, CA, 5 December.
- **SticiGui©: Melts in your Browser, not in your Brain**, *Joint Berkeley-Stanford Statistics Colloquium*, Department of Statistics, Stanford University, Stanford, CA, 27 October.
- **SticiGui: Statistics Tools for Internet and Classroom Instruction with a Graphical User Interface**, *1998 Joint Statistical Meetings of the American Statistical Association, International Biometric Society, and Institute of Mathematical Statistics*, Orlando, FL, 12 August.

- **Presidential Panel on Statistics in Public Policy**, *1998 Joint Statistical Meetings of the American Statistical Association, International Biometric Society, and Institute of Mathematical Statistics*, Orlando, FL, 10 August.
- Guest, *KQED-FM Forum program on the 2000 Census*, San Francisco, CA, 17 July. http://www.kqed.org/radio/programs/forum/
- **Misfit Measures and Statistical Inconsistency in Linear Inverse Problems**. *AMS/IMS/SIAM Joint Summer Research Conferences in the Mathematical Sciences, Mathematical Methods in Inverse Problems for Partial Differential Equations*, Mt. Holyoke, MA, 4–9 July.
- **Uncertainties for functions from incomplete, erroneous data**. *NSF/DOE Workshop on Uncertainty in Modeling*, National Science Foundation, Arlington, VA, 11–12 June.
- **Sampling to adjust the 1990 Census for Undercount**. U.S. House of Representatives Subcommittee on the Census, May.
- **Sounding the Sun: Helioseismology**. *1998 American Association for the Advancement of Science (AAAS) Annual Meeting and Science Innovation Exposition*, Philadelphia, PA., February.

1997

- **Does God play dice with the Earth, and if so, are they loaded?** *Fourth SIAM Conference on Mathematical and Computational Methods in the Geosciences*, Albuquerque, NM.
- **Solving Problems for a Large Statistics Lecture Course using a Website** *UC Berkeley Academic Senate Workshop on Classroom Technology*, Berkeley, CA.
- **Deficiencies of the simple theories**, *Local Helioseismology Workshop*, University of Cambridge, Cambridge, England.

1996

- **CMB's**, *Royal Astronomical Society Ordinary Meeting*, London, England.
- **The Null Hypothesis**, *Royal Astronomical Society and Joint Associations for Geophysics discussion meeting on Assessment of Schemes for Earthquake Prediction*, London, England.
- **On the consistency of multiple inference in inverse problems using l_p confidence sets**, *International Conference on Multiple Comparisons*, Tel Aviv, Israel.

1995

- **Confidence Intervals in Inverse Problems**, *Conference in Honor of George Backus*, Institute for Geophysics and Planetary Physics, La Jolla, CA
- **The Need for Wave-Equation Travel-Time Tomography**, *Institute for Mathematics and Its Applications, Conference on Tomography*, Minneapolis, MN
- I**nference, Prior Information, and Misfit Measures**, *Interdisciplinary Inversion Conference on Methodology, Computation and Integrated Applications*, University of Aarhus, Aarhus, Denmark
- **Optimization and Inference in Travel-Time Seismology**, *National Research Council Board on Mathematical Sciences Symposium on Mathematical Sciences in Seismology*, Washington, DC

- **Prior Information and Confidence Intervals in Inverse Problems**, *International Union of Geodesy and Geophysics Meeting*, Boulder, CO
- **Something AGAINST Nothing: A Confidence Game**, *Joint Statistical Meetings of the American Statistical Association, International Biometric Society, and Institute of Mathematical Statistics*, Orlando, FL
- **Uncertainties in Travel-Time Seismology**, *SIAM/GAMM Symposium on Inverse Problems: Geophysical Applications*, Fish Camp, CA

1994

- **Toward Tubular Tomography**, *27th General Assembly of the Int. Assoc. of Seismology and Phys. of the Earth's Inter. (IASPEI)*, Wellington, New Zealand
- **Alternative Data Analysis Techniques**, *Global Oscillation Network Group annual meeting*, Los Angeles, CA (presented by C. Genovese due to illness).
- **Mathematical Aspects of Integral Equation Inversion**, *Global Oscillation Network Group workshop*, Sydney, Australia.

1993

- **Conservative Finite-Sample Confidence Envelopes for Monotone and Unimodal Densities**, *Mathematisches Forschungsinstitut Oberwolfach meeting on Curves, Images and Massive Computation*, Oberwolfach, Germany
- Invited Discussant, *Joint IMS/ASA/ENAR Meeting*, Philadelphia, PA
- **Uncertainty of the Quadrupole Component of the Cosmic Microwave Background**, *Israel Statistical Association Annual Meeting*, Tel Aviv
- **Brute-Force Minimax Estimation in Geochemistry**, *Joint Statistical Meetings of the American Statistical Association, International Biometric Society, and Institute of Mathematical Statistics*, San Francisco, CA

1992

- **Conservative Numerical Uncertainty Estimates in Inverse Problems**, *SIAM 40th Anniversary Meeting*, Los Angeles, CA

1991

- **Minimax Estimation in Geomagnetism**, *European Geophysical Society Annual Meeting*, Wiesbaden, Germany
- **Minimax Estimation in Geophysical Inverse Problems: Applications to Seismic Tomography and Geomagnetism**, Schmitt Institute for Physics of the Earth, Academy of Sciences of the USSR, Moscow
- **Imagining Earth's Interior: Controversies in Seismology and Geomagnetism**, *Mathematical Sciences Research Institute Workshop on Statistical Methods in Imaging*, Berkeley, CA

1990

- **Discretization and its Discontents: New Methods in Inverse Theory**, *Institute for Theoretical Physics program "Helioseismology–Probing the Interior of a Star,"* National Science Foundation Institute for Theoretical Physics, University of California, Santa Barbara
- **Inference in Infinite-Dimensional Inverse Problems**, Schmitt Institute for Physics of the Earth, Academy of Sciences of the USSR, Moscow

- **Inference in Infinite-Dimensions: Discretization and Duality**, *Israel Statistical Association Annual Meeting*, Jerusalem
- **Superresolution: What, When and How?**, *Institute for Theoretical Physics program "Helioseismology–Probing the Interior of a Star,"* National Science Foundation Institute for Theoretical Physics, University of California, Santa Barbara

1989

- **Sparsity-Constrained Deconvolution**, *International Union of Radio Science Meeting*, Boulder, CO
- Invited Discussant. *Statistics, Earth and Space Sciences Meeting of the Bernoulli Society*, Leuven, Belgium
- **Rigorous Computer Solutions to Infinite-Dimensional Inverse Problems**, *rcp 264 problemes inverses*, Montpellier, France

1988

- **Duality and Discretization Error**, *Conference on Mathematical Geophysics*, Blanes, Spain

1987

- **Spectral extrapolation with positivity**, *International Union of Radio Science Meeting*, Boulder, CO

1986

- **Travel-Time Constraints on Core Structure**, *Special Session on Geophysics of the Core and Core-Mantle Boundary*, American Geophysical Union Spring Meeting, Baltimore, MD
- **Smooth Models from tau(p) and X(p) Data**, *Scripps Industrial Associates Short Course on Inverse Theory*, Scripps Institution of Oceanography, La Jolla, CA

Other invited seminars

- California State University, Chico (Mathematics 1993)
- Colorado School of Mines (Dept. of Mathematical and Computer Sciences, 1997)
- Copenhagen University (Niels Bohr Institute for Astronomy, Physics, and Geophysics 1996)
- Hebrew University of Jerusalem (Statistics 1993)
- Kansas State University (Statistics 2008)
- National Solar Observatory (1997)
- Naval Postgraduate School (Operations Research, 2001)
- Reed College (Department of Mathematics, 2007, 2008)
- Schlumberger-Doll Research (1988, 1990, 1991, 1992)
- Southern Methodist University (Statistical Sciences, 1998)
- Stanford University (Center for Space Physics and Astrophysics 1992; Mathematics, 1997; Geology and Geophysics, 1993, 1997; Statistics 1988, 1993, 1995)
- The Technion (Statistics 1987)

- Tel-Aviv University (Geology and Geophysics 1988, 1991; Statistics 1991)
- University of British Columbia (Geophysics and Astronomy 1996)
- University of California, Berkeley (Astronomy 1996; Center for Pure and Applied Mathematics 1988; Geology and Geophysics 1988; Materials Science and Mineral Engineering 1988; Physics, 2001; Seismographic Stations, 1991, 1992, 1996; Statistics 1987, 1988(2),1989(2), 1990, 1991, 1992, 1994, 1996(2), 1997, 2006, 2009)
- University of California, Davis (Statistics 1995, 2006; Mathematics 2000)
- University of California, Los Angeles (Mathematics 1992; Statistics 2000, 2008)
- University of California, Riverside (Earth Sciences 1996; Statistics 1996)
- University of California, San Diego (Institute for Geophysics and Planetary Physics 1985, 1986, 1987, 1988(2), 1990, 1998, 2005; Mathematics 1994)
- University of Cambridge (Institute for Astronomy 1992, 1997)
- University of Chicago (Statistics 1990)
- University of Edinburgh (Earth Sciences, 1998)
- University of Texas at Austin (Geological Sciences 1988; Mathematics 1990, 1991; Institute for Geophysics 1990)
- Veterans Affairs Northern California Health Care System, Martinez, CA (East Bay Institute for Research and Education, 2007)
- Yale University (Geology and Geophysics 1988; Statistics 1988)

Selected News Coverage

- "Novato Sanitary board race tightens," Jim Welte, *The Marin Independent Journal*, 12 November 2009. http://www.marinij.com/election/ci_13773039 (Election auditing)
- "China To Require Filtering Software On PCs," Thomas Claburn, *InformationWeek*, 8 June 2009. http://www.informationweek.com/news/internet/policy/showArticle.jhtml?articleID=217800108&subSection=All+Stories (Internet content filtering)
- "Checking It Twice," Julie J. Rehmeyer, *Science News*, 19 January 2008. http://www.sciencenews.org/articles/20080119/mathtrek.asp (Election auditing)
- "Internet is 99 per cent porn free," Iain Thomson, *vnunet.com*, 15 November 2006. http://www.vnunet.com/vnunet/news/2168636/internet-per-cent-porn-free (Internet content filtering)
- "Internet Content Filters Fail to Block Sexually Explicit Material," Thomas Claburn, *InformationWeek*, 14 November 2006. http://www.informationweek.com/news/showArticle.jhtml?articleID=194300677&subSection=All+Stories (Internet content filtering)
- "1 percent of Web sites deemed pornographic," Maryclaire Dale, *Associated Press*, 14 November 2006. http://www.msnbc.msn.com/id/15721799/ (Internet content filtering)

- "Only 1 percent of Web pages have porn?," Declan McCullagh, *News.com*, 14 November 2006. http://www.news.com/8301-10784_3-6135662-7.html (Internet content filtering)
- "U.S., Google Set to Face Off in Court," Michael Liedtke, *Associated Press*, 14 March 2006. http://www.sfgate.com/cgi-bin/article.cgi?file=/n/a/2006/03/13/financial/f133050S47.DTL&type=printable (Internet content filtering)
- "In Case About Google's Secrets, Yours Are Safe," Adam Liptak, *New York Times*, 26 January 2006. http://www.nytimes.com/2006/01/26/technology/26privacy.html?_r=1&emc=eta1&oref=slogin (Internet content filtering)

Media Appearances; News Mention

- *"*Vaccine Trial Shows Only Slight Protection," by Donald G. McNeil Jr., *New York Times*, 21 October 2009. http://nytimes.com/2009/10/21/health/research/21vaccine.html?_r=1
- *KQED-FM Forum* program on the Census, San Francisco, CA, 6 March 2009. http://www.kqed.org/radio/programs/forum/
- "Census, partisan wrangling go hand-in-hand," by Tyche Hendricks, *Scripps News*, 23 February 2009. http://www.scrippsnews.com/node/41139
- "Why the census is always political," by Tyche Hendricks, *San Francisco Chronicle*, 22 February 2009. http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/02/22/MNPB161PBV.DTL
- "He's out for the Count," by Mark Hosenball, *Newsweek,* 14 February 2009; magazine issue dated 23 February 2009. http://www.newsweek.com/id/184802
- "Measure B court challenge heads to San Francisco," Karen de Sá, *Mercury News*, 1 December 2008. http://www.mercurynews.com/politics/ci_11113510
- "New Election Audit Targets Close Races," Laura Snider, *Daily Camera*, 26 November 2008. http://www.dailycamera.com/news/2008/nov/26/new-election-audit-targets-close-races/
- "Counting Continues for Elections Department,*" Redwood Times,* 19 November 2008. http://www.redwoodtimes.com/local/ci_11023304
- *Reelz Channel Dailies. "*Is it Real?, Reelz Channel, 15 June 2007.
- *The Fred Ebert Show* program on probability and statistics, KIRO 710, Seattle, WA, 27 October 2003
- *AFC NewSource* story on airline security, [Airings: The Osgood File (CBS Radio Network), 7/29/03, 2/18/03; KRON-TV (San Francisco), 2/3/03]
- *ABC 7 News* story on census adjustment, 30 November 1998
- *KQED-FM Forum* program on the 2000 Census, San Francisco, CA, 17 July 1998. http://www.kqed.org/radio/programs/forum/

Graduate Advising

Former Ph.D. Students and Postdocs

- Imola K. Fodor, Genentech
- Christopher R. Genovese, Carnegie Mellon University
- Janne Huttunen
- Niklaus W. Hengartner, Los Alamos National Laboratory
- R. Jay Pulliam, University of Texas
- Chad M. Schafer, Carnegie Mellon University

Graduate Committees

- Alameida, Jose, Mathematics. Ph.D. qualifying examination, 2008
- Bar-Yossef, Ziv, Computer Science. Ph.D. qualifying examination, 2001; dissertation committee, "The Complexity of Massive Data Set Computations," 2002
- Bein, Ed, Biostatistics. MA examination, 2002
- Berny, Axel Dominique, EECS. Ph.D. qualifying examination, 2004; dissertation committee, "Analysis and Design of Wideband LC VCOs," 2006
- Bodik, Peter, Computer Science. Ph.D. qualifying examination, 2007
- Bowman, John Penfield, IEOR. Ph.D. qualifying examination, 2003
- Bunn, Emory Freeman, Physics. Ph.D. qualifying examination, 1994; dissertation committee, "Statistical Analysis of Cosmic Microwave Background Anisotropy," 1995
- Burstein, Richard David II, Mathematics. Ph.D. qualifying examination, 2004; dissertation committee, "Hadamard Subfactors of Bisch-Haagerup Type," 2008.
- Buttrey, Samuel Edward, Statistics. Ph.D. qualifying examination, 1994; dissertation committee, "Nearest-Neighbor Classification with Categorical Variables," 1996
- Calef, Brandoch Hugh, Applied Mathematics. Ph.D. qualifying examination, 1997; dissertation committee, "Optimal Sampling of the Discrete Fourier Transform," 2002
- Charman, Andrew Emile, Physics. Ph.D. qualifying examination, 2003; dissertation committee, "Random Aspects of Beam Physics and Laser-Plasma Interactions," 2006
- Chen, Raymond Lei, EECS. Ph.D. qualifying examination, 1993; dissertation committee, "A Qualitative Modeling Framework of Semiconductor Manufacturing Processes—Self-Learning Fuzzy Inference System and the Statistical Analysis of Categorical Data," 1994
- Chien, Georgs, EECS. Ph.D. qualifying examination, 1998
- Feldman, Arnold R., EECS. Ph.D. qualifying examination, 1995; dissertation committee, "High-Speed, Low-Power Sigma-Delta Modulators for RF Baseband Channel Applications," 1997
- Fodor, Imola K., Statistics. Ph.D. qualifying examination, 1997; chair, dissertation committee, "Spectrum Estimation in Helioseismology," 1999

- Fong, Keng Leong, EECS. Ph.D. qualifying examination, 1996; dissertation committee, "Design and Optimization Techniques for Monolithic RF Downconversion Mixers," 1997
- Gagnon-Bartsch, Johann, Statistics. Ph.D. qualifying examination, 2009
- Gawiser, Eric Joseph, Physics. Ph.D. qualifying examination, 1998
- Genovese, Christopher Ralph, Statistics. Ph.D. qualifying examination, 1992; chair, dissertation committee, "Statistical Problems in Helioseismology," 1994
- Goldman, Megan, Biostatistics. chair, Ph.D. qualifying examination, 2009
- Gung, Yuan-Cheng, Geophysics. Dissertation committee, "Q Tomography of the Earth Mantle," 2003
- Hansen, Bendek, Statistics. Chair, MA thesis committee, "Minimax Expected Length Confidence Intervals," 2000
- Hansen, Mark Henry, Statistics. Chair, Ph.D. qualifying examination, 1992
- Hengartner, Niklaus Walther, Statistics. Co-chair, dissertation committee, "Topics in Density Estimation," 1993
- Higgins, Mike, Statistics. Ph.D. qualifying examination, 2009.
- Huang, Hsiang-Ping, Mathematics. Ph.D. qualifying examination, 1996
- Huang, Jianhua, Statistics. Ph.D. qualifying examination, 1994; dissertation committee, "Topics in Extended Linear Modeling," 1997
- Huang, Yuanlin, Civil Engineering. Ph.D. qualifying examination, 1993, 1994
- Jiang, Xuesong, EECS. Ph.D. qualifying examination, 2001
- Jones, David Morgan, Mathematics. Ph.D. qualifying examination, 1994; dissertation committee, "On Modular Galois Representations in Characteristic 3," 1998
- Katsis, Dimitrios, EECS. Ph.D. qualifying examination, 2005
- Kiesling, Max Karl, Civil Engineering. Ph.D. qualifying examination, 1994
- Li, Bo, Statistics. Ph.D. qualifying examination, 2004
- Luen, Bradley, Statistics. Ph.D. qualifying examination, 2006; Chair, dissertation committee
- Madar, Vered, Mathematics and Statistics, Tel Aviv University. MA thesis committee, "Non-equivariant confidence intervals," 2002
- Megnin, Charles Henri, Geophysics. Ph.D. qualifying examination, 1996; dissertation committee, "The Shear Velocity Structure of the Mantle from the Inversion of Time-Domain Waveform Data," 1999
- Murmann, Boris, EECS. Ph.D. qualifying examination, 2002; dissertation committee, "Digital Calibration for Low-Power High-Performance A/D Conversion," 2003
- Ou, Jeffrey Jiajiunn, EECS. Ph.D. qualifying examination, 1995
- Petkov, Vladimir Plamenov, EECS. Ph.D. qualifying examination, 2003
- Poobuapheun, Nuntachai, EECS. Ph.D. qualifying examination, 2005; dissertation committee, "LNA and Mixer Designs for Multi-Band Receiver Front-Ends," 2009
- Pulliam, R. Jay, Geophysics. Ph.D. dissertation committee, "Imaging Earth's Interior: Tomographic Inversion of Mantle P-Wave Velocity Structure," 1991
- Rein, Steven Richard, Statistics. Chair, Ph.D. qualifying examination, 1990

- Schafer, Chad Michael, Statistics. Ph.D. qualifying examination, 2001; chair, dissertation committee, "Constructing Confidence Regions of Optimal Expected Size: Theory and Application to Cosmic Microwave Inference," 2004
- Son, Sang Won, EECS. Ph.D. qualifying examination, 2000; dissertation committee, "High Dynamic Range CMOS Mixer Design," 2002
- Suzuki, Toru, Demography. Ph.D. qualifying examination, 1995; dissertation committee, "Projection of Households in Japan with a Dynamic Macro-Simulation Model," 1999
- Tee, Luns, EECS. Ph.D. qualifying examination, 2001
- Tenorio, Luis-Francisco, Mathematics. Ph.D. dissertation committee, "Asymptotic Dynamics of Locally Oblique Solitary Wave Soltuions of the KP Equation," 1992
- To, Albert Chi Fu, Statistics. MA committee, 2005
- Wagner, Tim Allen, CS. Ph.D. qualifying examination, 1995; dissertation committee, "Practical Algorithms for Incremental Software Development Environments," 1997
- Wicks, Charles Wesley Jr., Geophysics. Ph.D. qualifying examination, 1990; dissertation committee, "An Investigation of Mantle Discontinuities Beneath the Southwest Pacific," 1994
- Ying, Jun, Naval Architecture. D. Eng. qualifying examination, 1995; dissertation committee, "Development and Verification of Computer Simulation Models for Evaluation of Siting Strategies and Evacuation Procedures for Mobile Drilling Units in Hurricanes," 1996
- Zhang, Xiaoyan, Statistics. Ph.D. qualifying examination, 1997
- Zagheni, Emilio, Demography. Ph.D. qualifying examination, 2008

Service

Professional Societies and Government Agencies

2007

California Secretary of State Post-Election Audit Standards Working Group

2006

Consultant and Expert Witness, U.S. Department of Justice, Civil Division

2005

Consultant, U.S. Department of Justice, Civil Division
Consultant, U.S. Department of Veterans Affairs Medical Center
Consultant, Habeas Corpus Resource Center

2004

Reviewer, National Science Foundation
Consultant, U.S. Department of Justice, Civil Division
Consultant, U.S. Attorney's Office
Consultant, U.S. Department of Veterans Affairs Medical Center

2003

Reviewer, National Science Foundation
Referee, National Sciences and Engineering Research Council of Canada
Consultant, U.S. Department of Veterans Affairs Medical Center

2002

Consultant, U.S. Department of Agriculture
Consultant, U.S. Department of Justice, Civil Division

2001

Consultant, U.S. Department of Justice, Civil Division
Co-organizer, Institute for Mathematics and Its Applications 2001–2002 Program *Mathematics in the Geosciences* and workshop on Inverse Problems and the Quantification of Uncertainty

2000

Discussant, National Academy of Science Committee on National Statistics workshop on dual-system estimation for the 2000 Census
Consultant, U.S. Department of Justice, Civil Division

1998

Witness, U.S. House of Representatives Subcommittee on the Census.
Panelist, National Science Foundation

1997

Session organizer, International Statistical Institute and Bernoulli Society Meeting, Istanbul, Turkey

1996–

Global Oscillation Network Group (GONG) Data Users Committee (Chair, 1996–1998)
Reviewer for United States Geological Survey

1996–1999

Consultant, National Security Agency

1995

Institute of Mathematical Statistics Program Chair, Joint Statistical Meetings of the American Statistical Association, International Biometric Society, and Institute of Mathematical Statistics, Orlando, FL

1994–1996

Consultant, Federal Trade Commission

1993

Session organizer and chair, IMS/ASA/ENAR meeting, Philadelphia, PA
Session organizer and chair, Joint Statistical Meetings of the American Statistical Association, International Biometric Society, and Institute of Mathematical Statistics, San Francisco, CA

1992

Faculty sponsor, Department of Energy TRAC program

1990–1994

Bernoulli Society Committee on Statistics in the Physical Sciences

1991–present

Reviewer for National Aeronautics and Space Administration (Space Physics Division)

1991

Local organizer and session chair, Mathematical Sciences Research Institute Workshop on Statistical Methods in Imaging, Berkeley, CA

1989

Session organizer and chair, Bernoulli Society Satellite Meeting, Leuven, Belgium

1989–present

Reviewer for National Science Foundation (Atmospheric Sciences, Infrastructure, International Programs, Mathematical Sciences, Solar-Terrestrial Program, Statistics and Probability)

Private Industry

2007

Advisory Board, Facebar, Inc.

2000–2001

Technical Advisory Board, Cogit.com
National Advisory Board, eTextbooksOnline.com

2000–2002

Technical Advisory Board, Atomic Dog Publishing

Editorial Service

2008

Guest editor, Inverse Problems

1998–1999

Editor, Statistical Science

1997–2000

Editorial Board, Inverse Problems

1994–1998

Associate Editor, Journal of Geophysical Research

Referee Service

- American Association for the Advancement of Science
- Annales Geophysicae
- Annals of the Institute of Statistical Mathematics
- Annals of Statistics

- Arabian Journal for Science and Engineering
- Bulletin of the Seismological Society of America
- Cambridge University Press
- Computational Statistics and Data Analysis
- Electronic Journal of Statistics
- Geophysical Journal International
- Geophysical Research Letters
- Geophysics
- Geophysical & Astrophysical Fluid Dynamics
- IEEE Journal on Acoustics, Speech and Signal Processing
- IEEE Journal on Information Theory
- Inverse Problems
- Inverse Problems and Imaging
- Journal of the American Statistical Association
- Journal of Computational Physics
- Journal of Economic Literature
- Journal of Geophysical Research
- Jurimetrics
- Nature
- Political Analysis
- Physics of the Earth and Planetary Interiors
- Proceedings of the National Academy of Sciences
- Science
- SIAM Review
- Tectonophysics
- Chapman-Hall
- HarperCollins
- Simon and Schuster
- Springer-Verlag

University Service

2009–2010

Academic Senate Committee on Computing and Communications (COMP)

2007–2008

Undergraduate Student Learning Initiative Faculty Advisory Committee

2005–2008

Faculty Athletic Fellow

2004–2005

Chair, Educational Technology Committee
e-Berkeley Steering Committee
e-Berkeley Committee of Chairs
e-Berkeley Implementation Task Force

CourseWeb Steering Committee
Faculty Athletic Fellow

2003–2004

Chair, Educational Technology Committee
e-Berkeley Steering Committee
e-Berkeley Implementation Task Force
Student Systems Policy Committee
CourseWeb Steering Committee

2002–2003

Faculty Assistant in Educational Technology (to Vice Provost for Undergraduate Education)
Chair, Educational Technology Committee
Provost's Academic Council
e-Berkeley Steering Committee
e-Berkeley Implementation Task Force
Campus Committee on Classroom Policy and Management (CCCPM)
Student Systems Policy Committee
e-Berkeley Symposium Program Committee
Faculty Search Committee, Graduate School of Education
CourseWeb Steering Committee

2001–2002

Faculty Assistant in Educational Technology (to Vice Provost for Undergraduate Education)
Chair, Educational Technology Committee
Provost's Academic Council
e-Berkeley Steering Committee
e-Berkeley Implementation Task Force
Campus Committee on Classroom Policy and Management (CCCPM)
Academic Senate Committee on Academic Planning and Resource Allocation (CAPRA)
CITRIS II Program Committee
TeleBEARS and Bear Facts Committees (Student Systems Policy Committee as of 3/2002)
e-Berkeley Portal Working Group

2000–2001

Academic Senate Committee on Academic Planning and Resource Allocation (CAPRA)
Space Allocation and Capital Improvements Committee (SACI)
CAPRA Subcommittee on Expanded Enrollment
CAPRA Subcommittee on changes to Academic Coordinator title
Ad hoc hiring/tenure committee

1999–2000

Academic Senate Library Committee (LIBR)
Academic Senate Committee on Academic Planning and Resource Allocation (CAPRA), Physical Planning Subcommittee, *ex officio* representative from

Library Committee
Space Allocation and Capital Improvements Committee (SACI)
Academic Effects Study Committee, Molecular Engineering Building
Ad hoc tenure/promotion committee
SACI subcommittee to audit space in Barrows Hall

1998–1999

Space Allocation and Capital Improvements Committee (SACI)
Electronic Dissertations Project
Planning Space for the Physical Sciences Libraries

1997–1998

Ad hoc tenure/promotion committee

1996

Review of College of Science, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

1994–1999

University review committee for Department of Agricultural and Resource Economics, University of California, Berkeley

1993–1995

Physical Sciences Division committee for Graduate Affirmative Action and Retention
Physical Sciences Division committee for Science and Mathematics Academic Re-Training (SMART)

Grants

1. PI, NASA Grant NAG 5-883, "Constructing Core Fields Consistent with Geomagnetic Data and Geophysical Constraints," 1987–1990.
2. Project Director and PI, NSF Grant DMS-8810192, "Inference in Curved-Ray Tomography: Solid Earth Structure," 1989–1992.
3. PI, NSF Grant INT-9205103, "Long and Medium-Term Research: Inference in Seismological Investigations of Subducting Lithosphere," 1992–1994.
4. PI, NSF Grant DMS-930006P, "Estimating the Sun's Internal Angular Velocity from Free-Oscillation Frequency Splittings," 1993–1994.
5. PI, NSF Presidential Young Investigator Award DMS-8957573, 1989–1995.
6. Co-I, NASA Grant NAG5-2438, "The Analysis of Cobe DMR Sky Maps," 1993–1994. PI: J. Silk
7. PI, NASA Grant NAGW-2515, "New Methods for Inversion and Analysis of Solar Free-Oscillation Data," 1991–1995.
8. PI, NSF Grant DMS-9404276, "New Methods for Inference From COBE Data," 1994–1997.
9. PI, NSF Grant AST-9504410, "Function Estimation and Inference in Helioseismology," 1995–1998.

10. PI, LLNL/IGPP Grant 97-AP028, “Helioseismology with Solar Luminosity Constraints,” 1996–1997.
11. Co-I, NASA Grant NAG5-3941, “Development of data analysis, compression and visualization tools for large data sets in astrophysics and cosmology,” 1997–1998. PI: J. Silk
12. PI, NASA Grant NRA-96-09-OSS-034SOHO, “Modern Statistical Methods for Helioseismic Spectrum Estimation,” 1997–1998.
13. PI, NASA Grant NAG 5-3919, “Data Sampling Rate Reduction for the Oersted Satellite,” 1997–1998.
14. PI, UC Berkeley Classroom Technologies Grant, “Statistics *Statim*,” 1997–1998.
15. Co-I, NSF Grant DMS-9872979, “KDI: Computational Challenges in Cosmology,” 1998–2000. PI: A. Jaffe.
16. Co-I, NSF Grant IIS-98-17353, “Re-Inventing Scholarly Information Dissemination and Use,” 4/1/1999 – 3/31/2004. PI: R. Wilensky and D. Forsythe.
17. PI, Hewlett Packard Company Grant 89293, “Applied Mobile Technology Solutions in Learning Environments,” 3/19/2003–8/31/2004.
18. PI, Hewlett Packard Company Grant 14928, “Applied Mobile Technology Solutions in Learning Environments—2004 Extension,” 4/1/2004–6/30/2005.
19. PI, Lawrence Livermore National Laboratory Grant B565605, “Uncertainty in Complex Simulations,” 4/3/2007–9/30/2008.
20. PI, Lawrence Livermore National Laboratory Grant B585264, “Uncertainty Quantification with Applications to Climate Modeling,” 11/3/2009–9/30/2010.

Consulting

- Bramson, Plutzik, Mahler & Birkhaeuser LLP, Walnut Creek, CA: consumer class action litigation
- Brinks, Hofer, Gilson & Lione, Chicago, IL: intellectual property litigation (client R.J. Reynolds)
- Capital One: economic modeling and risk management; intellectual property litigation
- CIBC: economic modeling and risk management
- Cisco Systems: predicting email spool fill
- City of Santa Rosa, CA: water treatment monitoring
- Cogit.com, San Francisco, CA: technical advisory board; data mining, targeted web advertising
- Contra Costa County Public Defender, Richmond, CA: equal protection
- Crosby, Heafey, Roach, & May, Oakland, CA: insurance litigation (client Farmers Insurance)
- East Bay Municipal Utilities District: water treatment monitoring
- EEG Systems Laboratory, San Francisco, CA: inverse problems for electrical activity of the brain
- eTextbooksOnline.com, New York, NY: National Advisory board

- Federal Trade Commission, San Francisco, CA: sampling in litigation
- Folger, Levin & Kahn, LLP, San Francisco, CA: sampling and risk management in litigation (client California Self-Insurers' Security Fund)
- Fuller-Austin Joint Defense Group: modeling in litigation
- GMAC Financial Services: economic modeling and risk management
- Habeas Corpus Resource Center, San Francisco, CA: bias in jury selection
- Howard, Rice, Nemerovski, Canady, Falk, & Rabkin, San Francisco, CA: sampling in litigation; inference from retail sales data (clients K-Mart Corp., R.J. Reynolds Tobacco Co.)
- HSBC: economic modeling and risk management
- Kaiser Permanente Northern California, Redwood City, CA: clinical trials in oncology
- Kipling Law Group, Seattle, WA: sampling in litigation (client AT&T Wireless)
- KLA Instruments Corporation, San Jose, CA: calibration of algorithms to detect IC mask flaws
- Kramer, Levin, Naftalis, & Frankel, New York, NY: sampling in litigation
- Latham & Watkins, LLP, Menlo Park, CA: sampling in litigation (client Apple Inc.)
- Law Offices of Gorman & Miller, San Jose, CA: trade secret litigation
- Law Offices of Ilson W. New, San Francisco, CA: natural resource legislation
- Law Offices of Ramirez, Tollner, Stebbins, Bahrick, & Sasseen, San Jose, CA: trade secret litigation
- Law Offices of Welebir & McCune, Woodside, CA: product liability litigation
- Law offices of Wells, Pinckney & McHugh, Austin, TX: employment discrimination arbitration
- Law Offices of Wolkin & Timpane, San Francisco, CA: insurance litigation
- Law Offices of Scott K. Zimmerman, Brentwood, CA: product liability litigation
- Life Chiropractic College West, Hayward, CA: experimental design
- Littler Mendelson, P.C., Dallas, TX and Los Angeles, CA: employment / wage and hour litigation
- Los Angeles Superior Court, Central District: employment / wage and hour litigation
- Mayer, Brown, Rowe & Maw, LLP, Chicago, IL: intellectual property litigation (client Capital One)
- Morrison & Foerster, San Francisco, CA: product liability class action litigation
- Munger, Tolles and Olson, LLP, San Francisco, CA: consumer class action litigation (client Verizon Wireless)
- National Security Agency: adaptive filtering, combining expert opinions, digital communications, information retrieval, estimation
- National Solar Observatory, Tucson, AZ: spectrum estimation
- Albert A. Natoli, P.C., New York, NY: surveys in consumer class action litigation
- Oracle: sampling and risk analysis

- Pacific Gas & Electric Co., San Francisco, CA: statistics and causal inference in litigation
- Paul, Hastings, Janofsky & Walker LLP, Washington, DC: intellectual property litigation (client Capital One)
- Porter & Hedges, LLP, Houston, TX: sampling in litigation
- Schlumberger-Doll Research, Ridgefield, CT: inverse problems, signal processing
- Shearman & Sterling, Washington, DC: survival analysis in litigation
- Skadden, Arps, Slate, Meagher & Flom, LLP, San Francisco, CA: case-control studies in litigation
- Spriggs & Hollingsworth, Washington, DC: environmental litigation
- St. Paul Fire and Marine Insurance Company, Baltimore, MD: projecting tort liability
- U.S. Attorney's Office, Northern District of California: ethnic bias in grand jury selection
- U.S. Department of Agriculture, Washington, D.C.: fairness in lending, import restrictions and risk assessment
- U.S. Department of Commerce, Bureau of the Census, Washington, D.C.: estimation and modeling
- U.S. Department of Justice, Civil Division, Federal Programs Branch, Washington, D.C.: sampling the Internet and testing Internet content filters; USDA import restrictions on cattle and beef
- U.S. Department of Veterans Affairs Medical Center, Martinez, CA: speech and non-speech hearing segregation in aging
- U.S. House of Representatives, Washington, D.C.: sampling to adjust the U.S. Census
- Willoughby, Stuart & Bening, San Jose, CA: insurance litigation
- Zimmerman Reed, Scottsdale, AZ: consumer class action litigation

Recent Deposition and Trial Testimony

- June 2009. *Star Scientific, Inc., vs. R.J. Reynolds Tobacco Company et al.* (U.S. District Court, Maryland District, Northern Division, Case Nos. MJG-01 1504 and MJG-02 2504). Trial testimony.

- May 2009. *Star Scientific, Inc., vs. R.J. Reynolds Tobacco Company et al.* (U.S. District Court, Maryland District, Northern Division, Case Nos. MJG-01 1504 and MJG-02 2504). Deposition.

- July 2008. Coordination Proceeding Special Title (Rule 1550(b)) *Cellphone Termination Fee Cases* (State of California Superior Court, County of Alameda). Deposition.

- April 2008. Coordination Proceeding Special Title (Rule 1550(b)) *Cellphone Termination Fee Cases* (State of California Superior Court, County of Alameda).

Deposition.

- August 2007. *Self-Insurers' Security Fund vs. Gallagher Bassett Services, Inc.* (U.S. District Court, Northern District of California, Case No. C 06-02828 JSW). Deposition.

- March 2007. *Peter Wachtell vs. Capital One Financial Corporation and Capital One Services, Inc.* (U.S. District Court, District of Idaho, Case No. CIV03-267-S-MHW). Deposition.

- November 2006. Coordination Proceeding Special Title (Rule 1550(b)) *Cellphone Termination Fee Cases* (State of California Superior Court, County of Alameda). Deposition.

- November 2006. *ACLU vs. Gonzales* (U.S. District Court, Eastern District of Pennsylvania, Civil Action No. 98-5591). Trial testimony.

- August 2006. *ACLU vs. Gonzales* (U.S. District Court, Eastern District of Pennsylvania, Civil Action No. 98-5591). Deposition.

- December 2004. *Star Scientific, Inc., vs. R.J. Reynolds Tobacco Company et al.* (U.S. District Court, Maryland District, Northern Division, Case Nos. MJG-01 1504 and MJG-02 2504). Trial testimony.

- December 2003. *Richison et al. vs. American Cemwood Corporation* (State of California Superior Court, San Joaquin County, Case No. 005532). Trial testimony.

- December 2003. *Pacific Gas and Electric Co. vs. City and County of San Francisco* (U.S. District Court, Northern District of California, Case No. C99-2071 VRW). Deposition.

- May 2003. *Richison et al. vs. American Cemwood Corporation* (State of California Superior Court, San Joaquin County, Case No. 005532). Deposition.

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