

Curriculum Vitae
Margaret H. Wright

Computer Science Department
Courant Institute of Mathematical Sciences
New York University
251 Mercer Street
New York, New York 10012

Telephone: 212-998-3056
Fax: 212-995-3883
Email: mhw@cs.nyu.edu

Education

Stanford University, Stanford, California

B.S., Mathematics (with distinction)

M.S., Computer Science

Ph.D., Computer Science

Dissertation: “Numerical Methods for Nonlinearly Constrained Optimization”

Advisors: Gene H. Golub, Walter Murray

Employment (since 1976)

2001–present:

Silver Professor of Computer Science
Chair, Computer Science Department
Courant Institute of Mathematical Sciences
New York University

1988–2001:

Bell Laboratories, Murray Hill, New Jersey
(AT&T through 1995, Lucent Technologies after 1996)
Head, Scientific Computing Research Department, 1997–2000
Distinguished Member of Technical Staff, 1993–2001
Member of Technical Staff, 1988–1993

1976–1988:

Department of Operations Research, Stanford University
Senior Research Associate, 1981–1988
Research Associate, 1976–1981

Honors

CRA-W Distinguished Professor, 2004–present

Doctorate in Mathematics *honoris causa*, University of Waterloo, 2003

Fellow, Institute for Operations Research and the Management Sciences, 2002

Award for Distinguished Public Service, 2001

American Mathematical Society

American Academy of Arts and Sciences, 2001

Special Award for Distinguished Service to the Profession, 2000
Society for Industrial and Applied Mathematics (SIAM)

Forsythe Lecturer, 2000
Computer Science Department, Stanford University

Emmy Noether Lecturer, 2000
Association for Women in Mathematics

Bell Labs Fellow, 1999

National Academy of Engineering, 1997

First George E. Forsythe Award for Student Contributions to Education, 1972
Computer Science Department, Stanford University

Editorial Activities

Editor-in-Chief, *SIAM Review*, 1999–present

Associate Editor, *SIAM Journal on Scientific Computing*, 1981–present

Associate Editor, *Mathematical Programming*, 1986–present

Associate Editor, *SIAM Journal on Optimization*, 1990–present

Society Memberships

Society for Industrial and Applied Mathematics
American Mathematical Society
Mathematical Programming Society

Selected Professional Activities (since 1990)

Vice-chair, Committee on Membership, National Academy of Engineering, 2004 (to become chair, 2005)

Scientific Advisory Board, DFG Research Center on Mathematics for Key Technologies, Berlin, Germany, 2004–present

President’s Committee on the National Medal of Science, 2003–present

Member, Review Panel
International Review of Mathematics, United Kingdom, 2003

Board of Trustees, Mathematical Sciences Research Institute
Berkeley, California, 2002–present

National Advisory Committee
Statistical and Applied Mathematical Sciences Institute (SAMSI)
Raleigh–Durham, North Carolina, 2002–present

Co-chair, “SIAM50”, SIAM’s 50th Anniversary Meeting, 2002

Member, National Science Foundation Blue Ribbon Panel on Cyberinfrastructure, 2001–2003

Chair, Advanced Scientific Computing Advisory Committee
Office of Science, Department of Energy, 2000–present

Peer Committee, Computer Science and Engineering Section
National Academy of Engineering, 1999–2002 (chair, 2001–2002)

Scientific Advisory Committee, Mathematical Sciences Research Institute
Berkeley, California, 1996–2001 (co-chair, 1999–2001)

Society for Industrial and Applied Mathematics (SIAM)
 Board of Trustees, 2000–present
 President, 1995–1996 (President-elect, 1994; Past-president, 1997)
 Vice-President at Large, 1990–1, 1992–3
 Council, 1987–1989

Blue Ribbon Panel, Accelerated Strategic Computing Initiative (ASCI)
 Department of Energy, 1999 and 2000

Advisory Committee, Mathematical and Physical Sciences Directorate
 National Science Foundation, 1994–1998 (chair, 1997–1998)

Program Committee, SIAM Conference on Optimization, Atlanta, Georgia, 1999

Advisory Committee, Computational Science Graduate Fellowship Program
 Department of Energy, 1992–present (chair, 1998–present)

IFIP Working Group 2.5 (Numerical Software), 1983–2000 (chair, 1997–2000)

United States Delegation, International Congress of Mathematicians, 1998

Committee to Benchmark U.S. Mathematics, National Research Council, 1997

Review Committee for Canadian Mathematics
 Natural Sciences and Engineering Research Council, Canada, 1996

Co-chair, SIAM Conference on Optimization, Victoria, British Columbia, 1996

Co-chair, Workshop on Women in Mathematical Sciences Connected with Industry
 Institute for Mathematics and its Applications, Minnesota, 1996

Advisory Committee, Division of Mathematical Sciences
 National Science Foundation, 1991–1994

Nicholson Student Paper Prize Committee
 Operations Research Society of America, 1993, 1994

Review Panel on Linear Algebra, Mathematical Sciences Program
 Department of Energy, 1993

Federal Policy Subcommittee, Committee on Science Policy
 American Mathematical Society, 1993–1994

Board of Visitors, Mathematical Sciences Research Program
 Office of Naval Research, 1989, 1990, 1993

Co-chair, Workshop on Progress in Mathematical Programming
 Asilomar, California, 1990

Plenary and Invited Talks, Named Lectures (since 1990)

- 2004 Distinguished lecture, 25-year anniversary celebration
 Computer Science Department, Boston University
- 2003 Distinguished lecture, Statistical and Applied Mathematical Sciences Institute (SAMSI)
- 2003 Celebration of Diversity in Computing conference (plenary), Atlanta.
- 2003 Celebration of the IMA’s 20th Birthday (plenary), University of Minnesota
- 2003 Strachey Lecture in Computing Science, Oxford University
- 2003 Joint SIAM/MAA Conference (plenary), Clemson University
- 2003 National Symposium for the Advancement of Women in Science (plenary)

Harvard University

- 2002 Distinguished Lecture in Computer Science, Columbia University
- 2000 State-of-the-field speaker on “Scientific computing” (plenary)
Supercomputing 2000, Dallas, Texas
- 2000 SIAM Conference on Applied Linear Algebra (plenary)
North Carolina State University, Raleigh-Durham
- 2000 Distinguished Speaker on High-Performance Computation for Engineered Systems
Massachusetts Institute of Technology
- 2000 Australian and New Zealand Industrial and Applied Mathematics (ANZIAM) (plenary)
Bay of Islands, New Zealand
- 1999 Olga Taussky Todd Celebration of Careers for Women in Mathematics
Mathematical Sciences Research Institute, Berkeley
- 1999 International Congress on Industrial and Applied Mathematics (plenary)
Edinburgh, Scotland
- 1999 Workshop on Computational Methods in Engineering (plenary)
Department of Scientific Computing, Uppsala University, Sweden
- 1999 Frontiers Lecture Program
Texas A&M University, College Station, Texas
- 1998 European Postdoctoral Forum (plenary)
Institut des Hautes Études Scientifiques, Bures-sur-Yvette, France
- 1998 The Gentry Lectures
Wake Forest University, Winston-Salem, North Carolina
- 1998 First Pacific Rim Conference in Mathematics (plenary)
Hong Kong
- 1997 International Symposium on Mathematical Programming (talk in invited session)
Lausanne, Switzerland
- 1997 International Conference on High-Performance Software for Nonlinear Optimization (plenary)
Ischia, Italy
- 1997 The Lonseth Lecture in Mathematics
Oregon State University, Corvallis, Oregon
- 1996 SIAM Conference on Sparse Matrices (plenary)
Coeur d’Alene, Idaho
- 1996 International Conference on Nonlinear Programming (plenary)
Beijing, China
- 1995 Theory Center 10th Anniversary Symposium (plenary)
Cornell University
- 1995 AMS/SIAM Summer Seminar in Applied Mathematics (plenary)
Park City, Utah
- 1995 Dundee Biennial Conference in Numerical Analysis (plenary)
Dundee, Scotland
- 1995 Conference on Linear Algebra and its Applications (plenary)
University of Manchester, England
- 1994 International Symposium on Mathematical Programming (talk in invited session)

Ann Arbor, Michigan

- 1993 SIAM Annual Meeting (plenary)
Philadelphia, Pennsylvania
- 1993 Symposium on Parallel Optimization (plenary)
Madison, Wisconsin
- 1993 Pure and Applied Linear Algebra Conference (plenary)
International Linear Algebra Society, Pensacola, Florida
- 1992 Symposium on High-Performance Computing for Flight Vehicles (plenary)
Washington, DC
- 1992 Cissy Patterson Lecture in Mathematics
William and Mary College, Williamsburg, Virginia
- 1992 NATO Advanced Study Institute, “Linear algebra for large-scale applications” (plenary)
Leuven, Belgium
- 1992 SIAM Conference on Optimization (plenary)
Chicago, Illinois
- 1991 SIAM Conference on Applied Linear Algebra (plenary)
Minneapolis, Minnesota
- 1991 Dedication Symposium, Theory and Engineering Center Building (plenary)
Cornell University
- 1991 International Symposium on Mathematical Programming (talk in invited session)
Amsterdam, Netherlands
- 1990 25-Year Anniversary Symposium (plenary)
Computer Science Department, Stanford University
- 1990 Workshop on Very Large Scale Computing (plenary)
Cape Cod, Massachusetts

Books

1. Gill, P. E., Murray, W., and Wright, M. H. (1981). *Practical Optimization*, Academic Press, London and New York.
2. Gill, P. E., Murray, W., and Wright, M. H. (1991). *Numerical Linear Algebra and Optimization*, Volume 1, Addison-Wesley.

Refereed Papers

3. Smith, F. W. and Wright, M. H. (1971). Automatic ship photo interpretation by the method of moments, *IEEE Transactions on Computers* C-2.
4. Gill, P. E., Murray, W., Picken, S. M., and Wright, M. H. (1979). The design and structure of a Fortran program library for optimization, *ACM Transactions on Mathematical Software* 5, 259–283.
5. Friedman, J. H. and Wright, M. H. (1981). A nested partitioning procedure for numerical multiple integration, *ACM Transactions on Mathematical Software* 7, 76–92.
6. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1981). Aspects of mathematical modelling related to optimization, *Applied Mathematical Modelling* 5, 71–83.
7. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1981). QP-based methods for large-scale nonlinearly constrained optimization, in *Nonlinear Programming 4* (O. L. Mangasarian, R. R. Meyer, and S. M. Robinson, eds.), Academic Press, London and New York, 57–98.
8. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1982). A note on a sufficient decrease criterion for a non-derivative steplength procedure, *Mathematical Programming* 23, 349–352.

9. Murray, W. and Wright, M. H. (1982). Computation of the search direction in constrained optimization algorithms, *Mathematical Programming Study* 16, 62–83.
10. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1983). Computing forward-difference intervals for numerical optimization, *SIAM Journal on Scientific and Statistical Computing* 4, 310–321.
11. Gill, P. E., Gould, N. I. M., Murray, W., Saunders, M. A., and Wright, M. H. (1984). A weighted Gram-Schmidt method for convex quadratic programming, *Mathematical Programming* 30, 176–195.
12. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). Sparse matrix methods in optimization, *SIAM Journal on Scientific and Statistical Computing* 5, 562–589.
13. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). Procedures for optimization problems with a mixture of bounds and general constraints, *ACM Transactions on Mathematical Software* 10, 282–298.
14. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). Trends in nonlinear programming software, *European J. of Operational Research* 17, 141–149.
15. Gorelick, S. M., Voss, C. I., Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). Aquifer reclamation design: the use of contaminant transport simulation combined with nonlinear programming, *Water Resources Research* 20, 415–427.
16. Gill, P. E., Murray, W., Saunders, M. A., Stewart, G. W. and Wright, M. H. (1985). Properties of a representation of a basis for the null space, *Mathematical Programming* 33, 172–186.
17. Gill, P. E., Murray, W., Saunders, M. A., Tomlin, J. A. and Wright, M. H. (1986). On projected Newton barrier methods for linear programming and an equivalence to Karmarkar’s projective method, *Mathematical Programming* 36, 183–209.
18. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1987). Maintaining LU factors of a general sparse matrix, *Linear Algebra and its Applications* 88/89, 239–270.
19. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1988). Recent developments in constrained optimization, *Journal of Computational and Applied Mathematics* 22, 257–270.
20. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1989). A practical anti-cycling procedure for linearly constrained optimization, *Mathematical Programming* 45, 437–474.
21. Cash, J. R. and Wright, M. H. (1990). Implementation issues in solving nonlinear equations for two-point boundary value problems, *Computing* 45, 17–37.
22. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1990). A Schur-complement method for sparse quadratic programming, in *Reliable Numerical Computation* (M. G. Cox and S. J. Hammarling, eds.), 113–138, Oxford University Press, Oxford.
23. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1991). Inertia-controlling methods for quadratic programming, *SIAM Review* 33, 1–36.
24. Cash, J. R. and M. H. Wright (1991). A deferred correction method for nonlinear two-point boundary value problems: implementation and numerical evaluation, *SIAM Journal on Scientific and Statistical Computing* 12, 971–989.
25. Wright, M. H. (1991). Optimization and large-scale computation, in *Very Large-Scale Computation in the 21st Century* (J. P. Mesirov, ed.), 250–272, Society for Industrial and Applied Mathematics, Philadelphia.
26. Wright, M. H. (1992). Interior methods for constrained optimization, *Acta Numerica* 1, 341–407, Cambridge University Press, New York.
27. Wright, M. H. (1992). Issues in large-scale optimization with expensive functions, *Computing Systems in Engineering* 3, 53–61.
28. Head-Gordon, T., Stillinger, F. H., Wright, M. H., and Gay, D. M. (1992). Poly(L-alanine) as a universal reference material for understanding protein energies and structures, *Proc. Nat. Acad. Sci. USA* 89, 11513–11517.

29. Murray, W. and Wright, M. H. (1994). Line search procedures for the logarithmic barrier function, *SIAM Journal on Optimization* 4, 229–246.
30. Kaufman, L., Sylvester, G. L., and Wright, M. H. (1994). Structured linear least-squares problems in system identification and separable nonlinear data fitting, *SIAM Journal on Optimization* 4, 847–871.
31. Wright, M. H. (1994). Some properties of the Hessian of the logarithmic barrier function, *Mathematical Programming* 67, 265–295.
32. Wright, M. H. (1995). Why a pure primal Newton barrier step may be infeasible, *SIAM Journal on Optimization* 5, 1–12.
33. Fortune, S. J., Gay, D. M., Kernighan, B. W., Landron, O., Valenzuela, R. A., and Wright, M. H. (1995). WISE design of indoor wireless systems: practical computation and optimization, *IEEE Computational Science and Engineering* 2, 58–68.
34. Gay, D. M., Overton, M. L., and Wright, M. H. (1998). A primal-dual interior method for nonconvex nonlinear programming, in *Advances in Nonlinear Programming* (Y. Yuan, ed.), 31–56, Kluwer Academic Publishers, Dordrecht.
35. Wright, M. H. (1998). Ill-conditioning and computational error in primal-dual interior methods for nonlinear programming, *SIAM Journal on Optimization* 9, 84–111.
36. Lagarias, J. C., Reeds, J. A., Wright, M. H., and Wright, P. E. (1998). Convergence properties of the Nelder-Mead simplex algorithm in low dimensions, *SIAM Journal on Optimization* 9, 112–147.
37. Anstreicher, K. M. and Wright, M. H. (2000). A note on the augmented Hessian when the reduced Hessian is semidefinite, *SIAM Journal on Optimization* 11, 243–253.
38. Lanning, S. G., Mitra, D., Wang, Q., and Wright, M. H. (2000). Optimal planning for optical transport networks, *Philosophical Transactions of the Royal Society, Part A: Mathematical, Physical and Engineering Sciences* 358, 2183–2196.
39. Forsgren, A., Gill, P. E., and Wright, M. H. (2002). Interior methods for nonlinear optimization, *SIAM Review* 44, 525–597.

Conference Proceedings and Invited Book Chapters

40. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1980). Methods for large-scale nonlinear optimization, in *Electric Power Problems: The Mathematical Challenge* (A. M. Erisman, K. W. Neves and M. H. Dwarakanath, eds.), SIAM, Philadelphia, 352–377.
41. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1981). A numerical investigation of ellipsoid algorithms for large-scale linear programming, in *Large-scale Linear Programming* (G. B. Dantzig, M. A. H. Dempster and M. Kallio, eds.), IIASA, Laxenburg, Austria, 487–509.
42. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1982). Linearly constrained optimization, in *Nonlinear Optimization 1981* (M. J. D. Powell, ed.), Academic Press, London and New York, 123–139.
43. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1982). Software for constrained optimization, in *Nonlinear Optimization 1981* (M. J. D. Powell, ed.), Academic Press, London and New York, 381–393.
44. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). Sequential quadratic programming methods for nonlinear programming, in *Computer Aided Analysis and Optimization of Mechanical System Dynamics* (E. J. Haug, ed.), NATO ASI Series F: Computer and Systems Sciences 9, 679–697.
45. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1985). Software and its relationship to methods, in *Numerical Optimization 1984* (P. T. Boggs, R. H. Byrd and R. B. Schnabel, eds.), SIAM, Philadelphia, 139–159.
46. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1985). Model building and practical aspects of nonlinear programming, in *Computational Mathematical Programming* (K. Schittkowski, ed.), NATO ASI Series F: Computer and Systems Sciences 15, Springer-Verlag, Berlin and New York, 209–247.

47. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1987). Considerations of numerical analysis in a sequential quadratic programming method, in *Numerical Analysis* (J. P. Hennart, ed.), Lecture Notes in Mathematics 1230, Springer-Verlag, New York and London.
48. Cash, J. R. and Wright, M. H. (1989). A deferred correction algorithm for nonlinear two-point boundary value problems, in *IMACS Transactions on Scientific Computing, Paris 1988*, (W. Ames and C. Brezinski, eds.), Volume 1: Numerical and Applied Mathematics, IMACS.
49. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1988). GAMS/MINOS, in A. Brooke, D. Kendrick and A. Meeraus, *GAMS: A User's Guide*, 201–224, The Scientific Press, Redwood City, California.
50. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1989). Constrained nonlinear programming, in *Optimization*, (G. L. Nemhauser, A. H. G. Rinnooy Kan and M. J. Todd, eds.) Handbooks in Operations Research and Management Science, Volume 1, 171–210, Elsevier, Amsterdam.
51. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1992). Some theoretical properties of an augmented Lagrangian merit function, in *Advances in Optimization and Parallel Computing* (P. M. Pardalos, ed.), 101–128, North-Holland, Amsterdam and New York.
52. Wright, M. H. (1993). Some linear algebra issues in large-scale optimization, in *Linear Algebra for Large-Scale and Real-Time Applications*, (M. S. Moonen, G. H. Golub and B. L. R. De Moor, eds.), 315–337, Kluwer Academic Publishers, Dordrecht, The Netherlands.
53. Wright, M. H. (1996). Direct search methods: once scorned, now respectable, in *Numerical Analysis 1995 (Proceedings of the 1995 Dundee Biennial Conference in Numerical Analysis)* (D. F. Griffiths and G. A. Watson, eds.), 191–208, Addison Wesley Longman, Harlow, United Kingdom.
54. Wright, M. H. (1998). Optimization methods for base station placement in wireless applications, *Proceedings of 1998 Vehicular Technology Conference*, IEEE, 11513-11517.
55. Wright, M. H. (1998). The interior-point revolution in constrained optimization, in *High-Performance Algorithms and Software in Nonlinear Optimization* (R. DeLeone, A. Murli, P. M. Pardalos, and G. Toraldo, eds.) 359–381, Kluwer Academic Publishers, Dordrecht.
56. Wright, M. H. (2000). What, if anything, is new in optimization?, in *ICIAM'99: Proceedings of the 4th International Congress on Industrial and Applied Mathematics* (J. M. Ball and J. C. R. Hunt, eds.), 259–270, Oxford University Press, Oxford.

National Science Foundation Document

57. Chorin, A. and Wright, M. H. (1999). Mathematics and Science, Division of Mathematical Sciences, National Science Foundation.
Available on the World Wide Web at <http://www.nsf.gov/cgi-bin/getpub?mps0001>.

In Preparation

58. Gill, P. E. and Wright, M. H. *Numerical Nonlinear Optimization* (graduate textbook).
59. Lagarias, J. C., Poonen, B., and Wright, M. H. Convergence properties of the restricted Nelder–Mead method.
60. Lagarias, J. C. and Wright, M. H. The Nelder-Mead method: numerical experimentation and algorithmic improvements.
61. Wright, M. H. A combined primal-dual and sequential quadratic programming interior method for nonlinear programming.

Technical Reports

62. Smith, F. W. and Wright, M. H. (1967). Pattern classifier design by linear programming, Report SESW-M1168, Sylvania Electronic Systems, Mountain View, California.
63. Davis, R. and Wright, M. H. (1974). Stanford Computer Science Research Report, Report 74–405, Computer Science Department, Stanford University, California.

64. Wright, M. H. (1976). *Numerical Methods for Nonlinearly Constrained Optimization*, Ph. D. Thesis, Stanford University, California. (Report 193, Stanford Linear Accelerator Center, and Report 76-566, Computer Science Department, Stanford University, California.)
65. Murray, W. and Wright, M. H. (1976a). Efficient linear search algorithms for the logarithmic barrier function, Report SOL 76-18, Department of Operations Research, Stanford University.
66. Murray, W. and Wright, M. H. (1976b). Numerical aspects of trajectory methods for nonlinearly constrained optimization, in *Proceedings of the Bicentennial Conference on Mathematical Programming*, Gaithersburg, Maryland, 1976. (Report SOL 76-29, Department of Operations Research, Stanford University.)
67. Wright, M. H. (1978). A survey of available software for nonlinearly constrained optimization, in *Proceedings of the Tenth Conference on the Interface between Computer Science and Statistics*, Gaithersburg, Maryland, 1977. (Report SOL 77-7, Department of Operations Research, Stanford University.)
68. Wright, M. H. and Glassman, S. C. (1978). Fortran subroutines to solve the linear least-squares problem and compute the complete orthogonal factorization, Report SOL 78-8, Department of Operations Research, Stanford University.
69. Friedman, J. H. and Wright, M. H. (1979). A nested partitioning procedure for numerical multiple integration, Report SOL 79-23, Department of Operations Research, Stanford University.
70. Wright, M. H. (1979). Algorithms for nonlinearly constrained optimization, Report SOL 79-24, Department of Operations Research, Stanford University.
71. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1979). Two steplength algorithms for numerical optimization, Report SOL 79-25, Department of Operations Research, Stanford University.
72. Murray, W. and Wright, M. H. (1980). Computation of the search direction in constrained optimization algorithms, Report SOL 80-2, Department of Operations Research, Stanford University.
73. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1980). Computing finite-difference approximations to derivatives for numerical optimization, Report SOL 80-6, Department of Operations Research, Stanford University.
74. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1980). Aspects of mathematical modeling related to optimization, Report SOL 80-7, Department of Operations Research, Stanford University.
75. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1980). Methods for large-scale nonlinear optimization, Report SOL 80-8, Department of Operations Research, Stanford University.
76. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1980). A numerical investigation of ellipsoid algorithms for large-scale linear programming, Report SOL 80-27, Department of Operations Research, Stanford University.
77. Friedman, J. H. and Wright, M. H. (1981). An adaptive importance sampling procedure, Report SOL 81-23, Department of Operations Research, Stanford University.
78. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1981). QP-based methods for large-scale nonlinearly constrained optimization, Report SOL 81-1, Department of Operations Research, Stanford University.
79. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1981). A procedure for computing forward-difference intervals for numerical optimization, Report SOL 81-25, Department of Operations Research, Stanford University.
80. Gill, P. E., Gould, N. I. M., Murray, W., Saunders, M. A., and Wright, M. H. (1982). Range-space methods for convex quadratic programming, Report SOL 82-14, Department of Operations Research, Stanford University.
81. Gill, P. E., Gould, N. I. M., Murray, W., Saunders, M. A., and Wright, M. H. (1982). A range-space method for quadratic programming problems with bounds and general constraints, Report SOL 82-15, Department of Operations Research, Stanford University.

82. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1982). User's Guide for SOL/QPSOL: a Fortran package for quadratic programming, Report SOL 82-7, Department of Operations Research, Stanford University.
83. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1982). Procedures for optimization problems with a mixture of bounds and general linear constraints, Report SOL 82-6, Department of Operations Research, Stanford University.
84. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1982). Sparse matrix methods in optimization, Report SOL 82-17, Department of Operations Research, Stanford University.
85. Murray, W. and Wright, M. H. (1982). Projected Lagrangian methods based on the trajectories of penalty and barrier functions, in *IIASA Conference on Lagrangian Theory and Economic Systems*. (Report SOL 78-23, Department of Operations Research, Stanford University.)
86. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1983). Documentation for FDCALC and FDCORE, Report SOL 83-6, Department of Operations Research, Stanford University.
87. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1983). User's Guide for SOL/QPSOL (revised), Report SOL 83-7, Department of Operations Research, Stanford University.
88. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1983). User's Guide for SOL/NPSOL, Report SOL 83-12, Department of Operations Research, Stanford University.
89. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1983). On the representation of a basis for the null space, Report SOL 83-19, Department of Operations Research, Stanford University.
90. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). User's Guide for SOL/QPSOL (revised), Report SOL 84-6, Department of Operations Research, Stanford University.
91. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). User's Guide for SOL/NPSOL (revised), Report SOL 84-7, Department of Operations Research, Stanford University.
92. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1984). Software and its relationship to methods, Report SOL 84-10, Department of Operations Research, Stanford University.
93. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1985). Properties of a representation of a basis for the null space, Report SOL 85-1, Department of Operations Research, Stanford University.
94. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1985). Model building and practical aspects of nonlinear programming, Report SOL 85-2, Department of Operations Research, Stanford University.
95. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1986). User's Guide for NPSOL (Version 4.0): a Fortran package for nonlinear programming, Report SOL 86-2, Department of Operations Research, Stanford University.
96. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1986). Maintaining LU factors of a general sparse matrix, Report SOL 86-8, Department of Operations Research, Stanford University.
97. Gill, P. E., Hammarling, S. J., Murray, W., Saunders, M. A., and Wright, M. H. (1986). User's Guide for LSSOL (Version 1.0): a Fortran package for constrained linear least-squares and convex quadratic programming, Report SOL 86-1, Department of Operations Research, Stanford University.
98. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1986). Some theoretical properties of an augmented Lagrangian merit function, Report SOL 86-6, Department of Operations Research, Stanford University.
99. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1986). A note on nonlinear approaches to linear programming, Report SOL 86-7, Department of Operations Research, Stanford University.
100. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1987). A Schur-complement method for sparse quadratic programming, Report SOL 87-12, Systems Optimization Laboratory, Department of Operations Research, Stanford University.
101. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1987). Constrained nonlinear programming, Report SOL 87-13, Systems Optimization Laboratory, Department of Operations Research, Stanford University.

102. Gill, P. E., Murray, W., Saunders, M. A., and Wright, M. H. (1988). Inertia-controlling methods for quadratic programming, Report SOL 88-3, Systems Optimization Laboratory, Department of Operations Research, Stanford University.
103. Cash, J. R. and Wright, M. H. (1989). A deferred correction method for nonlinear two-point boundary value problems: implementation and numerical evaluation, Computing Science Technical Report 146, AT&T Bell Laboratories, Murray Hill, New Jersey.
104. Cash, J. R. and Wright, M. H. (1989). Issues in implementation of a deferred correction method for nonlinear two-point boundary value problems, Computing Science Technical Report 147, AT&T Bell Laboratories, Murray Hill, New Jersey.
105. Wright, M. H. (1991). Interior methods for constrained optimization, Numerical Analysis Manuscript 91-10, AT&T Bell Laboratories, Murray Hill, New Jersey.
106. Murray, W. and Wright, M. H. (1992). Line search procedures for the logarithmic barrier function, Numerical Analysis Manuscript 92-01, AT&T Bell Laboratories, Murray Hill, New Jersey.
107. Wright, M. H. (1992). Determining subspace information from the Hessian of a barrier function, Numerical Analysis Manuscript 92-02, AT&T Bell Laboratories, Murray Hill, New Jersey.
108. Gay, D. M., Head-Gordon, T., Stillinger, F. H., and Wright, M. H. (1992). An application of constrained optimization in protein folding: the poly(L-alanine) hypothesis, *Forefronts* 8, 4-6.
109. Wright, M. H. (1993). Some linear algebra issues in large-scale optimization, Numerical Analysis Manuscript 93-01, AT&T Bell Laboratories, Murray Hill, New Jersey.
110. Wright, M. H. (1993). Why a pure primal Newton barrier step may be infeasible, Numerical Analysis Manuscript 93-02, AT&T Bell Laboratories, Murray Hill, New Jersey.
111. Kaufman, L., Sylvester, G. L., and Wright, M. H. (1993). Structured linear least-squares problems in system identification and separable nonlinear data fitting, Numerical Analysis Manuscript 93-14, AT&T Bell Laboratories, Murray Hill, New Jersey.
112. Wright, M. H. (1996). Direct search methods: once scorned, now respectable, Technical Report 96-4-02, Computing Science Research Center, Bell Laboratories, Murray Hill, New Jersey.
113. Lagarias, J. C., Reeds, J. A., Wright, M. H., and Wright, P. E. (1996). Convergence properties of the Nelder-Mead simplex algorithm in low dimensions, Technical Report 96-4-07, Computing Science Research Center, Bell Laboratories, Murray Hill, New Jersey.
114. Wright, M. H. (1997). Ill-conditioning and computational error in primal-dual interior methods for nonlinear programming, Technical Report 97-4-04, Computing Sciences Research Center, Bell Laboratories, Murray Hill, New Jersey.
115. Gay, D. M., Overton, M. L., and Wright, M. H. (1997). A primal-dual interior method for nonconvex nonlinear programming, Technical Report 97-4-08, Computing Sciences Research Center, Bell Laboratories, Murray Hill, New Jersey.
116. Wright, M. H. (1998). The interior-point revolution in constrained optimization, Technical Report 98-4-09, Computing Sciences Research Center, Bell Laboratories, Murray Hill, New Jersey.
117. Wright, M. H. (2000). What, if anything, is new in optimization?, Technical Report 00-4-08, Computing Sciences Research Center, Bell Laboratories, Murray Hill, New Jersey. (An expanded version of [55], including figures and quotations from Marcel Proust.)
<http://cm.bell-labs.com/cm/cs/doc/00/4-08.ps.gz>

11 March 2004