Michael A. Saunders

Curriculum Vitae, October 28, 2025

Personal Data

Home:	2671 Ross Rd, Palo Alto, CA 94303	Mobile 650-464-3971
Work:	Dept of Management Science and Engineering Stanford University, Stanford, CA 94305-4121	
Office:	Suite 060, Room M03, ICME, Huang Engineering Center, Stanford	650-723-1875
Internet:	saunders@stanford.edu	`http://stanford.edu/~saunders`
Birth:	January 6, 1944, Christchurch, New Zealand	

Education

1965	BSc (Hons), Mathematics, University of Canterbury, New Zealand
1970	MS, Computer Science, Stanford University
1972	PhD, Computer Science, Stanford University

Employment

1965–67	Scientific Officer, Applied Mathematics Division, Dept of Scientific and Industrial Research (DSIR), Wellington, New Zealand
1967–72	Research Assistant and Teaching Assistant, Computer Science Dept, Stanford University; Graduate Study Leave (part salary) from DSIR
1972–74	Scientific Officer, Applied Mathematics Division, DSIR, Wellington, New Zealand
1975–76	Research Associate, Systems Optimization Laboratory, Dept of Operations Research, Stanford University
1977–78	Scientist, Applied Mathematics Division, DSIR, Wellington, New Zealand
1979–87	Senior Research Associate, Systems Optimization Laboratory, Dept of Operations Research, Stanford University
1987–2016	Professor (Research), Systems Optimization Laboratory, Depts of OR, EESOR, and Management Science and Engineering, Stanford University
2017–2019	Professor (Research) Emeritus, recalled to active duty, ICME and Management Science & Engineering, Stanford University
2020–	Professor (Research) Emeritus, ICME and Management Science & Engineering, Stanford University

Other Employment

1972	(Oct) Visiting Research Fellow, Division of Numerical Analysis and Computing, National Physical Laboratory, Teddington, England
1981	(May–Jun) Visiting Scholar, Dept of Mathematics, University of Linköping, Linköping, Sweden
1990	(Jul–Aug) Visiting Fellow, Dept of Operations Research, University of Canterbury, Christchurch, New Zealand
1995–96	Visiting Scholar, IBM Almaden Research Center (2 days/week)
1998	(Jul–Oct) Visiting Professor, Dept of Engineering Science, University of Auckland, New Zealand (taught Master's class on Nonlinear Optimization)
1999	(Aug) Visiting Professor, Institute of Mathematical Modelling (IMM), Technical University of Denmark, Lyngby, Denmark
2000	(Jul) Visiting Professor, Dept of Mathematics and Physics, Mälardalen University, Västerås, Sweden
2001	(Aug) Visiting Professor, IMM, Technical University of Denmark

Honors

1962–64	New Zealand University National Scholarship
1965	New Zealand University Senior Scholarship

1968–71	New Zealand University Postgraduate Scholarship
1967, 1972	US Fulbright Travel Grant
1985	William Orchard-Hays Prize in Computational Mathematical Programming, Mathematical Programming Society, first recipient
1988	Visiting Scientist, Special Year on Numerical Linear Algebra, University of Tennessee and Oak Ridge National Laboratory
1990	Erskine Visiting Fellowship, University of Canterbury, New Zealand
1997	Inventor Recognition Award, Office of Technology Licensing, Stanford University
2001	IBM Faculty Partnership Award
2004	Best Paper award (with **M. P. Friedlander**), ICCOPT 1, RPI, NY
2004	ISI Highly Cited Researcher, Computer Science
2005	First Prize in software section (with **H. H. Jin**, M. W. Carter, and Y. Ye) Stanford-Berkeley Innovators' Challenge
2007	ISI Highly Cited Researcher, Mathematics
2007	Elected Hon FRSNZ (Honorary Fellow of the Royal Society of New Zealand)
2012	SIAM Linear Algebra Prize (with **S.-C. Choi** and C. C. Paige), awarded three-yearly by the SIAM Activity Group on Linear Algebra
2012	Inducted into Stanford University Invention Hall of Fame (Optimization software, with Philip Gill, Walter Murray, Bruce Murtagh, and Margaret Wright)
2013	SIAM Fellow
2024	INFORMS Senior Member
2024	AIAA Fellow
2025	ORSNZ President's Lifetime Achievement Award

Grants

Co-Principal Investigator with Walter Murray

1987–1989	AFOSR	Annual budget	\$ 50,000
1988–1991	DOE	Annual budget	\$316,000
1992–1995	DOE	Annual budget	\$ 75,000
1987–1998	NSF	Annual budget	\$100,000
2000–2002	NSF	Annual budget	\$150,000
2003–2006	NSF	Annual budget	\$172,000
1989–2001	ONR	Annual budget	\$150,000
2002–2004	ONR	Annual budget	\$163,000
2004–2007	ONR	Annual budget	\$170,000
2007–2010	ONR	Annual budget	\$180,000
2010–2013	ONR	Annual budget	\$200,000

Co-Principal Investigator with Stephen Boyd and David Donoho

1998–2000	NSF	Annual budget	\$133,000

Co-Principal Investigator with Yinyu Ye

2009–2012	DOE	Annual budget	\$484,000	incl subcontracts to UCSD, Univ of Iceland

Principal Investigator

2010–2011	NSF	Annual budget	\$114,000	
2012–2017	NIH	Annual budget	\$373,000	incl subcontract to UCSD
2013–2016	ARO	Annual budget	\$100,000	
2016–2017	FRIC	Annual budget	\$133,000	(Ford Research and Innovation Center)

2001	IBM Faculty Partnership Award, \$20,000
2001–2003	General Motors, Work Systems Lab, faculty participant
2004	Research Gift, Robert Bosch Corp, \$25,000
2005	Contract, Robert Bosch Corp, \$108,500
2005	Research Gift, COMSOL Inc, \$42,000

2005	Birdseed Funding, Stanford OTL, $15,000
2008	Stanford/KAUST AEA Agreement, $100,000
2008–2009	Member, Technical Area 4, AHPCRC, Stanford
2010–2012	Member, Technical Area 1, AHPCRC, Stanford

Professional Affiliations

ACM	Association for Computing Machinery
EUAS	EU Academy of Sciences
INFORMS	Institute for Operations Research and the Management Sciences
MOS	Mathematical Optimization Society
NAG	Numerical Algorithms Group Limited
ORSNZ	Operational Research Society of New Zealand
SIAM	Society for Industrial and Applied Mathematics
SIAG	SIAM Activity Group on Optimization
SIGPLAN	ACM Fortran Forum

Professional Activities

1982–2004	Associate Editor, ACM TOMS (*ACM Transactions on Mathematical Software*)
1989–2002	Associate Editor, SIOPT (*SIAM Journal on Optimization*)
1999–present	Associate Editor, OPTE (*Optimization and Engineering*)
2002–2012	Member, International Scientific Advisory Board, NZIMA (New Zealand Institute of Mathematics and its Applications)
2010–2016	Associate Editor, NACO (*Numerical Algebra, Control and Optimization*)
1980	Co-organizer, Conference on Practical Optimization, Stanford University
1988	Member, Orchard-Hays Prize committee, Mathematical Programming Society
1995	Proposal Review panelist, NSF DMII, Production Systems and OR
1999	Organizer, Minisymposium, SIAM Conference on Optimization, Atlanta
2000	Member, Beale/Orchard-Hays Prize committee, Math. Programming Society
2001	Member, Dantzig Dissertation Prize committee, INFORMS
2002	Proposal Review panelist, NSF DMII, Operations Research
2002	Organizer, Minisymposium, SIAM Conference on Optimization, Toronto
2005	Organizer, Minisymposium, IFORS Triennial Conference, Honolulu
2005	Member, Student Paper Competition committee, IMACS
2006	Organizer, Minisymposium, ISMP Triennial Symposium, Rio de Janeiro
2007	Co-organizer, Stanford 50: Conference on State of the Art and Future Directions of Computational Mathematics and Numerical Computing, Stanford University
2007	Organizer, Minisymposium, INFORMS Annual Meeting, Seattle
2008	Co-organizer, Symposium on Gene Golub's Legacy: Matrix Computations – Foundation and Future, Stanford University, Mar 1
2008	Technical program committee, MELT08, First ACM International workshop on Mobile Entity Localization and Tracking in GPS-less Environments, San Francisco
2009	Proposal Review panelist, NSF DMS, Numerical Linear Algebra and Optimization
2009	Cluster Chair, ISMP, Chicago
2009	Minisymposium Organizer, SIAM Conf on Applied Linear Algebra, Monterey
2011	Advisory Council, LATNA, National Research University Higher School of Economics, Nizhny Novgorod, Russia
2012	Cluster Chair, ISMP, Berlin
2014	Co-organizer, BIRS Workshop on Sparse Representations, Numerical Linear Algebra, and Optimization, Banff
2019	Minisymposium Co-organizer, ICCOPT, Berlin
2021	Minisymposium Co-organizer, SIAM OP21, Spokane, WA
2024	Minisymposium Co-organizer, IOS24, Houston, TX
2024	Minisymposium Co-organizer, SIAM LA24, Paris

Referee for Journals, Publishers, Foundations, etc

ACM TOMS, Acta Numerica 2005, AFOSR, AMC, AOAS, APMOD, APNUM, Applied Numerical Mathematics, Bioinformatics, BIT Numerical Mathematics, BSF, Cambridge University Press, CDC04, COAP, CSDA, Econometrics, ELSCAM, EPSRC (Britain), European J. of Operational Research, FCAR (Canadian Research Foundation), GRIS, Hindawi Scientific Programming, Hindawi Shock and Vibration, HPSC, IEEE Signal Processing, IEEE TOIT, IJHPCA, IMA J. of Numerical Analysis, IJHPCA, IMACS student paper competition, Institute of Physics J. on Inverse Problems, INFORMS JOC, International J. Mathematics in OR, International Science Foundation, Inverse Problems, ISF, Italian Research and University Evaluation Agency, JCMDS, J. of Combinatorial Optimization, J. of Comp. and Applied Mathematics, J. of Comp. and Graphical Statistics, J. of Global Optimization, J. of Industrial and Management Optimization, JMAA, JOSC, JOTA, Johns Hopkins University Press, JPC, LAA, MATCOM, MELT08, MMOR, Mathematical Programming, MPC, Mathematics and Computers in Simulation, NAOIII, NAOIV, NAOV, NSERC, NSF, Numerical Algorithms, Numerische Mathematik, NUMA, NZFRST, NZ J. of Mathematics, NZIMA, OMP, OMS, OPTE, ORSA J. on Computing, Parallel Processing Letters, PLOS ONE, PNAS, POWTEC, Research Grants Council (Hong Kong), RSNZ, SIAM, SIAM Spotlights, SIGPRO, SIMAX, SIOPT, SIREV, SISC, SoftwareX, Springer, Swedish Research Council for Eng. Sciences, VQR (Italy), Wiley & Sons

Consulting

1981–1986	General Electric
1990–2011	Barra
1989–2011	McDonnell-Douglas (then Boeing)
2000–2011	DemandTec (Science Advisory Board)
2007–2021	Cardinal Optimization Inc (Chief Scientist)
2011–2013	ProPlus Design Solutions (Technical Advisory Board)
2012–2013	Sodao Network Technology (Board)
2013–present	Wellong Logistics Company (Chief Scientist)
2016–present	Inovelli Inc (Chief Scientist)
2017–present	ZhongTu Technology (Chief Scientist)
2020–present	Khai Long Cayman L.P. (Partner)
2021–present	ETAO (Advisory Board)

Teaching

1997	EESOR 406 Colloquium, Winter and Spring
	EESOR 408 Tutorial (3 students)
1998	EESOR 406 Colloquium, Winter
	EESOR 408 Tutorial (2 students)
	Master's class, Nonlinear Optimization, Engineering Science, University of Auckland, New Zealand (12 students)
1999	EESOR 406 Colloquium, Winter
	EESOR 408 Tutorial (1 student)
2000	MS&E 406 Colloquium, Winter and Spring
	MS&E 408 Tutorial (1 student)
1989–2001	SCCM Affiliated Faculty member
2001–2003	SCCM Core Faculty member
2004–present	ICME Affiliated Faculty member
2001–2004	CS 531 Linear Algebra Seminar
2005–2020	CME 510 Linear Algebra and Optimization Seminar
2003–2018	MS&E 318 Large-scale Numerical Optimization
2015 July	Block course, Numerical Methods for Large-scale Optimization, USI Lugano
2016 March	Block course, Large-scale Optimization, USI Lugano
2019	ICME 338 Large-scale Numerical Optimization, `http://stanford.edu/class/cme338`

2020–present College students, Introduction to MATLAB, InAmerica Education, New York, NY

Graduate Advising

1987	Engineer, **R. Entriken**
1988	Engineer, **S. K. Eldersveld**
1991	PhD co-principal advisor, **S. K. Eldersveld**
2002	PhD principal advisor, **M. P. Friedlander**, **M. J. O'Sullivan**, **B. Kim**
2003	PhD co-principal advisor, **C.-M. Fransson**
2005	PhD co-principal advisor, **Z. Su**, **H. H. Jin**
2006	PhD principal advisor, **S.-C. Choi**
2006	Postdoctoral advisor, **H. H. Jin**
2008	PhD co-principal advisor, **C. Green**
2008	PhD principal advisor, **H. M. Huynh**
2009	PhD principal advisor, **D. F. Gleich**, **L. Tenenblat**
2009–2011	Postdoctoral co-advisor, **D. Kourounis**
2010	PhD principal advisor, **L. Deng**, **C. M. Maes**
2011	PhD principal advisor, **D. C.-L. Fong**
2014	PhD principal advisor, **X. Meng**
2015	PhD principal advisor, **S. Akle**, **Y. Sun**
2016	PhD principal advisor, **J. Yang**
2016	MS advisor, **Y. Park**
2017	MS advisor, **S. Kim**
2018	PhD coadvisor, **X. Suo**, **D. Ma**
2019	PhD principal advisor, **R. Estrin** (Co-winner, ICME Gene Golub Thesis Award)
2019–2022	PhD coadvisor, **S. Regev**

1981	PhD external examiner, J. Eriksson, Linköping University, Sweden
2000	PhD external examiner, M. Adlers, Linköping University, Sweden
1979–2023	PhD reading committee member, 92 students
1987–2024	PhD defense committee member, 237 students

Contributions to Books

[B1] P. E. Gill, W. Murray, B. A. Murtagh, M. A. Saunders, and M. H. Wright, GAMS/MINOS, in A. Brooke, D. Kendrick, and A. Meeraus, *GAMS: A User's Guide*, The Scientific Press, Redwood City, CA, 201–224 (1988).

[B2] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Constrained nonlinear programming, in G. L. Nemhauser, A. H. G. Rinnooy Kan, and M. J. Todd (eds.), *Optimization*, Handbooks in Operations Research and Management Science, Volume 1, North-Holland, Amsterdam, 171–210 (1989).

[B3] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Some theoretical properties of an augmented Lagrangian merit function, in P. M. Pardalos (ed.), *Advances in Optimization and Parallel Computing*, North-Holland, Amsterdam, 101–128 (1992).

[B4] M. A. Saunders, Cholesky-based methods for sparse least squares: The benefits of regularization, in L. Adams and J. L. Nazareth (eds.), *Linear and Nonlinear Conjugate Gradient-Related Methods*, SIAM, Philadelphia, 92–100 (1996).

[B5] M. A. Saunders, Commentary on Methods for modifying matrix factorizations, in R. H. Chan, C. Greif, and D. P. O'Leary, *Milestones in Matrix Computation: Selected Works of Gene H. Golub, With Commentaries*, Oxford University Press, Oxford, 310–310 (2007).

[B6] M. A. Saunders, Commentary on Pete Stewart's contributions to least-squares backward errors, written for M. E. Kilmer and D. P. O'Leary (eds.), *G. W. Stewart, Selected Works with Commentaries*, Contemporary Mathematicians, Springer Science+Business Media, LLC 2010.

Referenced on pp 29, 50, 52,131. Available at `http://stanford.edu/group/SOL/classics/pete-stewart-LS-backward-errors.pdf`.

[B7] **D. Ma** and M. A. Saunders, Solving multiscale linear programs using the simplex method in quadruple precision, pp 223–235 in M. Al-Baali, L. Grandinetti, and A. Purnama (eds.), *Numerical Analysis and Optimization, NAO-III, Muscat, Oman, January 2014*, Springer Proceedings in Mathematics & Statistics, Volume 134, Springer International Publishing Switzerland (2015).

[B8] P. E. Gill, M. A. Saunders, and E. Wong, On the performance of SQP methods for nonlinear optimization, in B. Defourny and T. Terlaky (eds.), *Modeling and Optimization: Theory and Applications, MOPTA, Bethlehem, PA, USA, August 2014*, Springer Proceedings in Mathematics & Statistics, Volume 147, Springer International Publishing AG (2015).

[B9] **D. Ma**, K. L. Judd, D. Orban and M. A. Saunders, Stabilized optimization via an NCL algorithm, pp 173–191 in M. Al-Baali, L. Grandinetti, and A. Purnama (eds.), *Numerical Analysis and Optimization, NAO-IV, Muscat, Oman, January 2017*, Springer Proceedings in Mathematics & Statistics, Volume 235, Springer International Publishing AG (2018), `https://link.springer.com/conference/nao`.

[B10] **D. Ma**, D. Orban and M. A. Saunders, A Julia implementation of Algorithm NCL for constrained optimization, pp 153–182 in M. Al-Baali, A. Purnama, and L. Grandinetti (eds.), *Numerical Analysis and Optimization, NAO-V, Muscat, Oman, January 2020*, Springer Proceedings in Mathematics & Statistics, Volume 354, Springer International Publishing AG (2021), `https://link.springer.com/conference/nao`.

Refereed Journal Articles

[J1] P. E. Gill, G. H. Golub, W. Murray, and M. A. Saunders, Methods for modifying matrix factorizations, *Math. Comput.* 28, 505–535 (1974).

[J2] P. E. Gill, W. Murray, and M. A. Saunders, Methods for computing and modifying the LDV factors of a matrix, *Math. Comput.* 29, 1051–1077 (1975).

[J3] C. C. Paige and M. A. Saunders, Solution of sparse indefinite systems of linear equations, *SIAM J. Numer. Anal.* 12, 617–629 (1975).

[J4] C. C. Paige and M. A. Saunders, Least squares estimation of discrete linear dynamic systems using orthogonal transformations, *SIAM J. Numer. Anal.* 14, 180–193 (1977).

[J5] B. A. Murtagh and M. A. Saunders, Large-scale linearly constrained optimization, *Math. Program.* 14, 41–72 (1978).

[J6] C. C. Paige and M. A. Saunders, Towards a generalized singular value decomposition, *SIAM J. Numer. Anal.* 18, 398–405 (1981).

[J7] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Aspects of mathematical modelling related to optimization, *Applied Mathematical Modelling* 5, 71–83 (1981).

[J8] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, A note on a sufficient decrease criterion for a non-derivative steplength procedure, *Math. Program.* 23, 349–352 (1982).

[J9] B. A. Murtagh and M. A. Saunders, A projected Lagrangian algorithm and its implementation for sparse nonlinear constraints, *Math. Program. Stud.* 16 (Constrained Optimization), 84–117 (1982).

[J10] C. C. Paige and M. A. Saunders, LSQR: An algorithm for sparse linear equations and sparse least squares, *ACM Trans. Math. Softw.* 8(1), 43–71 (1982).

[J11] C. C. Paige and M. A. Saunders, Algorithm 583; LSQR: Sparse linear equations and least-squares problems, *ACM Trans. Math. Softw.* 8(2), 195–209 (1982).

[J12] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Computing forward-difference intervals for numerical optimization, *SIAM J. Sci. Statist. Comput.* 4, 310–321 (1983).

[J13] P. E. Gill, N. I. M. Gould, W. Murray, M. A. Saunders, and M. H. Wright, A weighted Gram-Schmidt method for convex quadratic programming, *Math. Program.* 30, 176–195 (1984).

[J14] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Sparse matrix methods in optimization, *SIAM J. Sci. Statist. Comput.* 5, 562–589 (1984).

[J15] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Procedures for optimization problems with a mixture of bounds and general constraints, *ACM Trans. Math. Softw.* 10, 282–298 (1984).

[J16] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Trends in nonlinear programming software, *European J. of Operational Research* 17, 141–149 (1984).

[J17] S. M. Gorelick, C. I. Voss, P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Aquifer reclamation design: the use of contaminant transport simulation combined with nonlinear programming, *Water Resources Research* 20, 415–427 (1984).

[J18] P. E. Gill, W. Murray, M. A. Saunders, G. W. Stewart, and M. H. Wright, Properties of a representation of a basis for the null space, *Math. Program.* 33, 172–186 (1985).

[J19] P. E. Gill, W. Murray, M. A. Saunders, J. A. Tomlin, and M. H. Wright, On projected Newton barrier methods for linear programming and an equivalence to Karmarkar's projective method, *Math. Program.* 36, 183–209 (1986).

[J20] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Maintaining LU factors of a general sparse matrix, *Linear Algebra Appl.* 88/89, 239–270 (1987).

[J21] M. A. Saunders, H. D. Simon, and E. L. Yip, Two conjugate-gradient-type methods for unsymmetric linear equations, *SIAM J. Numer. Anal.* 25, 927–940 (1988).

[J22] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Recent developments in constrained optimization, *J. Computational and Applied Mathematics* 22, 257–270 (1988).

[J23] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, A practical anti-cycling procedure for linearly constrained optimization, *Math. Program.* 45, 437–474 (1989).

[J24] P. E. Gill, W. Murray, M. A. Saunders, and M. H. Wright, Inertia-controlling methods for general quadratic programming, *SIAM Rev.* 33, 1–36 (1991).

[J25] F. Jarre and M. A. Saunders, An adaptive primal-dual method for linear programming, *Math. Prog. Soc., Committee on Algorithms Newsletter* 19, 7–16 (1991).

[J26] **S. K. Eldersveld** and M. A. Saunders, A block-LU update for large-scale linear programming, *SIAM J. Matrix Anal. Appl.* 13, 191–201 (1992).

[J27] P. E. Gill, W. Murray, D. B. Ponceleón and M. A. Saunders, Preconditioners for indefinite systems arising in optimization, *SIAM J. Matrix Anal. Appl.* 13, 292–311 (1992).

[J28] M. A. Saunders, Major Cholesky would feel proud, *ORSA J. Comput.* 6, 23–27 (1994).

[J29] H.-D. Chen, P. M. Pardalos, and M. A. Saunders, The simplex algorithm with a new primal and dual pivot rule, *Oper. Res. Lett.* 16, 121–127 (1994).

[J30] F. Jarre and M. A. Saunders, A practical interior-point method for convex programming, *SIAM J. Optim.* 5, 149–171 (1995).

[J31] J. W. Chinneck and M. A. Saunders, MINOS(IIS) version 4.2: Analyzing infeasibilities in linear programming, *Eur. J. Oper. Res.* 81, 217–218 (1995).

[J32] P. E. Gill, W. Murray, D. B. Ponceleón, and M. A. Saunders, Primal-dual methods for linear programming, *Math. Program.* 70, 251–277 (1995).

[J33] M. A. Saunders, Solution of sparse rectangular systems using LSQR and CRAIG, *BIT Numerical Mathematics* 35, 588–604 (1995).

[J34] P. E. Gill, M. A. Saunders, and J. R. Shinnerl, On the stability of Cholesky factorization for quasi-definite systems, *SIAM J. Matrix Anal. Appl.* 17(1), 35–46 (1996).

[J35] M. A. Saunders, Computing projections with LSQR, *BIT Numerical Mathematics* 37:1, 96–104 (1997).

[J36] W. R. Purcell, L.-X. Cheng, D. D. Dixon, R. L. Kinzer, J. D. Kurfess, M. Leventhal, M. A. Saunders, J. G. Skibo, D. M. Smith, and J. Tueller, OSSE mapping of galactic 511 keV positron annihilation line emission, *Astrophysical J.* 491, 725–776, Dec. 1997.

[J37] S. S. Chen, D. L. Donoho, and M. A. Saunders, Atomic decomposition by basis pursuit, *SIAM J. Sci. Comput.* 20(1), 33–61 (1998).

[J38] S. S. Chen, D. L. Donoho, and M. A. Saunders, Atomic decomposition by basis pursuit, SIGEST article, *SIAM Rev.* 43(1), 129–159 (2001).

[J39] P. E. Gill, W. Murray, and M. A. Saunders, SNOPT: An SQP algorithm for large-scale constrained optimization, *SIAM J. Optim.* 12(4), 979–1006 (2002).

[J40] M. Jacobsen, P. C. Hansen, and M. A. Saunders, Subspace preconditioned LSQR for discrete ill-posed problems, *BIT Numerical Mathematics* 43:5, 975–989 (2003).

[J41] **M. P. Friedlander** and M. A. Saunders, A globally convergent linearly constrained Lagrangian method for nonlinear optimization, *SIAM J. Optim.* 15(3), 863–897 (2005).

[J42] R. Tibshirani, M. Saunders, S. Rosset, J. Zhu, and K. Knight, Sparsity and smoothness via the fused lasso, *J. Royal Statistical Society B* 67(1), 91–108 (2005).

[J43] P. E. Gill, W. Murray, and M. A. Saunders, SNOPT: An SQP algorithm for large-scale constrained optimization, SIGEST article, *SIAM Rev.* 47(1), 99–131 (2005).

[J44] M. W. Carter, **H. H. Jin**, M. A. Saunders, and Y. Ye, SpaseLoc: An adaptive subproblem algorithm for scalable wireless sensor network localization, *SIAM J. Optim.* 17(4), 1102–1128 (2006).

[J45] **M. P. Friedlander** and M. A. Saunders, Discussion: The Dantzig selector: Statistical estimation when p is much larger than n, *Annals of Statistics* 35(6), 2385–2391 (2007).

[J46] P. E. Gill, W. Murray, M. A. Saunders, J. A. Tomlin, and M. H. Wright, George B. Dantzig and systems optimization, *J. Discrete Optimization* 5(2), 151–158 (2008), in memory of George B. Dantzig. `http://dx.doi.org/10.1016/j.disopt.2007.01.002`

[J47] G. Chantas, N. Galatsanos, A. Likas, and M. A. Saunders, Variational Bayesian image restoration based on a product of t-distributions image prior, *IEEE Trans. Image Processing* 17(10), 1795–1805 (2008).

[J48] **C.-M. Fransson**, T. Wik, B. Lennartson, M. A. Saunders, and P.-O. Gutman, Nonconservative robust control: Optimized and constrained sensitivity functions, *IEEE Trans. Contr. Sys. Tech.* 17(2), 298–308 (2009).

[J49] **M. J. O'Sullivan** and M. A. Saunders, Stabilizing policy improvement for large-scale infinite-horizon dynamic programming, *SIAM J. Matrix Anal. Appl.* 31(2), 434–459 (2009).

[J50] V. Pereyra, M. A. Saunders, and J. Castillo, Equispaced Pareto front construction for constrained bi-objective optimization, *Mathematical and Computer Modelling* (2011), `doi:10.1016/j.mcm.2010.12.044`, 10 pp.

[J51] **S.-C. Choi**, C. C. Paige, and M. A. Saunders, MINRES-QLP: a Krylov subspace method for indefinite or singular symmetric systems, *SIAM J. Sci. Comput.* 33:4 (2011) 1810–1836. (2012 Linear Algebra Prize, SIAM Activity Group on Linear Algebra.)

[J52] **D. C.-L. Fong** and M. A. Saunders, LSMR: An iterative algorithm for sparse least-squares problems, *SIAM J. Sci. Comput.* 33:5 (2011) 2950–2971, Copper Mountain Special Issue 2010.

[J53] R. M. T. Fleming, **C. M. Maes**, M. A. Saunders, Y. Ye, and B. Ø. Palsson, A variational principle for computing nonequilibrium fluxes and potentials in genome-scale biochemical networks, *J. Theoretical Biology* 292 (2012) 71–77.

[J54] S. P. Ponnapalli, M. A. Saunders, C. F. Van Loan, and O. Alter, A higher-order generalized singular value decomposition for comparison of global mRNA expression from multiple organisms, *PLoS ONE* 6(12): e28072 (2011), 11 pp. `doi:10.1371/journal.pone.0028072`

[J55] **D. C.-L. Fong** and M. A. Saunders, CG versus MINRES: An empirical comparison, *SQU Journal for Science* 17:1 (2012) 44–62.

[J56] P. Berman, A. Leshem, O. Etziony, O. Levi, Y. Parmet, M. Saunders, and Z. Wiesman, Novel ^1H low field nuclear magnetic resonance applications for the field of biodiesel, *Biotechnology for Biofuels* 6:55 (2013) 20 pp.

[J57] P. Berman, O. Levi, Y. Parmet, M. Saunders, and Z. Wiesman, Laplace inversion of low-resolution NMR relaxometry data using sparse representation methods, *Concepts in Magnetic Resonance Part A* 42A:3 (2013) 72–88.

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[R12] F. Jarre and M. A. Saunders, Practical aspects of an interior-point method for convex programming, Report SOL 91-9, Dept of Operations Research, Stanford University (1991), 20 pp.

[R13] P. E. Gill, M. A. Saunders, and J. R. Shinnerl, On the numerical stability of quasi-definite systems, Report SOL 93-4, Dept of Operations Research, Stanford University (1993), 8 pp.

[R14] H. Chen, P. M. Pardalos, and M. A. Saunders, The simplex algorithm with a new primal and dual pivot rule, Report SOL 93-5, Dept of Operations Research, Stanford University (1993), 8 pp.

[R15] M. A. Saunders, Solution of sparse rectangular systems using LSQR and CRAIG, Report SOL 94-4, Dept of Operations Research, Stanford University (1994), 14 pp.

[R16] M. A. Saunders, Cholesky-based methods for sparse least squares: The benefits of regularization, Report SOL 95-1, Dept of Operations Research, Stanford University (1995), 10 pp.

[R17] M. A. Saunders, Computation of projections using LSQR, Report SOL 96-1, Dept of Operations Research, Stanford University (1996), 8 pp.

[R18] M. A. Saunders and J. A. Tomlin, Stable reduction to KKT systems in barrier methods for linear and quadratic programming, Report SOL 96-3, Dept of Engineering-Economic Systems and Operations Research, Stanford University (1996), 9 pp.

[R19] M. A. Saunders and J. A. Tomlin, Solving regularized linear programs using barrier methods and KKT systems, Report SOL 96-4, Dept of Engineering-Economic Systems and Operations Research, Stanford University (1996), 12 pp.

[R20] P. E. Gill, W. Murray, and M. A. Saunders, SNOPT: An SQP algorithm for large-scale constrained optimization, Report SOL 97-3, Dept of Engineering-Economic Systems and Operations Research, Stanford University (1997), 37 pp.

[R21] I. Bongartz, A. R. Conn, N. I. M. Gould, M. A. Saunders, and Ph. L. Toint, A numerical comparison between the LANCELOT and MINOS packages for large-scale constrained optimization, Report SOL 97-6, Dept of Engineering-Economic Systems and Operations Research, Stanford University (1997), 19 pp.

[R22] I. Bongartz, A. R. Conn, N. I. M. Gould, M. A. Saunders, and Ph. L. Toint, A numerical comparison between the LANCELOT and MINOS packages for large-scale constrained optimization: the complete results, Report SOL 97-7, Dept of Engineering-Economic Systems and Operations Research, Stanford University (1997), 50 pp.

[R23] M. A. Saunders, Solution of sparse linear equations using Cholesky factors of augmented systems, Report SOL 99-1, Dept of Engineering-Economic Systems and Operations Research, Stanford University (1999), 9 pp.

[R24] **M. J. O'Sullivan** and M. A. Saunders, Stabilizing policy improvement for large-scale infinite-horizon dynamic programming, Report SOL 2006-1, Dept of Management Science and Engineering, Stanford University (2006), 19 pp.

[R25] J. F. Grcar, M. A. Saunders, and **Z. Su**, Estimates of optimal backward perturbations for linear least squares problems, Report SOL 2007-1, Dept of Management Science and Engineering, Stanford University (2007), 21 pp.

[R26] E. Kostina, M. A. Saunders, and I. Schierle, Computation of covariance matrices for constrained parameter estimation problems using LSQR, Report SOL 2009-1, Dept of Management Science and Engineering, Stanford University, 11 pp.

[R27] V. Pereyra, M. A. Saunders, and J. Castillo, Equispaced Pareto front construction for constrained biobjective optimization, Report SOL 2010-1, Dept of Management Science and Engineering, Stanford University (2010), 15 pp.

[R28] **D. C.-L. Fong** and M. A. Saunders, LSMR: An iterative algorithm for sparse least-squares problems, Report SOL 2010-2, Dept of Management Science and Engineering, Stanford University (2010), 23 pp.

[R29] **S.-C. Choi**, C. C. Paige, and M. A. Saunders, MINRES-QLP: a Krylov subspace method for indefinite or singular symmetric systems, Report SOL 2010-3, Dept of Management Science and Engineering, Stanford University (2010), revised 30 Mar 2011, 26 pp.

[R30] R. M. T. Fleming, **C. M. Maes**, M. A. Saunders, Y. Ye and B. Ø. Palsson, A variational principle for computing nonequilibrium fluxes and potentials in genome-scale biochemical networks, Report SOL 2011-1, Dept of Management Science and Engineering, Stanford University (2011), 17 pp. Submitted 5 Apr 2011 to *J. of Theoretical Biology*, accepted 26 Sep 2011.

[R31] **D. C.-L. Fong** and M. A. Saunders, CG versus MINRES: An empirical comparison, Report SOL 2011-2, Dept of Management Science and Engineering, Stanford University (2011), Submitted to *SQU Journal for Science*, revised 9 Dec 2011, 17 pp.

[R32] **S. Akle**, O. A. Dalal, R. M. T. Fleming, M. A. Saunders, N. A. Taheri, and Y. Ye, Existence of positive steady states for mass conserving and mass-action chemical reaction networks with

a single terminal-linkage class, Report SOL 2011-3, Dept of Management Science and Engineering, Stanford University (2011). Submitted 25 Oct 2011 to *J. of Mathematical Biology*, 16 pp.

[R33] **M. P. Friedlander** and M. A. Saunders. A dual active-set quadratic programming method for finding sparse least-squares solution, Draft Technical Report TR-2010-nn, Dept of Computer Science, University of British Columbia (30 Jul 2012).

[R34] **D. Ma** and M. A. Saunders. Solution of multiscale linear programs using Quad precision. Report SOL 2014-1, Dept of Management Science and Engineering, Stanford University (2014).

[R35] **S. Regev** and M. A. Saunders, SSAI: A symmetric sparse approximate inverse preconditioner for the conjugate gradient methods PCG and PCGLS, working paper, SOL and ICME, Stanford University, `stanford.edu/group/SOL/reports.html` (2020), 16 pp. Submitted Jun 2020 to *SIAM SISC Copper Mountain 2020 special issue*.

[R36] A. Ghannad, D. Orban, and M. A. Saunders, A symmetric formulation of the linear system arising in interior methods for convex optimization with bounded condition number, Cahier du GERAD G-2020-37, GERAD and Dept of Mathematics and Industrial Engineering, École Polytechnique, Montréal, QC, Canada (2020), 22 pp. Submitted Jun 2020 to *Optimization Methods and Software*.

Plenary Talks since 1993

[P1] Plenary speaker, Householder Symposium XII, Lake Arrowhead, CA, Jun 13–18, 1993.

[P2] Plenary speaker, "Least Squares Methods: Theory, Algorithms and Applications", International conference in celebration of Åke Björck's 60th Birthday, Linköping University, Sweden, Jan 9–10, 1995.

[P3] Distinguished lecturer, Mathematics Dept, University of California, San Diego, La Jolla, CA, Mar 6–10, 1995.

[P4] Plenary speaker, Householder Symposium XIII, Pontresina, Switzerland, Jun 17–21, 1996.

[P5] Keynote speaker, 33rd Annual Conference, Operational Research Society of New Zealand, Auckland, New Zealand, Aug 31–Sep 1, 1998.

[P6] Keynote speaker, Symposium on Optimisation and Data Analysis in honor of Michael Osborne's 70th birthday, Canberra, ACT, Australia, Sep 21–23, 2005.

[P7] Plenary speaker, MOPTA 06: Modeling and Optimization: Theory and Applications, University of Waterloo, Waterloo, ON, Canada, Jul 24–27, 2006.

[P8] Dash Optimization lecturer, Center for Applied Optimization, University of Florida, Gainesville, FL, Feb 15, 2007.

[P9] PIMS distinguished speaker, Computer Science Dept, University of British Columbia, Canada, Aug 7, 2008.

[P10] Plenary speaker (with **C. M. Maes**), Advanced methods and perspectives in nonlinear optimization and control, RTRA STAE Workshop, Toulouse, France, Feb 3–5, 2010.

[P11] Plenary speaker (with **D. C.-L. Fong**), 2nd International Conference on Numerical Linear Algebra and Optimisation, University of Birmingham, UK, Sep 13–15, 2010.

[P12] Keynote speaker (with **C. M. Maes**), OPTEC Workshop on Large-Scale Convex Quadratic Programming — Algorithms, Software, and Applications, Katholieke Universiteit Leuven, Leuven, Belgium, Nov 25–26, 2010.

[P13] Plenary speaker (with **D. C.-L. Fong**), Second International Conference on Numerical Analysis and Optimization, Sultan Qaboos University, Muscat, Oman, Jan 3–6, 2011.

[P14] Keynote speaker, Workshop on Computational Linear Algebra and Optimization for the Digital Economy, ICMS, Edinburgh, UK, Oct 31–Nov 1, 2013.

[P15] Plenary speaker, Third International Conference on Numerical Analysis and Optimization, Sultan Qaboos University, Muscat, Oman, Jan 5–9, 2014.

[P16] 1st Fletcher-Powell lecture, 26th Biennial Numerical Analysis Conference, University of Strathclyde, Glasgow, Jun 23–26, 2015.

[P17] Plenary speaker (with **D. Ma**), Fourth International Conference on Numerical Analysis and Optimization, Muscat, Sultanate of Oman, Jan 2–5, 2017.

[P18] Plenary speaker (with **R. Estrin** and D. Orban), Householder Symposium XX, Virginia Tech, Blacksburg VA, Jun 18–23, 2017.

[P19] Plenary speaker, 3rd AI+IoT Business Conference, Shenzhen, China, Apr 25, 2019.

[P20] Plenary speaker (with Ali Eshragh), Fifth International Conference on Numerical Analysis and Optimization, Sultan Qaboos University, Muscat, Oman, Jan 6–9, 2020.

Invited Presentations since 1991

[I1] Invited speaker, 14th International Symposium on Mathematical Programming, Amsterdam, The Netherlands, Aug 5–9, 1991.

[I2] Speaker and session organizer, TIMS/ORSA Joint National Meeting, San Francisco, California, Nov 2–4, 1992.

[I3] Invited speaker, Conference on Large-Scale Optimization, University of Florida, Gainesville, FL, Feb 15–17, 1993.

[I4] Invited speaker, The RAND Corporation, Santa Monica, California, Apr 29, 1993.

[I5] Invited speaker, Workshop on Operations Research for Managers, Stanford University, Sep 9–11, 1993.

[I6] Colloquium speaker, Dept of Operations Research, Stanford University, Nov 17, 1993.

[I7] Minisymposium speaker, Cornelius Lanczos International Centenary Conference, University of North Carolina, Raleigh, North Carolina, Dec 12–17, 1993.

[I8] Invited speaker, Sparse Days at St Girons, International meeting on Sparse Matrix Methods, St Girons, France, Jul 10–16, 1994.

[I9] Invited speaker and session organizer, 15th International Symposium on Mathematical Programming, Ann Arbor, Michigan, Aug 15–19, 1994.

[I10] Speaker, Tenth Annual Operations Research Symposium for Industrial Affiliates and Corporate Friends, Dept of Operations Research, Stanford University, Jan 30, 1995.

[I11] Distinguished lecturer, Mathematics Dept, University of California, San Diego, La Jolla, CA, Mar 6–10, 1995.

[I12] Invited speaker, AMS-IMS-SIAM Summer Research Conference on Linear and Nonlinear Conjugate Gradient-Related Methods, University of Washington, Seattle, Jul 9–13, 1995.

[I13] Speaker, 32nd Australasian Applied Mathematics Conference, Masterton, New Zealand, Feb 4–8, 1996.

[I14] Minisymposium speaker, 5th SIAM Conference on Optimization, Victoria, BC, May 20–22, 1996.

[I15] Invited speaker, International Symposium on Optimization and Computation, Hayama, Kanagawa, Japan, Aug 12–16, 1996.

[I16] Colloquium speaker, Dept of EESOR, Stanford University, Jan 15, 1997.

[I17] Invited speaker, WSC97-HK, Workshop on Scientific Computing, Chinese University of Hong Kong, Mar 10–12, 1997.

[I18] Invited speaker, Post-conference of WSC97-HK, Chinese Academy of Sciences, Beijing, Mar 14, 1997.

[I19] Invited speaker (with P. E. Gill), 16th International Symposium on Mathematical Programming, Lausanne, Switzerland, Aug 24–29, 1997.

[I20] Colloquium speaker (with W. Murray), Dept of EESOR, Stanford University, Oct 14, 1997.

[I21] Colloquium speaker, Mathematics Dept, University of Waterloo, Canada, Apr 22, 1998.

[I22] Invited speaker, 3rd International Conference on High Performance Optimization Techniques, Rotterdam, The Netherlands, Jun 17–19, 1998.

[I23] Invited speaker, 8th Stockholm Optimization Days, KTH, Stockholm, Sweden, Jun 25–26, 1998.

[I24] Colloquium speaker, Applied Computational and Industrial Mathematics Seminar, Dept of Mathematics, University of Auckland, New Zealand, Oct 7, 1998.

[I25] Seminar speaker, Courant Institute, New York University, Mar 12, 1999.

[I26] Colloquium speaker, Dept of EESOR, Stanford University, Apr 21, 1999.

[I27] Seminar speaker, Dept of Mathematics, Linköping University, Sweden, Aug 17, 1999.

[I28] Seminar speaker, Center for Mathematical Modeling, Mälardalen University, Sweden, Aug 20, 1999.

[I29] Invited speaker, Third Scandinavian Workshop on Linear Programming, Danish Technical University, Lyngby, Aug 26–28, 1999.

[I30] Colloquium speaker, NERSC, Lawrence Berkeley Laboratory, Berkeley, CA, Oct 29, 1999.

[I31] Invited speaker, Pacific-West Algorithmic Science Meeting, Washington State University, Pullman, WA, Apr 8, 2000.

[I32] Invited speaker (with **M. P. Friedlander**), 17th International Symposium on Mathematical Programming, Atlanta, GA, Aug 6–11, 2000.

[I33] Minisymposium talk (with **M. P. Friedlander**), SIAM Conference on Optimization, Toronto, Canada, May 20–22, 2002.

[I34] Minisymposium speaker (with **M. J. O'Sullivan**), SIAM Conference on Optimization, Toronto, Canada, May 20–22, 2002.

[I35] Invited speaker (with **M. J. O'Sullivan**), Householder Symposium XV on Numerical Linear Algebra, Peebles, Scotland, Jun 17–21, 2002.

[I36] Invited speaker (with Y. Sun and G. H. Golub), Conference on Sparse Matrices and Grid Computing, St Girons, France, Jun 10–13, 2003.

[I37] Invited paper (with **M. P. Friedlander**), 18th International Symposium on Mathematical Programming, Copenhagen, Denmark, Aug 18–22, 2003.

[I38] Invited speaker, Sandia CSRI workshop on Solution Methods for Saddle Point Systems in Computational Mechanics, Santa Fe, NM, Dec 3–6, 2003.

[I39] Invited speaker (with **M. P. Friedlander**), International Conference on Continuous Optimization (ICCOPT 1), RPI, Troy, NY, Aug 2–4, 2004.

[I40] Invited speaker, Optimization and Transportation Scheduling Workshop, Mount Ruapehu, New Zealand, Sep 8–10, 2004.

[I41] Invited speaker, Workshop on Optimization and Applications, Oberwolfach, Germany, Jan 9–15, 2005.

[I42] Invited speaker (with **M. P. Friedlander**), SIAM Conference on Optimization, Stockholm, Sweden, May 15–19, 2005.

[I43] Invited paper (with U. Ringertz and P. E. Gill), SIAM Conference on Optimization, Stockholm, Sweden, May 15–19, 2005.

[I44] Invited speaker (with **M. J. O'Sullivan**), IFORS Triennial Conference, Honolulu, HI, Jul 11–15, 2005.

[I45] Invited paper (with **H. H. Jin** and M. W. Carter), IFORS Triennial Conference, Honolulu, HI, Jul 11–15, 2005.

[I46] Seminar speaker, Linear Algebra/Optimization seminar, SCCM, Stanford University, Feb 8, 2006.

[I47] Invited speaker (with **H. M. Huynh**), SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, CA, Feb 22–24, 2006.

[I48] Invited speaker, Sparse Days at CERFACS, Toulouse, France, Jun 15–16, 2006.

[I49] Invited speaker (with **H. M. Huynh**), 19th International Symposium on Mathematical Programming, Rio de Janeiro, Brazil, Jul 30–Aug 4, 2006.

[I50] Invited paper (with **H. H. Jin**), 19th International Symposium on Mathematical Programming, Rio de Janeiro, Brazil, Jul 30–Aug 4, 2006.

[I51] Invited paper (with **L. Tenenblat**), 19th International Symposium on Mathematical Programming, Rio de Janeiro, Brazil, Jul 30–Aug 4, 2006.

[I52] ICME seminar speaker, Stanford University, Oct 23, 2006.

[I53] Invited speaker (with **L. Tenenblat**), INFORMS Annual Meeting, Pittsburgh, PA, Nov 5–8, 2006.

[I54] Seminar speaker, Numerical Analysis History @ Stanford series, SCCM, Stanford University, Mar 14, 2007.

[I55] Invited speaker (with **M. P. Friedlander**), West Coast Optimization meeting, University of Washington, Apr 28–29, 2007.

[I56] Invited speaker (with **S.-C. Choi**), ICIAM 07, 6th International Congress on Industrial and Applied Mathematics, Zurich, Switzerland, Jul 16–20, 2007.

[I57] Linear Algebra and Optimization seminar speaker, ICME, Stanford University, Oct 3, 2007.

[I58] Linear Algebra seminar speaker, Mathematics Dept, University of California, Berkeley, Oct 31, 2007.

[I59] Linear Algebra and Optimization seminar speaker, ICME, Stanford University, Jan 23, 2008.

[I60] Invited speaker, Symposium on Gene Golub's Legacy: Matrix Computations – Foundation and Future, Stanford University, Mar 1, 2008.

[I61] Optimization seminar speaker, IWR, University of Heidelberg, Germany, Jun 12, 2008.

[I62] Invited presentation (with **H. H. Jin**), MMDS08: Workshop on Algorithms for Modern Massive Data Sets, Stanford University, Jun 25–28, 2008.

[I63] Minisymposium speaker (with **H. H. Jin**), SIAM Annual Meeting, San Diego, Jul 7–11, 2008.

[I64] Seminar speaker, School of Computer Science, McGill University, Canada, Nov 14, 2008.

[I65] Seminar speaker, School of Computer Science, McGill University, Canada, Nov 17, 2008.

[I66] Invited presentation (with **C. M. Maes**), BIRS Workshop 09w5101, Advances and Perspectives on Numerical Methods for Saddle Point Problems, Banff, Alberta, Canada, Apr 12–17, 2009.

[I67] Invited presentation, Sparse Matrices for Scientific Computation: In Honour of John Reid's 70th Birthday, Abingdon, Oxfordshire, UK, Jul 15–16, 2009.

[I68] Seminar speaker, Dept of Computer Science, Katholieke Universiteit Leuven, Leuven, Belgium, Jul 22, 2009.

[I69] Invited presentation (with J. Tomlin and V. Bharadwaj), 2009 INFORMS Annual Meeting, San Diego, CA, Oct 11–14, 2009.

[I70] Invited presentation (with **C. M. Maes**), 2009 SIAM Conference on Applied Linear Algebra, Monterey, CA, Oct 26–29, 2009.

[I71] Mathematics and Systems Biology seminar, University of Iceland, Reykjavik, Iceland, Oct 4, 2010.

[I72] Seminar (with **D. C.-L. Fong**), Delft Institute of Applied Mathematics, Delft, The Netherlands, Nov 29, 2010.

[I73] Seminar (with **D. C.-L. Fong**), Applied Analysis and Computational Science (AACS), University of Twente, Enschede, The Netherlands, Dec 2, 2010.

[I74] Industrial Engineering and Management Seminar, Ben Gurion University of the Negev, Israel, Jan 10, 2011.

[I75] Optimization Day, Mechanical Engineering Affiliates and Sponsors Program, Stanford University, Feb 1, 2011.

[I76] Invited speaker (with I. Thiele, R. M. T. Fleming, B. Ø. Palsson, Y. Ye, S. Akle, O. A. Dalal, J. A. Lerman, Y. Sun, and N. A. Taheri), DOE Genomic Science Awardee Meeting IX, Crystal City, VA, Apr 10–13, 2011.

[I77] Invited poster presentation (with **D. C.-L. Fong** and P. C. Hansen), Householder Symposium XVIII on Numerical Linear Algebra, Tahoe City, CA, Jun 12–17, 2011.

[I78] Invited presentation (with **D. C.-L. Fong**), Householder Symposium XVIII on Numerical Linear Algebra, Tahoe City, CA, Jun 12–17, 2011.

[I79] Invited presentation (with **C. M. Maes**), Householder Symposium XVIII on Numerical Linear Algebra, Tahoe City, CA, Jun 12–17, 2011.

[I80] Invited presentation (with **D. C.-L. Fong**), ICIAM 7, Vancouver, BC, Jul 18–22, 2011.

[I81] Invited presentation (with **C. M. Maes**), ICIAM 7, Vancouver, BC, Jul 18–22, 2011.

[I82] Seminar (with **D. C.-L. Fong**), Max-Planck-Institut für Dynamik komplexer technischer Systeme, Magdeburg, Germany, Jan 12, 2012.

[I83] Seminar (with **D. C.-L. Fong**), Dept of Mathematics, Philipps-Universität Marburg, Germany, Jan 17, 2012.

[I84] Invited presentation, Workshop on Matrix Computations in Memory of Professor Gene Golub, ICM, Hong Kong Baptist University, Feb 29, 2012.

[I85] Invited presentation (with **S. Akle**), 12th Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, Mar 25–30, 2012.

[I86] ICME Colloquium, ICME, Stanford University, Apr 16, 2012.

[I87] Linear Algebra Prize presentation (with **S.-C. Choi** and C. C. Paige), SIAM Conference on Applied Linear Algebra, Valencia, Spain, Jun 18–22, 2012.

[I88] Invited presentation (with **C. M. Maes**), 21st International Symposium on Mathematical Programming, Berlin, Germany, Aug 19–24, 2012.

[I89] Seminar on Optimization, Dept of Mathematics, Linköping University, Sweden, Aug 30, 2012.

[I90] Invited presentation, 40 Years of Forrest and Tomlin, INFORMS, Phoenix, AZ, Oct 14–17, 2012.

[I91] Invited presentation, Workshop on Sparse Representation of Functions: Analytic and Computational Aspects, TU Berlin and Matheon, Berlin, Germany, Dec 10–14, 2012.

[I92] Institutskolloquium, Institute of Mathematics, Universität Kassel, Germany, Dec 17, 2012.

[I93] Seminar, Dept of Mathematics, Virginia Tech, Blacksburg, VA, Mar 22, 2013.

[I94] Invited presentation, Conference on New Frontiers in Numerical Analysis and Scientific Computing, on the occasion of Lothar Reichel's 60th birthday and the 20th anniversary of ETNA, Kent State University, OH, Apr 19–20, 2013.

[I95] Invited presentation, Conference on Recent Advances in Optimisation, on the occasion of Philippe Toint's 60th birthday, CERFACS, Toulouse, France, Jul 24–26, 2013.

[I96] Invited presentation, Workshop on Linear Algebra and Optimization, on the occasion of Michael Overton's 60th birthday, University of British Columbia, Vancouver, BC, Aug 8–10, 2013.

[I97] Invited presentation (with **Y. Sun** and **D. Ma**), 2013 BMES Annual Meeting, Seattle, WA, Sep 25–28, 2013.

[I98] Invited presentation (with **D. Ma**), 2014 SIAM Conference on Optimization, San Diego, CA, May 18–22, 2014.

[I99] Invited poster presentation (with N. W. Henderson, **D. Ma**, and **Y. Sun**). Householder Symposium XIX, Spa, Belgium, Jun 8-13, 2014.

[I100] Seminar, USI, Lugano, Switzerland, Jun 25, 2014.

[I101] Invited presentation (with **D. Ma**), 2014 INFORMS Annual Meeting, San Francisco, CA, Nov 9–12, 2014.

[I102] Seminar, ICMSEC, Chinese Academy of Sciences, Beijing, China, Dec 15, 2014.

[I103] Seminar, ICME, Stanford University, Jan 29, 2015.

[I104] Seminar, Dept of Mathematics, University of California, Berkeley, Feb 25, 2015.

[I105] Invited presentation (with **S. Kim**), SIAM Conference on Computational Science and Engineering (CSE 15), Salt Lake City, UT, Mar 13–18, 2015.

[I106] Seminar, ICME, Stanford University, Oct 15, 2015.

[I107] Invited presentation (with N. W. Henderson and **D. Ma**), SIAM Conference on Applied Linear Algebra, Atlanta, GA, Oct 26–30, 2015.

[I108] Invited presentation (with **D. Ma**), International Conference on Continuous Optimization (ICCOPT 2016), Tokyo, Japan, Aug 6–11, 2016.

[I109] Seminar, ICME, Stanford University, Sep 29, 2016.

[I110] Seminar, Dept of Mathematics, UC Berkeley, 12 Oct 2016.

[I111] Invited presentation (with N. I. M. Gould and J. Scott), SIAM Conference on Computational Science and Engineering (CSE 17), Atlanta, GA, Feb 27–Mar 3, 2017.

[I112] Invited presentation, 2017 SIAM Conference on Optimization, Vancouver, BC, Canada, May 22–27, 2017.

[I113] Seminar, Center for Science of Information (CSoI), Dept of Computer Science, Purdue University, West Lafayette, IN, Sep 13, 2017.

[I114] Invited presentation, 11th US–Mexico Workshop on Optimization and its Applications, Huatulco, Mexico, Jan 8–12, 2018.

[I115] LA/Opt Seminar, ICME, Stanford University, Apr 5, 2018.

[I116] Invited presentation, 4th Bay Area Optimization Meeting, Stanford University, May 19, 2018.

[I117] Invited presentation (with **D. Ma**, K. L. Judd, and D. Orban), 23rd ISMP, Bordeaux, France, July 1–6, 2018.

[I118] Seminar, Dept of Mathematics, UC Berkeley, Aug 29, 2018.

[I119] Seminar, Dept of Mathematics, Linköping University, Sweden, Sep 13, 2018.

[I120] Invited presentation (with **D. Ma**, K. L. Judd, and D. Orban), Optimization Days 2019, Montréal, Canada, May 13–15, 2019.

[I121] Invited presentation (with **R. Estrin** and D. Orban), ICIAM 2019, Valencia, Spain, Jul 15–19, 2019.

[I122] Invited presentation (with **D. Ma**, K. L. Judd, and D. Orban), International Conference on Continuous Optimization (ICCOPT 2019), Berlin, Germany, Aug 5–8, 2019.

[I123] Invited presentation (with **S. Regev**), Householder Symposium XXI, Selva di Fasano, Italy, Jun 12–17, 2022.

[I124] Invited presentation (with **D. Ma**, K. L. Judd, and D. Orban), Sparse Days, St Girons, France, Jun 20–22, 2022.

[I125] Seminar, NASK Research Institute, Warsaw, Poland, Jun 24, 2022.

[I126] Invited presentation (with **D. Ma**, K. L. Judd, and D. Orban), International Conference on Continuous Optimization (ICCOPT 2022), Lehigh University, Bethlehem, PA, Jul 25–28, 2022.

[I127] Seminar, Dept of Mathematics, Linköping University, Sweden, Sep 28, 2022.

[I128] Invited presentation (with **D. Ma**, K. L. Judd, and D. Orban), 12th US–Mexico Workshop on Optimization and its Applications, Huatulco, Mexico, Jan 9–13, 2023.

[I129] Invited presentation (with **D. Ma** and D. Orban), ICIAM 2023, Tokyo, Japan, Aug 21–25, 2023.

[I130] Computer Science seminar, National Yang Ming Chiao Tung University (NYCU), Taiwan, Aug 28, 2023.

[I131] Invited presentation, 2023 Hi-Q Development Conference, Shenzhen, China, Sep 1, 2023.

[I132] Computer Science seminar, Macau University of Science and Technology (MUST), Macau, Sep 6, 2023.

[I133] LA/Opt seminar, ICME, Stanford University, Jan 24, 2024.

[I134] Colloquium, Hong Kong Polytechnic University, Feb 29, 2024.

[I135] Invited presentation (with **D. Ma** and D. Orban), INFORMS Optimization Society Conference, Houston, TX, Mar 22–24, 2024.

[I136] Invited presentation (with **D. Ma** and D. Orban), SIAM LA24 Conference on Linear Algebra, Paris, France, May 13–17, 2024.

[I137] Invited presentation (with A. Montoisson and D. Orban), ISMP 2024, Montreal, Canada, Jul 21–26, 2024.

[I138] LA/Opt seminar, ICME, Stanford University, Jan 22, 2025.

[I139] Invited presentation (with A. Montoisson, D. Orban, F. Pacau and S. Shin), SIAM CSE25, Fort Worth, TX, Mar 3–7, 2025.

[I140] Poster presentation (with D. Ma, A. Montoison and D. Orban), Householder Symposium XXII on Numerical Linear Algebra, Cornell University, Ithaca, NY, Jun 9–13, 2025.

[I141] Invited presentation (with A. Montoisson and D. Orban), ILAS 2025, National Sun Yat-sen University (NSYSU), Kaohsiung, Taiwan, Jun 23–27, 2025.

[I142] Invited presentation (with A. Montoisson, D. Orban, F. Pacau and S. Shin), ICCOPT VIII, USC, Los Angeles, CA, July 21–24, 2025.

[I143] Invited presentation, ICNONLA 2025, Harbin, Heilongjiang, China, Aug 4–7, 2025.

Contributed Presentations

[T1] Contributed paper (with **M. P. Friedlander**), SIAM Annual Meeting, San Diego, CA, Jul 9–13, 2001.

[T2] Contributed paper (with J. A. Tomlin), 18th International Symposium on Mathematical Programming, Copenhagen, Denmark, Aug 18–22, 2003.

[T3] Contributed paper (with **H. H. Jin**, M. W. Carter, and Y. Ye), CORS/INFORMS Meeting, Banff, Alberta, Canada, May 16–19, 2004.

[T4] Contributed paper (with **H. H. Jin** and M. W. Carter), INFORMS Annual Meeting, Denver, CO, Oct 24–27, 2004.

[T5] Contributed paper (with **H. H. Jin** and M. W. Carter), SIAM Conference on Optimization, Stockholm, Sweden, May 15–19, 2005.

[T6] Contributed paper (with **H. H. Jin**), INFORMS Annual Meeting, San Francisco, CA, Nov 13–16, 2005.

[T7] Contributed paper (with U. Shanbhag and W. Murray), INFORMS Annual Meeting, San Francisco, CA, Nov 13–16, 2005.

[T8] Contributed paper (with **D. C.-L. Fong**), 11th Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, Apr 4–9, 2010.

[T9] Contributed paper (with **D. C.-L. Fong**), 5th International Conference on High Performance Scientific Computing, Hanoi, Vietnam, Mar 5-9, 2012.

[T10] Poster (with **Y. Sun**, R. M. T. Fleming, and I. Thiele), 2012 MSM Consortium Meeting, NIH Campus, Bethesda, MD, Oct 22–23, 2012.

[T11] Poster (with N. W. Henderson, **D. Ma**, and **Y. Sun**), 2013 MSM Consortium Meeting, NIH Campus, Bethesda, MD, Oct 2–3, 2013.

[T12] Poster (with N. W. Henderson, **D. Ma**, and **Y. Sun**), 2014 MSM Consortium Meeting, NIH Campus, Bethesda, MD, Sep 3–5, 2014.

[T13] Poster (with **D. Ma**, R. M. T. Fleming, and I. Thiele), 2015 MSM Consortium Meeting, NIH Campus, Bethesda, MD, Sep 8–10, 2015.

[T14] Poster (with **D. Ma** and L. Yang), 4th Conference on Constraint-Based Reconstruction and Analysis, Heidelberg, Germany, Sep 16–18, 2015.

[T15] Poster (with R. M. T. Fleming, N. W. Henderson, **S. Kim**, **D. Ma**, I. Thiele, and L. Yang), 2017 MSM Consortium Meeting, NIH Campus, Bethesda, MD, Mar 22–24, 2017.

[T16] Contributed presentation (with **D. Ma** (speaker), T. Zhang, and X. Zhang), IEEM2023 (IEEE International Conference on IEEM), Singapore, Dec 18–21, 2023.