

CURRICULUM VITAE

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Personal

Citizenship: USA and Italy

Education

University of Bologna, Italy, Laurea in Mathematics, 1980.

University of North Carolina at Chapel Hill, M.S. in Mathematics, 1985.

University of North Carolina at Chapel Hill, Ph.D in Mathematics, 1989.

Professional Experience

2008--present Chair, Department of Mathematics, Case Western Reserve University

2001-- present Professor, Department of Mathematics, Case Western Reserve University

1997--2001 Associate Professor, Department of Mathematics, Case Western Reserve University

1996—1997 Associate Professor, Department of Mathematical Sciences, Stevens Institute of Technology

1990—1996 Assistant Professor, Department of Mathematical Sciences, Stevens Institute of Technology

1989--1990 Assistant Professor, Department of Mathematics, University of Southern Colorado

1988—1989 Visiting Assistant Professor, Department of Mathematics, North Carolina State University

Spring 1995: Visiting Scholar, Department of Computer Science, Stanford University

Honors and Awards

Armington Professorship 2011-2013

Theodore M. Focke Fellow 1996-2001

Finnish Distinguished Professorship for 2008-2012 (declined)

Editorial Work

Associate Editor of Frontiers in Neuroenergetics, 2012- present

Associate Editor for Mathematics of Computations, 2008-present

International Advisory Board Inverse Problems, 2008-present

Associate Editor for the SIAM Journal on Matrix Analysis and Applications, 1995-2007

Associate Editor for Electronic Transaction on Numerical Analysis, 1997-2009

Associate Editor for Inverse problems and Imaging, 2006-2009

Conference Organization

1. Advanced Signal Processing Algorithms, Architectures, and Implementations XVI, a conference in the Annual Symposium of the Society of Photo-Optical Engineers, San Diego, CA, August 2007
2. Advanced Signal Processing Algorithms, Architectures, and Implementations XV, a conference in the Annual Symposium of the Society of Photo-Optical Engineers, San Diego, CA, August 2005
3. Applied Inverse Problems: Theoretical and Computational Aspects, Grencester, UK, June 2005
4. Advanced Signal Processing Algorithms, Architectures, and Implementations XII, a conference in the Annual Symposium of the Society of Photo-Optical Engineers, San Diego, CA, August 2003
5. ETNA: Following the flows of Numerical Analysis, Kent, OH, May 29-31, 2003.
6. Applied Inverse Problems 2003: Theoretical and Computational Aspects, Lake Arrowhead, CA, May 2003
7. Fourth SIAM Conference on Linear Algebra in Signals, Systems and Control, Boston, MA, August 2001. Applied Inverse Problems: Theoretical and Computational Aspects, June 2001, Montecatini Terme, Italy
8. Advanced Signal Processing Algorithms, Architectures, and Implementations XI, a conference in the Annual Symposium of the Society of Photo-Optical Engineers, San Diego, CA, August 2001
9. Advanced Signal Processing Algorithms, Architectures, and Implementations X, a conference in the Annual Symposium of the Society of Photo-Optical Engineers, San Diego, CA, August 2000
10. Mathematical Journey through Analysis, Matrix Theory and Scientific Computation, a Conference in Honor of Richard Varga's 70th Birthday, March 1999, Kent State University, Kent, OH
11. ODE to Linear Algebra and Rational Approximation, a Conference in Honor of William B. Gragg's 60th Birthday, November 1996, Naval Postgraduate School, Monterey, CA

Theses Direction

1. Regina Reilly, M.S., 1993: *Gaussian elimination with complete and partial pivoting: a hybrid scheme.*
2. Rachael Hageman, M.S., 2005: *Iterative methods for structured blind deconvolution.*
3. Huaizhi Chen, M.S., 2009: *Estimating stochastic volatility using particle filters.*
4. Bryan Lewis, PhD., 2000: *Krylov subspace methods for signals, systems and control.*

5. Abdallah Shuibi, PhD., 2003: *Numerical methods for large scale ill-posed problems.*
6. Sun-Mi Kim, PhD., 2004: *Orthogonal polynomials, quadrature rules, and linear algebra.*
7. Rachael Hageman, PhD, 2007: *Large scale Bayesian parameter estimation and sensitivity analysis for cardiac metabolism during ischemia.*
8. Amy Kuceyesky, Ph.D., 2009: *Efficient Computational and statistical models of hepatic metabolism.*
9. Rossana Occhipinti, PhD., 2009: *In silico testing of hypotheses for brain energy metabolism with new computational models within a statistical framework.*
10. James Munch, MS, 2011: *Blind image deconvolution with conditionally Gaussian hypermodels.*
11. Sang Du, MS, 2012: *Data mining applications to brain energy metabolism.*
12. Laura Homa, PhD 2013: *Bayesian source separation in magnetoencephalography.*
13. Taina Immonen, PhD 2013: *A modeling approach across scales of ex-vivo HIV-1 competing assays.*
14. Debra McGivney, PhD 2013: *Statistical preconditioning and quantitative imaging from electrical impedance tomography.*

Monograph

D. Calvetti, E. Somersalo: *Introduction to Bayesian Scientific Computing - Ten Lectures on Subjective Computing*, Springer New York, 2007.

Daniela Calvetti and Erkki Somersalo: *Computational Mathematical Modeling. An Integrated Approach through Scales*. SIAM, Philadelphia, 2012.

Book review

Matrix methods in data mining and pattern recognition by Lars Elden, SIAM, 2007 in *Math. Comp.* **78** (2009), 1867-1868.

Refereed journal articles

1. D. Calvetti: A stochastic roundoff error analysis for the fast Fourier transform, *Math. Comp.*, 56 (1991), pp.755-774.
2. D. Calvetti: Roundoff error for floating point representation of real data, *Commun. in Statist. Theory and Methods*, 20 (1991) pp.2687-2696.
3. D. Calvetti: A stochastic roundoff error analysis for the convolution, *Math. Comp.*, 59 (1992) pp.569-582.
4. D. Calvetti, L. Reichel: A Chebyshev-Vandermonde solver, *Linear Algebra Appl.*, 172 (1992), pp.219-229.
5. D. Calvetti, L. Reichel: Fast inversion of Vandermonde-like matrices involving orthogonal polynomials, *BIT*, 33 (1993), pp.473-484.
6. D. Calvetti, G.H. Golub, L. Reichel: Adaptive Chebyshev iterative methods for nonsymmetric linear systems based on modified moments, *Numer. Math.*, 67 (1994), pp.21-40.
7. D. Calvetti, L. Reichel, Sorensen: An implicitly restarted Lanczos algorithm for large symmetric eigenvalue problems, *Electr. Trans. Numer. Anal.*, 2 (1994), pp.1-21.

8. D. Calvetti, L. Reichel: Application of a block modified Chebyshev algorithm to the iterative solution of symmetric linear systems with multiple right hand side vectors, *Numer. Math.*, 68 (1994), pp.3-16.
9. D. Calvetti, E. Gallopoulos, L. Reichel: Incomplete partial fractions for parallel evaluation of matrix rational functions, *J. Comput. Appl. Math.*, 59 (1995), pp.349-380.
10. G.S. Ammar, D. Calvetti, L. Reichel: Continuation methods for the computation of zeros of Szego polynomials, *Linear Algebra Appl.*, 249(1996), pp.125-155.
11. D. Calvetti, L. Reichel: An application of ADI iterative methods to restoration of noisy images, *SIAM J. Matrix Anal. Appl.*, 17 (1996), pp.165-186.
12. D. Calvetti, L. Reichel: A hybrid method for symmetric positive definite linear systems, *Numer. Algo.* 11 (1996), pp.79-98.
13. D. Calvetti, L. Reichel: Adaptive Richardson iteration based on Leja points, *J. Comput. Appl. Math.*, 71 (1996), pp.267-286.
14. D. Calvetti, L. Reichel: An adaptive Richardson iteration method for indefinite linear systems, *Numer. Algo.*, 12(1996), pp.125-149.
15. J. Baglama, D. Calvetti, L. Reichel: Iterative methods for computing a few eigenvalues of a large, symmetric matrix, *BIT*, 36 (1996), pp.400-421.
16. D. Calvetti, L. Reichel, Q. Zhang: Iterative solution methods for ill-posed problems, in *12th Annual Review on Computational and Applied Electromagnetism, ACES*, 1996, pp. 638-644.
17. D. Calvetti, L. Reichel: On the solution of Cauchy linear systems, *Elec. Trans. Numer. Anal.*, (1996), pp.125-136.
18. G.S. Ammar, D. Calvetti, L. Reichel: Continuation methods for the computation of zeros of Szego polynomials, *Linear Algebra Appl.*, 249 (1996), pp.125-155.
19. D. Calvetti, L. Reichel: On the solution of Cauchy systems of equations, *Elec. Trans. Numer. Anal.*, 4 (1996), pp.125-136.
20. D. Calvetti, N. Levenberg, L. Reichel: Iterative methods for $X_j A X B = C$, *J. Comput. Appl. Math.*, 86,(1997), pp.73-101
21. J. Baglama, D. Calvetti, G.H. Golub, L. Reichel: Adaptively preconditioned GMRES algorithms, *SIAM J. Sci. Comput.*, 20 (1999), pp. 243-269.
22. D. Calvetti, L. Reichel: Factorizations of Cauchy matrices, *J. Comput. Appl. Math.*, 86(1997), pp.102-124.
23. D. Calvetti, L. Reichel: A hybrid iterative method for symmetric indefinite linear systems, *J. Comput. Appl. Math.*, 92 (1998), pp. 109-133.
24. D. Calvetti, L. Reichel, Q. Zhang: Iterative solution methods for large linear discrete ill-posed problems, in *Applied and Computational Control, Signals and Systems I*, ed. B.N. Datta, *Applied and Computational Control, Signals and Circuit*, 1 (1999), pp. 313-367.
25. D. Calvetti, L. Reichel, Q. Zhang: Iterative exponential filtering for large discrete ill-posed problems, *Numer. Math.*, 83 (1999), pp. 535-556.
26. J. Baglama, D. Calvetti, L. Reichel: Fast Leja points (with J. Baglama and L. Reichel), *Elect. Trans. Numer. Anal.*, 7 (1998), pp. 126-140.
27. G.S. Ammar, D. Calvetti, L. Reichel: Computation of Gauss-Kronrod quadrature rules with non-positive weights, *Elec. Trans. Numer. Anal.*, 9 (1999), pp. 26-38.
28. D. Calvetti, G.H. Golub, W.B. Gragg, L. Reichel) Computation of Gauss-Kronrod quadrature rules, *Math. Comp.*, 69 (2000), pp. 1035-1052.
29. D. Calvetti, L. Reichel: On an inverse eigenproblem for Jacobi matrices, *Adv. Comput. Math.*, 11 (1999), pp. 11-20.
30. J. Baglama, D. Calvetti, L. Reichel, A. Ruttan: Computation of a few close eigenvalues of a large matrix with application to liquid crystal modeling, *J. Comput. Phys.*, 146 (1998), pp.203-226.
31. D. Calvetti, L. Reichel: A block Lanczos method for large continuation problems, *Numer. Algorithms*, 21 (1999), pp. 109-118.

32. D. Calvetti, G.H. Golub, L. Reichel: A computable error bound for matrix functionals, *J. Comput. Appl. Math.*, 103 (1999), pp. 301-306.
33. D. Calvetti, G.H. Golub, L. Reichel: Estimation of the L-curve via Lanczos bidiagonalization, *BIT*, 39 (1999), pp. 603-619.
34. D. Calvetti, B. Lewis, L. Reichel: On the selection of poles in the single input pole placement problem, *Linear Algebra Appl.*, 302-303 (1999), pp. 331-345.
35. D. Calvetti, L. Reichel, F. Sgallari, G. Spaletta: A regularizing Lanczos iteration method for underdetermined linear systems, *J. Comput. Appl. Math.*, 115 (2000), pp. 101-120.
36. D. Calvetti, S. Morigi, L. Reichel, F. Sgallari: Tikhonov regularization and the L-curve for large, discrete ill-posed problems, *J. Comput. Appl. Math.*, 123 (2000), pp. 423-446.
37. D. Calvetti, L. Reichel: Iterative methods for large continuation problems, *J. Comput. Appl. Math.*, 123 (2000), pp. 217-240.
38. G.S. Ammar, D. Calvetti, W.B. Gragg, L. Reichel: Polynomial zero finders based on Szegő polynomials, *J. Comput. Appl. Math.*, 127 (2001), pp. 1-16.
39. D. Calvetti, S. Morigi, L. Reichel, F. Sgallari: Computable error bounds and estimates for the conjugate gradient method, *Numer. Algorithms*, 25 (2000), pp. 79-88.
40. D. Calvetti, B. Lewis, L. Reichel: GMRES-type methods for inconsistent systems, *Linear Algebra Appl.*, 316 (2000), pp. 157-169.
41. D. Calvetti, S. Morigi, L. Reichel, F. Sgallari: An iterative method with error estimators, *J. Comput. Appl. Math.*, 127 (2001), pp. 93-119.
42. D. Calvetti, S. Morigi, L. Reichel, F. Sgallari: An L-ribbon for large underdetermined linear discrete ill-posed problems, *Numer. Algorithms*, 25 (2000), pp. 89-107.
43. D. Calvetti, S.-M. Kim, L. Reichel: The restarted QR-algorithm for eigenvalue computation of structured matrices, *J. Comput. Appl. Math.*, 149 (2002), pp. 415-422.
44. D. Calvetti, B. Lewis, L. Reichel: On the solution of large Sylvester-observer equations, *Numer. Linear Algebra Appl.*, 8 (2001), pp. 435-451.
45. D. Calvetti, B. Lewis, L. Reichel: On the choice of subspace for iterative methods for linear discrete ill-posed problems, *Int. J. Appl. Math. Comput. Sci.*, 11 (2001), pp. 1069-1092.
46. D. Calvetti, B. Lewis, L. Reichel: GMRES, L-curves and discrete ill-posed problems, *BIT*, 42 (2002), pp. 44-65.
47. D. Calvetti, B. Lewis, L. Reichel: On the regularizing properties of the GMRES method, *Numer. Math.*, 91 (2002), pp. 605-625.
48. D. Calvetti, P.C. Hansen, L. Reichel: L-curve curvature bounds via Lanczos bidiagonalization, *Elec. Trans. Numer. Anal.*, 14 (2002), pp. 20-35.
49. D. Calvetti, L. Reichel: Lanczos-based exponential filtering for discrete ill-posed problems, *Numer. Algorithms*, 29 (2002), pp. 45-65.
50. J. Baglama, D. Calvetti, L. Reichel: IRBL: An implicitly restarted block Lanczos method for large-scale Hermitian eigenproblems, *SIAM J. Sci. Comput.*, 24 (2003), pp. 1650-1677.
51. D. Calvetti, L. Reichel, A. Shuibi: L-curve and curvature bounds for Tikhonov regularization, *Numer. Algorithms*, 35 (2003), pp. 301-314.
52. D. Calvetti, L. Reichel: Pole placement preconditioning, *Linear Algebra Appl.*, 366 (2003), pp. 99-120.
53. D. Calvetti, L. Reichel, A. Shuibi: Enriched Krylov subspace methods for ill-posed problems, *Linear Algebra Appl.*, 362 (2003), pp. 257-273.
54. D. Calvetti, L. Reichel: Tikhonov regularization of large scale problems, *BIT*, 43 (2003), pp. 263-283.
55. D. Calvetti, L. Reichel: On the evaluation of polynomial coefficients, *Numer. Algorithms*, 33 (2003), pp. 153-161.
56. D. Calvetti, L. Reichel: Gauss quadrature applied to trust region computations, *Numer. Algorithms*, 34 (2003), pp. 85-102.

57. J. Baglama, D. Calvetti, L. Reichel: IRBL: An implicitly restarted block Lanczos method for large scale Hermitian eigenproblems, *SIAM J. Sci. Comput.*, 24 (2003), pp. 1650-1677.
58. J. Baglama, D. Calvetti, L. Reichel: Algorithm 827: irbleigs: A MATLAB program for computing a few eigenpairs of a large sparse Hermitian matrix, *ACM Trans. Math. Software*, 29 (2003), pp. 337-348.
59. D. Calvetti, L. Reichel: Symmetric Gauss-Lobatto and modified anti-Gauss rules, *BIT*, 43(2003), pp.541-554.
60. D. Calvetti, L. Reichel: Tikhonov regularization with a solution constraint, *SIAM J. Sci. Comput.*, 26 (2004), pp. 224-239.
61. D. Calvetti, L. Reichel, A. Shuibi: Invertible smoothing preconditioners for linear discrete ill-posed problems, *Appl. Numer. Math.*, 54 (2005), pp. 135-149.
62. C. Ramanathan, P. Jia, R. Ghanem, D. Calvetti, Y. Rudy Noninvasive Electrocardiographic Imaging (ECGI): Application of the Generalized Minimal Residual (GMRes) method, *Ann. Biomed. Eng.*, 3 (2003), pp. 981-994.
63. D. Calvetti, L. Reichel: Gauss quadrature rules applied to trust region computations, *Numer. Algorithms*, 34 (2003), pp. 85-102.
64. Nair, D. Calvetti, D.G. Vince: Regularized Autoregressive Analysis of Intravascular Ultrasound Backscatter: Improvement in Spatial Accuracy of Tissue Maps, *IEEE Trans. Ultrason. Ferroelectr. Freq. Control (A)*, 51 (2004), pp. 420-431.
65. Chvetsov, D. Calvetti, J Sohn and T. Kinsella Regularization of inverse planning for intensity modulated radiotherapy, *J. of Medical Physics*, 32 (2005), pp. 501-514.
66. D. Calvetti, G. Landi, L. Reichel and F. Sgallari: Nonnegativity and iterative methods for ill-posed problems, *Inverse Problems* 20(2004), pp. 1747-1758.
67. D. Calvetti, S.-M. Kim, L. Reichel: Quadrature rules based on the Arnoldi process, *SIAM J. Matrix Anal. Appl.*, 26 (2005), pp. 765-781.
68. D. Calvetti, E. Somersalo: Prior conditioners for linear systems, *Inverse Problems*, 21 (2005), pp. 1397-1418.
69. D. Calvetti, E. Somersalo: Statistical elimination of boundary artifacts, *Inverse Problems*, 21(2005), pp. 1697-1714.
70. D. Calvetti, J. Kaipio, E. Somersalo: Aristotelian prior boundary conditions, *Intl. J. Math. Comp. Sci.*, 1 (2005), pp. 63-81.
71. D. Calvetti, R.K. Dash, E. Somersalo, M.E. Cabrera: Local regularization method applied to estimating oxygen consumption during muscle activities, *Inverse Problems*, 22 (2006), pp.229-244.
72. R. K. Dash, M. E. Cabrera, E. Somersalo, D. Calvetti: An efficient deconvolution algorithm for estimating oxygen consumption during muscle activities, *Comput. Meth. Prog. Biomed.* 85 (2007) pp.247-256.
73. D. Calvetti, E. Somersalo: Statistical large-scale parameter estimation for complex systems with applications to metabolic models, *SIAM J. Multiscale Model Simul.*, 5 (2006), pp.1333- 1366.
74. D. Calvetti, F. Sgallari, E. Somersalo: Statistical image inpainting and bootstrap prior, *Image and Vision Computing*, 24 (2006), pp.782-793.
75. D. Calvetti, R. Hageman, E. Somersalo: Large-scale Bayesian parameter estimation for a three-compartment cardiac model during ischemia, *Inverse Problems*, 22 (2006), pp.1797-1861.
76. D. Calvetti, R. Hageman, R. Occhipinti, E. Somersalo: Dynamic Bayesian sensitivity analysis of a myocardial metabolic model, *Math. Biosci.*, 212 (2008) 1-21.
77. D. Bertaccini, D. Calvetti: Fast simulation of solid tumors thermal ablation treatments with a 3D reaction diffusion model, *J. Comp. Biol. Med.*, 37 (2007) pp.1173-1182.
78. D. Calvetti, E. Somersalo: Microlocal sequential regularization in imaging, *Inverse Problems and Imaging*, 1 (2007), pp.1-11.

79. R. Occhipinti, M. Puchowicz, J. LaManna, E. Somersalo, D. Calvetti: Statistical analysis of metabolic pathways of brain metabolism at steady state, *Ann. Biomed. Eng.*, 6 (2007) pp.886-902.
80. J. Heino, K. Tunyan, D. Calvetti, E. Somersalo: Bayesian flux balance analysis applied to a skeletal muscle metabolic model, *J. Theoret. Biol.*, 248 (2007) pp.91-110.
81. D. Calvetti, J. Heino, E. Somersalo and K. Tunyan: Bayesian stationary state flux balance analysis for a skeletal muscle metabolic model, *Inverse Problems and Imaging*, 1 (2007), pp.247-263.
82. D. Calvetti: Preconditioned iterative methods for ill-conditioned linear systems from a Bayesian inversion perspective, *J. Comput. Appl. Math.*, 198 (2007), pp. 378-395.
83. D. Calvetti, E. Somersalo: Statistical compensation of boundary clutter in image deblurring, *Inverse Problems*, 21 (2005), pp.1697-1714.
84. D. Calvetti, E. Somersalo: Gaussian hypermodels and recover blocky objects, *Inverse Problems*, 23 (2007), pp.733-754.
85. D. Calvetti, A. Kuceyeski, E. Somersalo: Bayesian flux balance analysis for a spatially distributed model of liver metabolism, *Multiscale Model Simul* 1 (2008), pp.407-431.
86. Calvetti D, Hakula H, Pursiainen S and Somersalo E (2009) Conditionally Gaussian hypermodels for cerebral source localization, *SIAM J. Imaging Sci.* 2:879-909.
87. Hiltunen P, Calvetti D and Somersalo E (2008) An adaptive smoothness regularization algorithm for optical tomography. *Optics Express* 16:19957-19977.
88. J. Heino, D. Calvetti and E. Somersalo: *Metabolica: A statistical research tool for analyzing metabolic networks.* *Comput. Meth. Progr. Biomed.* 97 (2009), pp. 151-167.
89. R. Occhipinti, E. Somersalo and D. Calvetti: Interpretation of NMR spectroscopy human brain data with multicompartment computational model of cerebral metabolism, to appear in *Proceedings of the 37th Annual Meeting of The International Society on Oxygen Transport to Tissue (ISOTT'09)*.
90. J. Bardsley, D. Calvetti and E. Somersalo: Hierarchical regularization for edge preserving reconstruction of PET images. *Inverse Problems* 26 (2010), pp.035010-035026.
91. D. Calvetti, H. Hakula, S. Pursiainen and E. Somersalo: Conditionally Gaussian hypermodels for cerebral source localization. *SIAM J. Imaging Sci.* 2 (2009), pp. 879-909.
92. R. Occhipinti, E. Somersalo and D. Calvetti: Astrocytes as the Glucose Shunt for Glutamatergic Neurons at High Activity: An In Silico Study, *J. Neurophysiol* 101 (2009), pp. 2528-2538.
93. R. Occhipinti, E. Somersalo and D. Calvetti: Energetics of inhibition: insights with a computational model of the human GABAergic neuron astrocyte complex. *J. Cereb. Blood Flow Metab.* 30 (2010), pp 1834-1846
94. Calvetti and E. Somersalo: Dynamic activation model for glutamatergic neurovascular unit. *J. Theor. Biol.* 274 (2011) pp12-29.
95. Calvetti D, Wodlinger B, Durand DM and Somersalo E (2011) Hierarchical beamformer and cross-talk reduction in electroneurography. *J. Neural Engineering* 8:056002.
96. Calvetti D, Homa L and Somersalo E (2011) Bayesian mixture models for source separation in MEG. *Inverse Problems* 27:115001.
97. D. Calvetti, D. McGivney and E. Somersalo: Left and right preconditioning for electrical impedance tomography with structural information. *Inverse Problems* 28 (2012) 055015.
98. D. Calvetti and E. Somersalo: Menage a trois: the role of neurotransmitters in the energy metabolism of astrocytes, glutamatergic, and GABAergic neurons. *J. Cerebral blood Flow and Metabolism* 32 (2012):1472–1483. Electronic version: doi: 10.1038/jcbfm.2012.31.
99. T. Immonen, R. Gibson, T. Leitner, M.A. Miller, E.J. Arts, E. Somersalo, D. Calvetti: A hybrid stochastic-deterministic computational model accurately describes spatial dynamics and virus diffusion in HIV-1 competition assay. *J. Theor. Biol.* 312C (2012) pp120–132.

100. E. Somersalo, R. Occhipinti, W.F. Boron and D. Calvetti: A reaction-diffusion model of CO₂ influx into an oocyte. *J. Theor. Biol.* 309 (2012) pp185–203.
101. D. McGivney, D. Calvetti and E. Somersalo: Quantitative imaging with electrical impedance spectroscopy. *Phys. Med. Biol.* 57 (2012) 7289.
102. E. Somersalo, Y. Cheng and D. Calvetti: The metabolism of neurons and astrocytes through mathematical models. *Ann. Biomed. Eng.* 40 (2012) pp. 2328–2344.
103. L. Homa, D. Calvetti, A. Hoover and E. Somersalo: Bayesian preconditioned CGLS for source separation in MEG time series, *SIAM J. Sci. Comput.*, to appear

Book sections:

1. D. Calvetti, G.H. Golub, L. Reichel: Gaussian quadrature applied to adaptive Chebyshev iteration, in *Iterative Methods for Sparse and Structured Problems*, eds. G.H. Golub, A. Greenbaum and M. Luskin, Springer, New York, 1993, pp.31–44.
2. D. Calvetti, L. Reichel, J. Petersen: A parallel implementation of GMRES, in *Numerical Linear Algebra and Scientific Computing*, eds. L. Reichel, A. Ruttan and R.S. Varga, de Gruyter, Berlin, 1993, pp.31–46.
3. D. Calvetti, L. Reichel, Q. Zhang: An adaptive semiiterative method for symmetric semidefinite linear systems, in *Approximation and Computation*, ed. R.V.M. Zahar, Int'l Series of Numer. Math. 115, Birkhäuser, Basel, 1994, pp.77–96.
4. D. Calvetti, L. Reichel: Exponential integration methods for large stiff systems of differential equations, in *Iterative Methods in Scientific Computing IV*, eds. D.R. Kincaid and A.C. Elster, IMACS Series in Computational and Applied Mathematics, vol. 5, IMACS, New Brunswick, 1999, pp. 237–243.
5. D. Calvetti, B. Lewis, L. Reichel: Partial eigenvalue assignment for large control systems, in *Structured Matrices in Operator Theory, Numerical Analysis, Control, Signal and Image Processing*, Contemporary Mathematics, vol. 280, Amer. Math. Soc., Providence, RI, 2001, pp. 241–254.
6. D. Calvetti, L. Reichel, F. Sgallari: A modified companion matrix method based on Newton polynomials, in *Fast Algorithms for Structured Matrices: Theory and Applications*, ed. V. Olshevsky, Contemporary Mathematics, vol. 323, Amer. Math. Soc., Providence, RI, 2003, pp.179–186.
7. Calvetti D and Somersalo E (2010) Subjective knowledge or objective belief? An oblique view to Bayesian computing. In: L. Biegler, G. Biros, O. Ghattas, M. Heinkenschloss, D. Keyes, B. Mallick, Y. Marzouk, L. Tenorio, B. van Bloemen Waanders, K. Willcox (eds) *Large-Scale Inverse Problems and Quantification of Uncertainty*. John Wiley & Sons Ltd, UK, pp 33–70.
8. Calvetti D and Somersalo E (2011) Statistical methods in imaging. In: O. Scherzer (Ed.): *Handbook of Mathematical Methods in Imaging*, Springer Verlag, pp 913–957

Refereed conference proceedings

1. D. Calvetti, E. Gallopoulos, L. Reichel: Accuracy control for parallel evaluation of matrix rational functions, in *Proceedings of the Sixth SIAM Conference on Parallel Processing for Scientific Computing*, eds. R.F. Sincovec, D.E. Keyes, M.R. Leuze, L.R. Petzold and D.A. Reed, SIAM, Philadelphia, 1993, pp.652–655.
2. G.S. Ammar, D. Calvetti, L. Reichel: Computing the poles of autoregressive models from the reflection coefficients, in *Proceedings of the Thirty-First Annual Allerton Conference on*

Communication, Control and Computing, University of Illinois at Urbana-Champaign Press, Urbana-Champaign, 1994, pp.247-254.

3. D. Calvetti, L. Reichel, Q. Zhang: Conjugate gradient algorithms for symmetric inconsistent linear systems, in Proceedings of the Lanczos Centenary Conference, eds. M.T. Chu, R.J. Plemmons, J.D. Brown and D.C. Ellison, SIAM, Philadelphia, 1994, pp.267-272.
4. D. Calvetti, L. Reichel, F. Sgallari and G. Spaletta: An iterative method for image reconstruction from projections, in Proceedings of the Fifth SIAM Conference on Applied Linear Algebra, SIAM, Philadelphia, 1994, pp.92-96.
5. G.S. Ammar, D. Calvetti, L. Reichel: Continuation methods for the computation of zeros of Szego polynomials, in Orthogonal Polynomials on the Unit Circle: Theory and Applications, eds. M. Alfaro, A. Garcia, C. Jagels and F. Marcellan, University Carlos III de Madrid, Madrid, 1994, pp.173-205.
6. D. Calvetti, L. Reichel, Q. Zhang: Iterative solution methods for ill-posed problems, in Advanced Signal Processing Algorithms, ed. F.T. Luk, Proceedings of Society of Photo-Optical Instrumentation Engineers (SPIE), vol. 2563, The International Society for Optical Engineering, Bellingham, WA, 1995, pp.338-347.
7. D. Calvetti, L. Reichel: Numerical aspects of some solution methods for large Sylvester-observer equations, Proceedings of 36th IEEE Conference on Decisions and Control, 1997, pp.4389-4393.
8. D. Calvetti, B. Lewis, L. Reichel: Restoration of images with spatially invariant blur by the GMRES method, in Advanced Algorithms and Architectures for Signal Processing, ed. F.T. Luk, Proceedings of the Society of Photo-Optic Instrumentation Engineers (SPIE), vol. 4116, The International Society for Optical Engineering, Bellingham, WA, 2000, pp. 364{374.
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