Daniela Calvetti

List of Publications by Year
in descending order

155 papers	3,375 citations	172386 29 h-index	189801 50 g-index
157 all docs	157 docs citations	157 times ranked	2365 citing authors

#	Article	IF	Citations
1	Overcomplete representation in a hierarchical Bayesian framework. Inverse Problems and Imaging, 2022, 16, 19.	0.6	3
2	Brain Energy Metabolism. , 2022, , 540-558.		0
3	Modeling Epidemic Spread among a Commuting Population Using Transport Schemes. Mathematics, 2021, 9, 1861.	1.1	2
4	Mining the Mind: Linear Discriminant Analysis of MEG Source Reconstruction Time Series Supports Dynamic Changes in Deep Brain Regions During Meditation Sessions. Brain Topography, 2021, 34, 840-862.	0.8	4
5	Bayesian particle filter algorithm for learning epidemic dynamics. Inverse Problems, 2021, 37, 115008.	1.0	9
6	Sparse reconstructions from few noisy data: analysis of hierarchical Bayesian models with generalized gamma hyperpriors. Inverse Problems, 2020, 36, 025010.	1.0	24
7	Metabolism plays a central role in the cortical spreading depression: Evidence from a mathematical model. Journal of Theoretical Biology, 2020, 486, 110093.	0.8	0
8	Metapopulation Network Models for Understanding, Predicting, and Managing the Coronavirus Disease COVID-19. Frontiers in Physics, 2020, 8, .	1.0	62
9	Computational Model of Electrode-Induced Microenvironmental Effects on pH Measurements Near a Cell Membrane. Multiscale Modeling and Simulation, 2020, 18, 1053-1075.	0.6	4
10	A Bayesian filtering approach to layer stripping for electrical impedance tomography. Inverse Problems, 2020, 36, 055014.	1.0	5
11	Sparsity Promoting Hybrid Solvers for Hierarchical Bayesian Inverse Problems. SIAM Journal of Scientific Computing, 2020, 42, A3761-A3784.	1.3	14
12	Bayesian Mesh Adaptation for Estimating Distributed Parameters. SIAM Journal of Scientific Computing, 2020, 42, A3878-A3906.	1.3	1
13	Brain Activity Mapping from MEG Data via a Hierarchical Bayesian Algorithm with Automatic Depth Weighting. Brain Topography, 2019, 32, 363-393.	0.8	19
14	Brain energetics plays a key role in the coordination of electrophysiology, metabolism and hemodynamics: Evidence from an integrated computational model. Journal of Theoretical Biology, 2019, 478, 26-39.	0.8	5
15	Hierachical Bayesian models and sparsity: â„“ ₂ -magic. Inverse Problems, 2019, 35, 035003.	1.0	27
16	Approximation of continuous EIT data from electrode measurements with Bayesian methods. Inverse Problems, 2019, 35, 045012.	1.0	3
17	Estimating hemodynamic stimulus and blood vessel compliance from cerebral blood flow data. Journal of Theoretical Biology, 2019, 460, 243-261.	0.8	3
18	Brain Energy Metabolism. , 2019, , 1-19.		2

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19	A computational model integrating brain electrophysiology and metabolism highlights the key role of extracellular potassium and oxygen. Journal of Theoretical Biology, 2018, 446, 238-258.	0.8	16
20	Iterative updating of model error for Bayesian inversion. Inverse Problems, 2018, 34, 025008.	1.0	31
21	Inverse problems: From regularization to Bayesian inference. Wiley Interdisciplinary Reviews: Computational Statistics, 2018, 10, e1427.	2.1	68
22	Bayes Meets Krylov: Statistically Inspired Preconditioners for CGLS. SIAM Review, 2018, 60, 429-461.	4.2	21
23	Beyond the Model Limit: Parameter Inference Across Scales. SIAM-ASA Journal on Uncertainty Quantification, 2017, 5, 665-693.	1.1	0
24	Priorconditioned CGLS-Based Quasi-MAP Estimate, Statistical Stopping Rule, and Ranking of Priors. SIAM Journal of Scientific Computing, 2017, 39, S477-S500.	1.3	5
25	Uncertainty quantification in flux balance analysis of spatially lumped and distributed models of neuronâ€"astrocyte metabolism. Journal of Mathematical Biology, 2016, 73, 1823-1849.	0.8	8
26	Computational issues in linear multistep method particle filtering. AIP Conference Proceedings, 2016, , .	0.3	2
27	A hierarchical Krylovâ€"Bayes iterative inverse solver for MEG with physiological preconditioning. Inverse Problems, 2015, 31, 125005.	1.0	32
28	Life sciences through mathematical models. Rendiconti Lincei, 2015, 26, 193-201.	1.0	5
29	A CS decomposition for orthogonal matrices with application to eigenvalue computation. Linear Algebra and Its Applications, 2015, 476, 197-232.	0.4	1
30	A spatially distributed computational model of brain cellular metabolism. Journal of Theoretical Biology, 2015, 376, 48-65.	0.8	22
31	Stochastic modelling of muscle recruitment during activity. Interface Focus, 2015, 5, 20140094.	1.5	47
32	Artificial boundary conditions and domain truncation in electrical impedance tomography. Part I: Theory and preliminary results. Inverse Problems and Imaging, 2015, 9, 749-766.	0.6	13
33	Artificial boundary conditions and domain truncation in electrical impedance tomography. Part II: Stochastic extension of the boundary map. Inverse Problems and Imaging, 2015, 9, 767-789.	0.6	13
34	Statistical Methods in Imaging. , 2015, , 1343-1392.		1
35	Vectorized and parallel particle filter SMC parameter estimation for stiff ODEs. , 2015, , .		1
36	Parameter estimation for stiff deterministic dynamical systems via ensemble Kalman filter. Inverse Problems, 2014, 30, 105008.	1.0	28

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37	Astrocytic tracer dynamics estimated from [1-11C]-acetate PET measurements. Mathematical Medicine and Biology, 2014, 32, dqu021.	0.8	4
38	Inverse problems in the Bayesian framework. Inverse Problems, 2014, 30, 110301.	1.0	16
39	Dynamic updating of numerical model discrepancy using sequential sampling. Inverse Problems, 2014, 30, 114019.	1.0	16
40	Variable order smoothness priors for ill-posed inverse problems. Mathematics of Computation, 2014, 84, 1753-1773.	1.1	3
41	Modeling HIV-1 Dynamics and Fitness in Cell Culture Across Scales. Bulletin of Mathematical Biology, 2014, 76, 486-514.	0.9	4
42	Computational tools for calculating alternative muscle force patterns during motion: A comparison of possible solutions. Journal of Biomechanics, 2013, 46, 2097-2100.	0.9	20
43	Quantitative in silico Analysis of Neurotransmitter Pathways Under Steady State Conditions. Frontiers in Endocrinology, 2013, 4, 137.	1.5	22
44	Bayesian Preconditioned CGLS for Source Separation in MEG Time Series. SIAM Journal of Scientific Computing, 2013, 35, B778-B798.	1.3	5
45	Linear multistep methods, particle filtering and sequential Monte Carlo. Inverse Problems, 2013, 29, 085007.	1.0	22
46	Left and right preconditioning for electrical impedance tomography with structural information. Inverse Problems, 2012, 28, 055015.	1.0	18
47	MÃ©nage Ã Trois: The Role of Neurotransmitters in the Energy Metabolism of Astrocytes, Glutamatergic, and GABAergic Neurons. Journal of Cerebral Blood Flow and Metabolism, 2012, 32, 1472-1483.	2.4	20
48	The Metabolism of Neurons and Astrocytes Through Mathematical Models. Annals of Biomedical Engineering, 2012, 40, 2328-2344.	1.3	16
49	Quantitative imaging with electrical impedance spectroscopy. Physics in Medicine and Biology, 2012, 57, 7289-7302.	1.6	8
50	A reactionâ€“diffusion model of CO2 influx into an oocyte. Journal of Theoretical Biology, 2012, 309, 185-203.	0.8	33
51	A hybrid stochasticâ€“deterministic computational model accurately describes spatial dynamics and virus diffusion in HIV-1 growth competition assay. Journal of Theoretical Biology, 2012, 312, 120-132.	0.8	10
52	Bayesian mixture models for source separation in MEG. Inverse Problems, 2011, 27, 115001.	1.0	4
53	Dynamic activation model for a glutamatergic neurovascular unit. Journal of Theoretical Biology, 2011, 274, 12-29.	0.8	22
54	Hierarchical beamformer and cross-talk reduction in electroneurography. Journal of Neural Engineering, 2011, 8, 056002.	1.8	14

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55	Statistical Methods in Imaging. , 2011, , 913-957.		1
56	Interpretation of NMR Spectroscopy Human Brain Data with a Multi-Compartment Computational Model of Cerebral Metabolism. Advances in Experimental Medicine and Biology, 2011, 701, 249-254.	0.8	4
57	Metabolica: A statistical research tool for analyzing metabolic networks. Computer Methods and Programs in Biomedicine, 2010, 97, 151-167.	2.6	24
58	Energetics of Inhibition: Insights with a Computational Model of the Human GABAergic Neuronâ€"Astrocyte Cellular Complex. Journal of Cerebral Blood Flow and Metabolism, 2010, 30, 1834-1846.	2.4	24
59	Hierarchical regularization for edge-preserving reconstruction of PET images. Inverse Problems, 2010, 26, 035010.	1.0	24
60	Astrocytes as the Glucose Shunt for Glutamatergic Neurons at High Activity: An In Silico Study. Journal of Neurophysiology, 2009, 101, 2528-2538.	0.9	44
61	Conditionally Gaussian Hypermodels for Cerebral Source Localization. SIAM Journal on Imaging Sciences, 2009, 2, 879-909.	1.3	75
62	In silico study of lactate metabolism in brain during visual stimulation. FASEB Journal, 2009, 23, LB113.	0.2	0
63	Dynamic Bayesian sensitivity analysis of a myocardial metabolic model. Mathematical Biosciences, 2008, 212, 1-21.	0.9	6
64	An adaptive smoothness regularization algorithm for optical tomography. Optics Express, 2008, 16, 19957.	1.7	11
65	Sampling-Based Analysis of a Spatially Distributed Model for Liver Metabolism at Steady State. Multiscale Modeling and Simulation, 2008, 7, 407-431.	0.6	12
66	Hypermodels in the Bayesian imaging framework. Inverse Problems, 2008, 24, 034013.	1.0	78
67	Inverse problems and computational cell metabolic models: a statistical approach. Journal of Physics: Conference Series, 2008, 124, 012003.	0.3	1
68	Computational modelling of cellular level metabolism. Journal of Physics: Conference Series, 2008, 124, 012011.	0.3	0
69	The inverse problem of brain energetics: ketone bodies as alternative substrates. Journal of Physics: Conference Series, 2008, 124, 012013.	0.3	1
70	A mathematical model of liver metabolism: from steady state to dynamic. Journal of Physics: Conference Series, 2008, 124, 012012.	0.3	7
71	Recovery of shapes: hypermodels and Bayesian learning. Journal of Physics: Conference Series, 2008, 124, 012014.	0.3	0
72	A unified Bayesian framework for algorithms to recover blocky signals. Proceedings of SPIE, 2007, , .	0.8	0

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73	A Gaussian hypermodel to recover blocky objects. Inverse Problems, 2007, 23, 733-754.	1.0	51
74	Fast simulation of solid tumors thermal ablation treatments with a 3D reaction diffusion model. Computers in Biology and Medicine, 2007, 37, 1173-1182.	3.9	5
75	Preconditioned iterative methods for linear discrete ill-posed problems from a Bayesian inversion perspective. Journal of Computational and Applied Mathematics, 2007, 198, 378-395.	1.1	35
76	Bayesian flux balance analysis applied to a skeletal muscle metabolic model. Journal of Theoretical Biology, 2007, 248, 91-110.	0.8	25
77	Bayesian flux balance analysis applied to a skeletal muscle metabolic model. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1120401-1120402.	0.2	0
78	An efficient deconvolution algorithm for estimating oxygen consumption during muscle activities. Computer Methods and Programs in Biomedicine, 2007, 85, 247-256.	2.6	3
79	Statistical Analysis of Metabolic Pathways of Brain Metabolism at Steady State. Annals of Biomedical Engineering, 2007, 35, 886-902.	1.3	27
80	Microlocal sequential regularization in imaging. Inverse Problems and Imaging, 2007, 1, 1-11.	0.6	10
81	Bayesian stationary state flux balance analysis for a skeletal muscle metabolic model. Inverse Problems and Imaging, 2007, 1, 247-263.	0.6	11
82	Largeâ€Scale Statistical Parameter Estimation in Complex Systems with an Application to Metabolic Models. Multiscale Modeling and Simulation, 2006, 5, 1333-1366.	0.6	25
83	Large-scale Bayesian parameter estimation for a three-compartment cardiac metabolism model during ischemia. Inverse Problems, 2006, 22, 1797-1816.	1.0	10
84	Image inpainting with structural bootstrap priors. Image and Vision Computing, 2006, 24, 782-793.	2.7	21
85	Local regularization method applied to estimating oxygen consumption during muscle activities. Inverse Problems, 2006, 22, 229-243.	1.0	7
86	Bayesian image deblurring and boundary effects. , 2005, , .		3
87	Local regularization and Bayesian hypermodels. , 2005, , .		1
88	Tikhonov regularization of large symmetric problems. Numerical Linear Algebra With Applications, 2005, 12, 127-139.	0.9	2
89	Invertible smoothing preconditioners for linear discrete ill-posed problems. Applied Numerical Mathematics, 2005, 54, 135-149.	1.2	43
90	Quadrature Rules Based on the Arnoldi Process. SIAM Journal on Matrix Analysis and Applications, 2005, 26, 765-781.	0.7	13

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91	Statistical elimination of boundary artefacts in image deblurring. Inverse Problems, 2005, 21, 1697-1714.	1.0	19
92	Regularization of inverse planning for intensity-modulated radiotherapy. Medical Physics, 2005, 32, 501-514.	1.6	11
93	Priorconditioners for linear systems. Inverse Problems, 2005, 21, 1397-1418.	1.0	41
94	Non-negativity and iterative methods for ill-posed problems. Inverse Problems, 2004, 20, 1747-1758.	1.0	47
95	L-Curve and Curvature Bounds for Tikhonov Regularization. Numerical Algorithms, 2004, 35, 301-314.	1.1	50
96	Tikhonov Regularization with a Solution Constraint. SIAM Journal of Scientific Computing, 2004, 26, 224-239.	1.3	34
97	Regularized autoregressive analysis of intravascular ultrasound backscatter: improvement in spatial accuracy of tissue maps. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2004, 51, 420-431.	1.7	49
98	On the Evaluation of Polynomial Coefficients. Numerical Algorithms, 2003, 33, 153-161.	1.1	19
99	Tikhonov Regularization of Large Linear Problems. BIT Numerical Mathematics, 2003, 43, 263-283.	1.0	123
100	Gauss Quadrature Applied to Trust Region Computations. Numerical Algorithms, 2003, 34, 85-102.	1.1	4
101	Symmetric Gaussâ€"Lobatto and Modified Anti-Gauss Rules. BIT Numerical Mathematics, 2003, 43, 541-554.	1.0	19
102	Noninvasive Electrocardiographic Imaging (ECGI): Application of the Generalized Minimal Residual (GMRes) Method. Annals of Biomedical Engineering, 2003, 31, 981-994.	1.3	95
103	Pole placement preconditioning. Linear Algebra and Its Applications, 2003, 366, 99-120.	0.4	3
104	Enriched Krylov subspace methods for ill-posed problems. Linear Algebra and Its Applications, 2003, 362, 257-273.	0.4	14
105	IRBL: An Implicitly Restarted Block-Lanczos Method for Large-Scale Hermitian Eigenproblems. SIAM Journal of Scientific Computing, 2003, 24, 1650-1677.	1.3	52
106	Algorithm 827. ACM Transactions on Mathematical Software, 2003, 29, 337-348.	1.6	25
107	A hybrid GMRES and TV-norm-based method for image restoration. , 2002, , .		0
108	On the regularizing properties of the GMRES method. Numerische Mathematik, 2002, 91, 605-625.	0.9	74

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109	The restarted QR-algorithm for eigenvalue computation of structured matrices. Journal of Computational and Applied Mathematics, 2002, 149, 415-422.	1.1	8
110	Lanczos-Based Exponential Filtering for Discrete Ill-Posed Problems. Numerical Algorithms, 2002, 29, 45-65.	1.1	16
111	GMRES, L-Curves, and Discrete Ill-Posed Problems. BIT Numerical Mathematics, 2002, 42, 44-65.	1.0	55
112	<title>Krylov subspace iterative methods for nonsymmetric discrete ill-posed problems in image restoration</title>. , 2001, , .		2
113	Polynomial zerofinders based on SzegÅ‘ polynomials. Journal of Computational and Applied Mathematics, 2001, 127, 1-16.	1.1	11
114	An iterative method with error estimators. Journal of Computational and Applied Mathematics, 2001, 127, 93-119.	1.1	10
115	On the solution of large Sylvester-observer equations. Numerical Linear Algebra With Applications, 2001, 8, 435-451.	0.9	27
116	<title>Restoration of images with spatially variant blur by the GMRES method</title>. , 2000, 4116, 364.		7
117	<title>L-curve for the MINRES method</title>. , 2000, , .		2
118	GMRES-type methods for inconsistent systems. Linear Algebra and Its Applications, 2000, 316, 157-169.	0.4	60
119	Iterative methods for large continuation problems. Journal of Computational and Applied Mathematics, 2000, 123, 217-240.	1.1	15
120	Tikhonov regularization and the L-curve for large discrete ill-posed problems. Journal of Computational and Applied Mathematics, 2000, 123, 423-446.	1.1	383
121	A regularizing Lanczos iteration method for underdetermined linear systems. Journal of Computational and Applied Mathematics, 2000, 115, 101-120.	1.1	15
122	An L-ribbon for large underdetermined linear discrete ill-posed problems. Numerical Algorithms, 2000, 25, 89-107.	1.1	8
123	Computable error bounds and estimates for the conjugate gradient method. Numerical Algorithms, 2000, 25, 75-88.	1.1	14
124	Iterative Solution Methods for Large Linear Discrete Ill-Posed Problems. , 1999, , 313-367.		16
125	On the selection of poles in the single-input pole placement problem. Linear Algebra and Its Applications, 1999, 302-303, 331-345.	0.4	6
126	A computable error bound for matrix functionals. Journal of Computational and Applied Mathematics, 1999, 103, 301-306.	1.1	6

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127	On an inverse eigenproblem for Jacobi matrices. Advances in Computational Mathematics, 1999, 11, 11-20.	0.8	5
128	A block-Lanczos method for large continuation problems. Numerical Algorithms, 1999, 21, 109-118.	1.1	2
129	Estimation of the L-Curve via Lanczos Bidiagonalization. BIT Numerical Mathematics, 1999, 39, 603-619.	1.0	88
130	Iterative exponential filtering for large discrete ill-posed problems. Numerische Mathematik, 1999, 83, 535-556.	0.9	13
131	Applications of Anti-Gauss Quadrature Rules in Linear Algebra. , 1999, , 41-56.		13
132	Computation of a Few Small Eigenvalues of a Large Matrix with Application to Liquid Crystal Modeling. Journal of Computational Physics, 1998, 146, 203-226.	1.9	17
133	A hybrid iterative method for symmetric indefinite linear systems. Journal of Computational and Applied Mathematics, 1998, 92, 109-133.	1.1	3
134	Adaptively Preconditioned GMRES Algorithms. SIAM Journal of Scientific Computing, 1998, 20, 243-269.	1.3	97
135	Smooth or abrupt: a comparison of regularization methods. , 1998, , .		2
136	Iterative methods for X â^' AXB = C. Journal of Computational and Applied Mathematics, 1997, 86, 73-101.	1.1	23
137	Factorizations of Cauchy matrices. Journal of Computational and Applied Mathematics, 1997, 86, 103-123.	1.1	7
138	Application of ADI Iterative Methods to the Restoration of Noisy Images. SIAM Journal on Matrix Analysis and Applications, 1996, 17, 165-186.	0.7	157
139	Adaptive Richardson iteration based on Leja points. Journal of Computational and Applied Mathematics, 1996, 71, 267-286.	1.1	14
140	Continuation methods for the computation of zeros of SzegÃ¶ polynomials. Linear Algebra and Its Applications, 1996, 249, 125-155.	0.4	13
141	An adaptive Richardson iteration method for indefinite linear systems. Numerical Algorithms, 1996, 12, 125-149.	1.1	14
142	A hybrid iterative method for symmetric positive definite linear systems. Numerical Algorithms, 1996, 11, 79-98.	1.1	5
143	Iterative methods for the computation of a few eigenvalues of a large symmetric matrix. BIT Numerical Mathematics, 1996, 36, 400-421.	1.0	49
144	<title>Iterative solution methods for ill-posed problems</title>. , 1995, 2563, 338.		4

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145	Incomplete partial fractions for parallel evaluation of rational matrix functions. Journal of Computational and Applied Mathematics, 1995, 59, 349-380.	1.1	22
146	Application of a block modified Chebyshev algorithm to the iterative solution of symmetric linear systems with multiple right hand side vectors. Numerische Mathematik, 1994, 68, 3-16.	0.9	6
147	An adaptive Chebyshev iterative methodewline for nonsymmetric linear systems based on modified moments. Numerische Mathematik, 1994, 67, 21-40.	0.9	24
148	Fast inversion of vandermonde-like matrices involving orthogonal polynomials. BIT Numerical Mathematics, 1993, 33, 473-484.	1.0	38
149	A stochastic roundoff error analysis for the convolution. Mathematics of Computation, 1992, 59, 569-569.	1.1	2
150	A Chebychev-Vandermonde solver. Linear Algebra and Its Applications, 1992, 172, 219-229.	0.4	8
151	Roundoff error for floating point representation of real data. Communications in Statistics - Theory and Methods, 1991, 20, 2687-2695.	0.6	6
152	A stochastic roundoff error analysis for the fast Fourier transform. Mathematics of Computation, 1991, 56, 755-774.	1.1	22
153	Numerical aspects of some solution methods for large Sylvester-observer equations. , 0, , .		2
154	'blind' data calibration of intravascular ultrasound data for automated tissue characterization. , 0, , .		4
155	Modeling surface pH measurements of oocytes. Biomedical Physics and Engineering Express, 0, , .	0.6	1