

# Jari A Toivanen

## List of Publications by Year in descending order

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74  
papers

2,053  
citations

236925

25  
h-index

243625

44  
g-index

79  
all docs

79  
docs citations

79  
times ranked

1080  
citing authors

#	ARTICLE	IF	CITATIONS
1	A fast Fourier transform based direct solver for the Helmholtz problem. Numerical Linear Algebra With Applications, 2020, 27, e2283.	1.6	0
2	A Parallel Domain Decomposition Method for the Helmholtz Equation in Layered Media. SIAM Journal of Scientific Computing, 2019, 41, C505-C521.	2.8	3
3	On solving separable block tridiagonal linear systems using a GPU implementation of radix-4 PSCR method. Journal of Parallel and Distributed Computing, 2018, 115, 56-66.	4.1	4
4	ADI schemes for valuing European options under the Bates model. Applied Numerical Mathematics, 2018, 130, 143-156.	2.1	18
5	A multilevel FETI-EP method and its performance for problems with billions of degrees of freedom. International Journal for Numerical Methods in Engineering, 2018, 116, 661-682.	2.8	26
6	Reduced order models for pricing European and American options under stochastic volatility and jump-diffusion models. Journal of Computational Science, 2017, 20, 198-204.	2.9	15
7	Reduced Order Models for Pricing American Options under Stochastic Volatility and Jump-diffusion Models. Procedia Computer Science, 2016, 80, 734-743.	2.0	5
8	Application of Operator Splitting Methods in Finance. Scientific Computation, 2016, , 541-575.	0.2	5
9	Adaptive finite differences and IMEX time-stepping to price options under Bates model. International Journal of Computer Mathematics, 2015, 92, 2515-2529.	1.8	21
10	BENCHOP – The BENCHmarking project in option pricing. International Journal of Computer Mathematics, 2015, 92, 2361-2379.	1.8	51
11	An IMEX-Scheme for Pricing Options under Stochastic Volatility Models with Jumps. SIAM Journal of Scientific Computing, 2014, 36, B817-B834.	2.8	56
12	IMEX schemes for pricing options under jump-diffusion models. Applied Numerical Mathematics, 2014, 84, 33-45.	2.1	48
13	An optimal local active noise control method based on stochastic finite element models. Journal of Sound and Vibration, 2013, 332, 6924-6933.	3.9	3
14	Iterative Methods for Pricing American Options under the Bates Model. Procedia Computer Science, 2013, 18, 1136-1144.	2.0	15
15	Fast Poisson Solvers for Graphics Processing Units. Lecture Notes in Computer Science, 2013, , 265-279.	1.3	3
16	A Domain Decomposition Solver for the Discontinuous Enrichment Method for the Helmholtz Equation. Lecture Notes in Computational Science and Engineering, 2013, , 207-214.	0.3	0
17	Computational methods for PDEs in finance. International Journal of Computer Mathematics, 2012, 89, 1093-1093.	1.8	0
18	Comparison and survey of finite difference methods for pricing American options under finite activity jump-diffusion models. International Journal of Computer Mathematics, 2012, 89, 1112-1134.	1.8	21

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19	A hybrid discontinuous Galerkin method for computing the ground state solution of Bose-Einstein condensates. <i>Journal of Computational Physics</i> , 2012, 231, 4709-4722.	3.8	3
20	Overview of the discontinuous enrichment method, the ultra-weak variational formulation, and the partition of unity method for acoustic scattering in the medium frequency regime and performance comparisons. <i>International Journal for Numerical Methods in Engineering</i> , 2012, 89, 403-417.	2.8	33
21	A Projected Algebraic Multigrid Method for Linear Complementarity Problems. <i>Numerical Mathematics</i> , 2012, 5, 85-98.	1.3	9
22	An Iterative Method for Pricing American Options Under Jump-Diffusion Models. <i>SSRN Electronic Journal</i> , 2011, , .	0.4	2
23	An iterative method for pricing American options under jump-diffusion models. <i>Applied Numerical Mathematics</i> , 2011, 61, 821-831.	2.1	63
24	LOCAL CONTROL OF SOUND IN STOCHASTIC DOMAINS BASED ON FINITE ELEMENT MODELS. <i>Journal of Computational Acoustics</i> , 2011, 19, 205-219.	1.0	4
25	A Componentwise Splitting Method for Pricing American Options Under the Bates Model. <i>Computational Methods in Applied Sciences (Springer)</i> , 2010, , 213-227.	0.3	16
26	A high-order front-tracking finite difference method for pricing American options under jump-diffusion models. <i>Journal of Computational Finance</i> , 2010, 13, 61-79.	0.3	22
27	A domain decomposition method for discontinuous Galerkin discretizations of Helmholtz problems with plane waves and Lagrange multipliers. <i>International Journal for Numerical Methods in Engineering</i> , 2009, 78, 1513-1531.	2.8	36
28	A damping preconditioner for time-harmonic wave equations in fluid and elastic material. <i>Journal of Computational Physics</i> , 2009, 228, 1466-1479.	3.8	18
29	Operator splitting methods for pricing American options under stochastic volatility. <i>Numerische Mathematik</i> , 2009, 113, 299-324.	1.9	103
30	Lagrange Multiplier Approach with Optimized Finite Difference Stencils for Pricing American Options under Stochastic Volatility. <i>SIAM Journal of Scientific Computing</i> , 2009, 31, 2646-2664.	2.8	32
31	Efficient numerical methods for pricing American options under stochastic volatility. <i>Numerical Methods for Partial Differential Equations</i> , 2008, 24, 104-126.	3.6	126
32	A domain decomposition solver for acoustic scattering by elastic objects in layered media. <i>Journal of Computational Physics</i> , 2008, 227, 8685-8698.	3.8	21
33	Numerical Valuation of European and American Options under Kou's Jump-Diffusion Model. <i>SIAM Journal of Scientific Computing</i> , 2008, 30, 1949-1970.	2.8	70
34	An Operator Splitting Method for Pricing American Options. <i>Computational Methods in Applied Sciences (Springer)</i> , 2008, , 279-292.	0.3	1
35	An Adaptive Multimeme Algorithm for Designing HIV Multidrug Therapies. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 2007, 4, 264-278.	3.0	95
36	COMPONENTWISE SPLITTING METHODS FOR PRICING AMERICAN OPTIONS UNDER STOCHASTIC VOLATILITY. <i>International Journal of Theoretical and Applied Finance</i> , 2007, 10, 331-361.	0.5	58

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37	A fast iterative solver for scattering by elastic objects in layered media. Applied Numerical Mathematics, 2007, 57, 811-820.	2.1	10
38	Solution of time-independent Schrödinger equation by the imaginary time propagation method. Journal of Computational Physics, 2007, 221, 148-157.	3.8	131
39	An algebraic multigrid based shifted-Laplacian preconditioner for the Helmholtz equation. Journal of Computational Physics, 2007, 226, 1196-1210.	3.8	36
40	An adaptive evolutionary algorithm with intelligent mutation local searchers for designing multidrug therapies for HIV. Applied Intelligence, 2007, 27, 219-235.	5.3	50
41	A Fast Helmholtz Solver for Scattering by a Sound-soft Target in Sediment. Lecture Notes in Computational Science and Engineering, 2007, , 595-602.	0.3	3
42	Material Surface Design to Counter Electromagnetic Interrogation of Targets. SIAM Journal on Applied Mathematics, 2006, 66, 1027-1049.	1.8	8
43	Preconditioned iterative methods on sparse subspaces. Applied Mathematics Letters, 2006, 19, 1191-1197.	2.7	16
44	A state-dependent Riccati equation-based estimator approach for HIV feedback control. Optimal Control Applications and Methods, 2006, 27, 93-121.	2.1	49
45	A multigrid preconditioner and automatic differentiation for non-equilibrium radiation diffusion problems. Journal of Computational Physics, 2005, 207, 354-374.	3.8	4
46	Operator splitting methods for American option pricing. Applied Mathematics Letters, 2004, 17, 809-814.	2.7	157
47	Numerical Comparison of Some Penalty-Based Constraint Handling Techniques in Genetic Algorithms. Journal of Global Optimization, 2003, 27, 427-446.	1.8	94
48	Interactive Solution Approach to a Multiobjective Optimization Problem in a Paper Machine Headbox Design. Journal of Optimization Theory and Applications, 2003, 116, 265-281.	1.5	28
49	Fast direct solution of the Helmholtz equation with a perfectly matched layer or an absorbing boundary condition. International Journal for Numerical Methods in Engineering, 2003, 57, 2007-2025.	2.8	27
50	Efficient metacomputing of elliptic linear and non-linear problems. Journal of Parallel and Distributed Computing, 2003, 63, 564-577.	4.1	36
51	A Parallel Fictitious Domain Method for the Three-Dimensional Helmholtz Equation. SIAM Journal of Scientific Computing, 2003, 24, 1567-1588.	2.8	31
52	Designing Paper Machine Headbox Using GA. Materials and Manufacturing Processes, 2003, 18, 533-541.	4.7	10
53	A Domain Embedding Method for Scattering Problems with an Absorbing Boundary or a Perfectly Matched Layer. Journal of Computational Acoustics, 2003, 11, 159-174.	1.0	5
54	Fast Direct Solver for a Time-harmonic Electromagnetic Problem with an Application. , 2003, , 675-680.		1

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55	Time-Periodic Solutions of Wave Equation via Controllability and Fictitious Domain Methods. , 2003, , 805-810.		2
56	A Domain Imbedding Method with Distributed Lagrange Multipliers for Acoustic Scattering Problems. , 2003, , 252-256.		0
57	A fast direct solver for elliptic problems with a divergence constraint. Numerical Linear Algebra With Applications, 2002, 9, 629-652.	1.6	8
58	Building blocks for odd-even multigrid with applications to reduced systems. Journal of Computational and Applied Mathematics, 2001, 131, 15-33.	2.0	8
59	Computation of a few smallest eigenvalues of elliptic operators using fast elliptic solvers. Communications in Numerical Methods in Engineering, 2001, 17, 521-527.	1.3	3
60	A fictitious domain method for linear elasticity problems. , 2001, , 346-350.		0
61	A finite element method for virtual reality data. Comptes Rendus Mathematique, 2000, 330, 1107-1111.	0.5	2
62	A moving mesh fictitious domain approach for shape optimization problems. ESAIM: Mathematical Modelling and Numerical Analysis, 2000, 34, 31-45.	1.9	11
63	Multidisciplinary shape optimization in aerodynamics and electromagnetics using genetic algorithms. International Journal for Numerical Methods in Fluids, 1999, 30, 149-159.	1.6	105
64	Parallel fictitious domain method for a non-linear elliptic neumann boundary value problem. Numerical Linear Algebra With Applications, 1999, 6, 51-60.	1.6	8
65	A Parallel Fast Direct Solver for Block Tridiagonal Systems with Separable Matrices of Arbitrary Dimension. SIAM Journal of Scientific Computing, 1999, 20, 1778-1793.	2.8	113
66	A Nonstandard Cyclic Reduction Method, Its Variants and Stability. SIAM Journal on Matrix Analysis and Applications, 1999, 20, 628-645.	1.4	23
67	Multidisciplinary shape optimization in aerodynamics and electromagnetics using genetic algorithms. International Journal for Numerical Methods in Fluids, 1999, 30, 149-159.	1.6	15
68	Fictitious Domain Methods for the Numerical Solution of Two-Dimensional Scattering Problems. Journal of Computational Physics, 1998, 145, 89-109.	3.8	33
69	A parallel fast direct solver with applications. Lecture Notes in Computer Science, 1998, , 910-912.	1.3	0
70	Numerical experiments with a parallel fast direct elliptic solver on Cray T3E. Lecture Notes in Computer Science, 1997, , 722-725.	1.3	0
71	Shape design optimization in 2D aerodynamics using Genetic Algorithms on parallel computers. , 1996, , 395-402.		3
72	A Comparison and Survey of Finite Difference Methods for Pricing American Options Under Finite Activity Jump-Diffusion Models. SSRN Electronic Journal, 0, , .	0.4	1

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73	A Projected Algebraic Multigrid Method for Linear Complementarity Problems. SSRN Electronic Journal, 0, , .	0.4	1
74	Robust and Efficient IMEX Schemes for Option Pricing under Jump-Diffusion Models. SSRN Electronic Journal, 0, , .	0.4	0