Heinz Bauschke

List of Publications by Year in Descending Order

132 papers	6,571 citations	33 h-index	79 g-index
142 ext. papers	7,493 ext. citations	1.5 avg, IF	6.41 L-index

#	Paper	IF	Citations
132	Edelstein's Astonishing Affine Isometry. *American Mathematical Monthly*, **2021**, 128, 796-809	0.3	
131	Resolvents and Yosida Approximations of Displacement Mappings of Isometries. *Set-Valued and Variational Analysis*, **2021**, 29, 721	1	1
130	On the linear convergence of circumcentered isometry methods. *Numerical Algorithms*, **2021**, 87, 263-297	2.1	8
129	Multi-marginal maximal monotonicity and convex analysis. *Mathematical Programming*, **2021**, 185, 385-408	2.1	
128	Attouch--Théra Duality, Generalized Cycles, and Gap Vectors. *SIAM Journal on Optimization*, **2021**, 31, 1926-1946	2	0
127	On angles between convex sets in Hilbert spaces. *Journal of Mathematical Analysis and Applications*, **2021**, 502, 125239	1.1	
126	Maximally monotone operators with ranges whose closures are not convex and an answer to a recent question by Stephen Simons. *Proceedings of the American Mathematical Society*, **2020**, 148, 2035-2044	0.8	
125	On the Minimal Displacement Vector of Compositions and Convex Combinations of Nonexpansive Mappings. *Foundations of Computational Mathematics*, **2020**, 20, 1653-1666	2.7	3
124	Generalized monotone operators and their averaged resolvents. *Mathematical Programming*, **2020**, 189, 55	2.1	6
123	On Dykstra's algorithm: finite convergence, stalling, and the method of alternating projections. *Optimization Letters*, **2020**, 14, 1975-1987	1.1	1
122	On the Behavior of the Douglas--Rachford Algorithm for Minimizing a Convex Function Subject to a Linear Constraint. *SIAM Journal on Optimization*, **2020**, 30, 2559-2576	2	3
121	Circumcentered Methods Induced by Isometries. *Vietnam Journal of Mathematics*, **2020**, 48, 471-508	0.5	6
120	Applying FISTA to optimization problems (with or) without minimizers. *Mathematical Programming*, **2020**, 184, 349-381	2.1	2
119	On sums and convex combinations of projectors onto convex sets. *Journal of Approximation Theory*, **2019**, 242, 31-57	0.9	2
118	On Linear Convergence of Non-Euclidean Gradient Methods without Strong Convexity and Lipschitz Gradient Continuity. *Journal of Optimization Theory and Applications*, **2019**, 182, 1068-1087	1.6	9
117	Numerical Explorations of Feasibility Algorithms for Finding Points in the Intersection of Finite Sets **2019**, 69-90		
116	Constraint Splitting and Projection Methods for Optimal Control of Double Integrator **2019**, 45-68		3

115	The Douglas–Rachford algorithm for a hyperplane and a doubleton. *Journal of Global Optimization*, **2019**, 74, 79-93	1.5	8
114	A class of multi-marginal c-cyclically monotone sets with explicit c-splitting potentials. *Journal of Mathematical Analysis and Applications*, **2018**, 461, 333-348	1.1	3
113	On Douglas–Rachford operators that fail to be proximal mappings. *Mathematical Programming*, **2018**, 168, 55-61	2.1	3
112	Subgradient Projectors: Extensions, Theory, and Characterizations. *Set-Valued and Variational Analysis*, **2018**, 26, 1009-1078	1	2
111	Projecting onto the Intersection of a Cone and a Sphere. *SIAM Journal on Optimization*, **2018**, 28, 2158-2188	2	16
110	The magnitude of the minimal displacement vector for compositions and convex combinations of firmly nonexpansive mappings. *Optimization Letters*, **2018**, 12, 1465-1474	1.1	4
109	Regularizing with Bregman--Moreau Envelopes. *SIAM Journal on Optimization*, **2018**, 28, 3208-3228	2	11
108	On the asymptotic behaviour of the Aragón Artacho–Campoy algorithm. *Operations Research Letters*, **2018**, 46, 585-587	1	6
107	Affine Nonexpansive Operators, Attouch–Théra Duality and the Douglas–Rachford Algorithm. *Set-Valued and Variational Analysis*, **2017**, 25, 481-505	1	4
106	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. *CMS Books in Mathematics*, **2017** ,	1	319
105	On the Finite Convergence of the Douglas--Rachford Algorithm for Solving (Not Necessarily Convex) Feasibility Problems in Euclidean Spaces. *SIAM Journal on Optimization*, **2017**, 27, 507-537	2	16
104	The Resolvent Order: A Unification of the Orders by Zarantonello, by Loewner, and by Moreau. *SIAM Journal on Optimization*, **2017**, 27, 466-477	2	2
103	On the Douglas–Rachford algorithm. *Mathematical Programming*, **2017**, 164, 263-284	2.1	33
102	A Descent Lemma Beyond Lipschitz Gradient Continuity: First-Order Methods Revisited and Applications. *Mathematics of Operations Research*, **2017**, 42, 330-348	1.5	94
101	Stronger Notions of Monotonicity. *CMS Books in Mathematics*, **2017**, 383-392	1	
100	On Slater's condition and finite convergence of the Douglas–Rachford algorithm for solving convex feasibility problems in Euclidean spaces. *Journal of Global Optimization*, **2016**, 65, 329-349	1.5	15
99	On the convexity of piecewise-defined functions. *ESAIM - Control, Optimisation and Calculus of Variations*, **2016**, 22, 728-742	1	3
98	The Douglas–Rachford algorithm in the affine-convex case. *Operations Research Letters*, **2016**, 44, 379-382	1	13

97	On the order of the operators in the Douglas–Rachford algorithm. *Optimization Letters*, **2016**, 10, 447-455	1.1	8
96	On a result of Pazy concerning the asymptotic behaviour of nonexpansive mappings. *Journal of Fixed Point Theory and Applications*, **2016**, 18, 297-307	1.4	3
95	The Resolvent Average of Monotone Operators: Dominant and Recessive Properties. *SIAM Journal on Optimization*, **2016**, 26, 602-634	2	6
94	Optimal Rates of Linear Convergence of Relaxed Alternating Projections and Generalized Douglas-Rachford Methods for Two Subspaces. *Numerical Algorithms*, **2016**, 73, 33-76	2.1	22
93	Stadium Norm and Douglas-Rachford Splitting: A New Approach to Road Design Optimization. *Operations Research*, **2016**, 64, 201-218	2.3	7
92	On the Range of the Douglas–Rachford Operator. *Mathematics of Operations Research*, **2016**, 41, 884-897	1.5	10
91	The Douglas--Rachford Algorithm for Two (Not Necessarily Intersecting) Affine Subspaces. *SIAM Journal on Optimization*, **2016**, 26, 968-985	2	21
90	A Bregman projection method for approximating fixed points of quasi-Bregman nonexpansive mappings. *Applicable Analysis*, **2015**, 94, 75-84	0.8	5
89	A derivative-free comirror algorithm for convex optimization. *Optimization Methods and Software*, **2015**, 30, 706-726	1.3	6
88	Linear and strong convergence of algorithms involving averaged nonexpansive operators. *Journal of Mathematical Analysis and Applications*, **2015**, 421, 1-20	1.1	54
87	On Subgradient Projectors. *SIAM Journal on Optimization*, **2015**, 25, 1064-1082	2	9
86	On the Finite Convergence of a Projected Cutter Method. *Journal of Optimization Theory and Applications*, **2015**, 165, 901-916	1.6	5
85	Projection Methods: Swiss Army Knives for Solving Feasibility and Best Approximation Problems with Halfspaces. *Contemporary Mathematics*, **2015**, 1-40	1.6	31
84	Restricted Normal Cones and Sparsity Optimization with Affine Constraints. *Foundations of Computational Mathematics*, **2014**, 14, 63-83	2.7	27
83	Generalized Solutions for the Sum of Two Maximally Monotone Operators. *SIAM Journal on Control and Optimization*, **2014**, 52, 1034-1047	1.9	13
82	The rate of linear convergence of the Douglas–Rachford algorithm for subspaces is the cosine of the Friedrichs angle. *Journal of Approximation Theory*, **2014**, 185, 63-79	0.9	53
81	On the local convergence of the Douglas–Rachford algorithm. *Archiv Der Mathematik*, **2014**, 102, 589-600	0.4	25
80	The Method of Alternating Relaxed Projections for Two Nonconvex Sets. *Vietnam Journal of Mathematics*, **2014**, 42, 421-450	0.5	8

79	Rectangularity and paramonotonicity of maximally monotone operators. *Optimization*, **2014**, 63, 487-504	1.2	12
78	Restricted Normal Cones and the Method of Alternating Projections: Theory. *Set-Valued and Variational Analysis*, **2013**, 21, 431-473	1	34
77	Restricted Normal Cones and the Method of Alternating Projections: Applications. *Set-Valued and Variational Analysis*, **2013**, 21, 475-501	1	24
76	Near equality, near convexity, sums of maximally monotone operators, and averages of firmly nonexpansive mappings. *Mathematical Programming*, **2013**, 139, 55-70	2.1	15
75	New Demiclosedness Principles for (Firmly) Nonexpansive Operators. *Springer Proceedings in Mathematics and Statistics*, **2013**, 19-28	0.2	5
74	The Brezis-Browder Theorem in a general Banach space. *Journal of Functional Analysis*, **2012**, 262, 4948-4971	1.4	7
73	Firmly Nonexpansive Mappings and Maximally Monotone Operators: Correspondence and Duality. *Set-Valued and Variational Analysis*, **2012**, 20, 131-153	1	26
72	Construction of Pathological Maximally Monotone Operators on Non-reflexive Banach Spaces. *Set-Valued and Variational Analysis*, **2012**, 20, 387-415	1	2
71	Attouch-Théra duality revisited: Paramonotonicity and operator splitting. *Journal of Approximation Theory*, **2012**, 164, 1065-1084	0.9	25
70	Compositions and convex combinations of asymptotically regular firmly nonexpansive mappings are also asymptotically regular. *Fixed Point Theory and Applications*, **2012**, 2012,	1.4	12
69	Every maximally monotone operator of Fitzpatrick-Phelps type is actually of dense type. *Optimization Letters*, **2012**, 6, 1875-1881	1.1	5
68	Fixed Points of Averages of Resolvents: Geometry and Algorithms. *SIAM Journal on Optimization*, **2012**, 22, 24-40	2	3
67	On the Maximal Monotonicity of the Sum of a Maximal Monotone Linear Relation and the Subdifferential Operator of a Sublinear Function. *Contemporary Mathematics*, **2012**, 19-26	1.6	2
66	Compositions and averages of two resolvents: Relative geometry of fixed points sets and a partial answer to a question by C. Byrne. *Nonlinear Analysis: Theory, Methods & Applications*, **2011**, 74, 4550-4572	1.3	7
65	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. *CMS Books in Mathematics*, **2011**,	1	1322
64	Chebyshev Sets, Klee Sets, and Chebyshev Centers with Respect to Bregman Distances: Recent Results and Open Problems. *Springer Optimization and Its Applications*, **2011**, 1-21	0.4	3
63	Self-Dual Smooth Approximations of Convex Functions via the Proximal Average. *Springer Optimization and Its Applications*, **2011**, 23-32	0.4	4
62	On Borwein-Wiersma Decompositions of Monotone Linear Relations. *SIAM Journal on Optimization*, **2010**, 20, 2636-2652	2	11

61	Klee sets and Chebyshev centers for the right Bregman distance. *Journal of Approximation Theory*, **2010**, 162, 1225-1244	0.9	2
60	Autoconjugate representers for linear monotone operators. *Mathematical Programming*, **2010**, 123, 5-24	2.1	12
59	Examples of discontinuous maximal monotone linear operators and the solution to a recent problem posed by B.F. Svaiter. *Journal of Mathematical Analysis and Applications*, **2010**, 370, 224-241	1.1	10
58	The resolvent average for positive semidefinite matrices. *Linear Algebra and Its Applications*, **2010**, 432, 1757-1771	0.9	20
57	Firmly nonexpansive and Kirszbraun-Valentine extensions: a constructive approach via monotone operator theory. *Contemporary Mathematics*, **2010**, 55-64	1.6	7
56	The kernel average for two convex functions and its application to the extension and representation of monotone operators. *Transactions of the American Mathematical Society*, **2009**, 361, 5947-5965	1	29
55	Bregman distances and Klee sets. *Journal of Approximation Theory*, **2009**, 158, 170-183	0.9	7
54	The piecewise linear-quadratic model for computational convex analysis. *Computational Optimization and Applications*, **2009**, 43, 95-118	1.4	20
53	An Answer to S. Simons Question on the Maximal Monotonicity of the Sum of a Maximal Monotone Linear Operator and a Normal Cone Operator. *Set-Valued and Variational Analysis*, **2009**, 17, 195-201	1	6
52	Characterizing arbitrarily slow convergence in the method of alternating projections. *International Transactions in Operational Research*, **2009**, 16, 413-425	2.9	22
51	Bregman distances and Chebyshev sets. *Journal of Approximation Theory*, **2009**, 159, 3-25	0.9	22
50	A Note on the Paper by Eckstein and Svaiter on General Projective Splitting Methods for Sums of Maximal Monotone Operators *SIAM Journal on Control and Optimization*, **2009**, 48, 2513-2515	1.9	19
49	How to Transform One Convex Function Continuously into Another. *SIAM Review*, **2008**, 50, 115-132	7.4	27
48	The Proximal Average: Basic Theory. *SIAM Journal on Optimization*, **2008**, 19, 766-785	2	55
47	An explicit example of a maximal 3-cyclically monotone operator with bizarre properties. *Nonlinear Analysis: Theory, Methods & Applications*, **2008**, 69, 2875-2891	1.3	4
46	Fitzpatrick functions, cyclic monotonicity and Rockafellar's antiderivative. *Nonlinear Analysis: Theory, Methods & Applications*, **2007**, 66, 1198-1223	1.3	43
45	A Convex-Analytical Approach to Extension Results for n-Cyclically Monotone Operators. *Set-Valued and Variational Analysis*, **2007**, 15, 297-306		6
44	Fitzpatrick Functions and Continuous Linear Monotone Operators. *SIAM Journal on Optimization*, **2007**, 18, 789-809	2	35

43	Primal-Dual Symmetric Intrinsic Methods for Finding Antiderivatives of Cyclically Monotone Operators. *SIAM Journal on Control and Optimization*, **2007**, 46, 2031-2051	1.9	23
42	Symbolic computation of Fenchel conjugates. *ACM Communications in Computer Algebra*, **2006**, 40, 18-28	0.2	11
41	Fenchel duality, Fitzpatrick functions and the extension of firmly nonexpansive mappings. *Proceedings of the American Mathematical Society*, **2006**, 135, 135-139	0.8	15
40	A strongly convergent reflection method for finding the projection onto the intersection of two closed convex sets in a Hilbert space. *Journal of Approximation Theory*, **2006**, 141, 63-69	0.9	25
39	Extrapolation algorithm for affine-convex feasibility problems. *Numerical Algorithms*, **2006**, 41, 239-274	2.1	57
38	The asymptotic behavior of the composition of two resolvents. *Nonlinear Analysis: Theory, Methods & Applications*, **2005**, 60, 283-301	1.3	24
37	A new proximal point iteration that converges weakly but not in norm. *Proceedings of the American Mathematical Society*, **2005**, 133, 1829-1835	0.8	28
36	The asymptotic behavior of the composition of two resolvents. *Nonlinear Analysis: Theory, Methods & Applications*, **2005**, 60, 283-301	1.3	57
35	Working memory impairment in a transgenic amyloid precursor protein TgCRND8 mouse model of Alzheimer's disease. *Genes, Brain and Behavior*, **2005**, 4, 197-208	3.6	40
34	Reflection-Projection Method for Convex Feasibility Problems with an Obtuse Cone. *Journal of Optimization Theory and Applications*, **2004**, 120, 503-531	1.6	28
33	Projection and proximal point methods: convergence results and counterexamples. *Nonlinear Analysis: Theory, Methods & Applications*, **2004**, 56, 715-738	1.3	160
32	Finding best approximation pairs relative to two closed convex sets in Hilbert spaces. *Journal of Approximation Theory*, **2004**, 127, 178-192	0.9	110
31	Construction of best Bregman approximations in reflexive Banach spaces. *Proceedings of the American Mathematical Society*, **2003**, 131, 3757-3766	0.8	44
30	Accelerating the convergence of the method of alternating projections. *Transactions of the American Mathematical Society*, **2003**, 355, 3433-3461	1	46
29	Duality for Bregman projections onto translated cones and affine subspaces. *Journal of Approximation Theory*, **2003**, 121, 1-12	0.9	6
28	Hybrid projection-reflection method for phase retrieval. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2003**, 20, 1025-34	1.8	142
27	Iterating Bregman Retractions. *SIAM Journal on Optimization*, **2003**, 13, 1159-1173	2	17
26	Bregman Monotone Optimization Algorithms. *SIAM Journal on Control and Optimization*, **2003**, 42, 596-636	1.9	141

25	Recompression of JPEG images by requantization. *IEEE Transactions on Image Processing*, **2003**, 12, 843-8	8.7	33
24	The composition of projections onto closed convex sets in Hilbert space is asymptotically regular. *Proceedings of the American Mathematical Society*, **2002**, 131, 141-146	0.8	21
23	Phase retrieval, error reduction algorithm, and Fienup variants: a view from convex optimization. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2002**, 19, 1334-45	1.8	309
22	ESSENTIAL SMOOTHNESS, ESSENTIAL STRICT CONVEXITY, AND LEGENDRE FUNCTIONS IN BANACH SPACES. *Communications in Contemporary Mathematics*, **2001**, 03, 615-647	1.1	155
21	Joint and Separate Convexity of the Bregman Distance. *Studies in Computational Mathematics*, **2001**, 8, 23-36		34
20	Projection Algorithms: Results and Open Problems. *Studies in Computational Mathematics*, **2001**, 11-22		18
19	A Weak-to-Strong Convergence Principle for Fejér-Monotone Methods in Hilbert Spaces. *Mathematics of Operations Research*, **2001**, 26, 248-264	1.5	283
18	Hyperbolic Polynomials and Convex Analysis. *Canadian Journal of Mathematics*, **2001**, 53, 470-488	0.8	41
17	Dykstras algorithm with bregman projections: A convergence proof. *Optimization*, **2000**, 48, 409-427	1.2	42
16	Proof of a Conjecture by Deutsch, Li, and Swetits on Duality of Optimization Problems. *Journal of Optimization Theory and Applications*, **1999**, 102, 697-703	1.6	3
15	Strong conical hull intersection property, bounded linear regularity, Jameson's property (G), and error bounds in convex optimization. *Mathematical Programming*, **1999**, 86, 135-160	2.1	131
14	An EM algorithm for dynamic SPECT. *IEEE Transactions on Medical Imaging*, **1999**, 18, 252-61	11.7	22
13	Stronger maximal monotonicity properties of linear operators. *Bulletin of the Australian Mathematical Society*, **1999**, 60, 163-174	0.4	7
12	Maximal monotonicity of dense type, local maximal monotonicity, and monotonicity of the conjugate are all the same for continuous linear operators. *Pacific Journal of Mathematics*, **1999**, 189, 1-20	0.5	16
11	The method of cyclic projections for closed convex sets in Hilbert space. *Contemporary Mathematics*, **1997**, 1-38	1.6	85
10	On Projection Algorithms for Solving Convex Feasibility Problems. *SIAM Review*, **1996**, 38, 367-426	7.4	1045
9	The Approximation of Fixed Points of Compositions of Nonexpansive Mappings in Hilbert Space. *Journal of Mathematical Analysis and Applications*, **1996**, 202, 150-159	1.1	242
8	A norm convergence result on random products of relaxed projections in Hilbert space. *Transactions of the American Mathematical Society*, **1995**, 347, 1365-1373	1	32

7	Dykstra?s Alternating Projection Algorithm for Two Sets. *Journal of Approximation Theory*, **1994**, 79, 418-443	0.9	107
6	On the convergence of von Neumann's alternating projection algorithm for two sets. *Set-Valued and Variational Analysis*, **1993**, 1, 185-212		148
5	A new generation of iterative transform algorithms for phase contrast tomography		2
4	Best approximation mappings in Hilbert spaces. *Mathematical Programming*,1	2.1	2
3	Finding best approximation pairs for two intersections of closed convex sets. *Computational Optimization and Applications*,1	1.4	
2	The difference vectors for convex sets and a resolution of the geometry conjecture. *Open Journal of Mathematical Optimization*,2, 1-18		0
1	The Projection onto the Cross. *Set-Valued and Variational Analysis*,1	1	0