

# Alberto Bemporad

## List of Publications by Citations

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143  
papers

8,998  
citations

36  
h-index

94  
g-index

152  
ext. papers

11,151  
ext. citations

3.6  
avg, IF

6.7  
L-index

#	Paper	IF	Citations
143	The explicit linear quadratic regulator for constrained systems. <i>Automatica</i> , <b>2002</b> , 38, 3-20	5.7	1994
142	Control of systems integrating logic, dynamics, and constraints. <i>Automatica</i> , <b>1999</b> , 35, 407-427	5.7	1956
141	Robust model predictive control: A survey <b>1999</b> , 207-226		435
140	An algorithm for multi-parametric quadratic programming and explicit MPC solutions. <i>Automatica</i> , <b>2003</b> , 39, 489-497	5.7	384
139	Predictive Control for Linear and Hybrid Systems <b>2017</b> ,		269
138	Identification of piecewise affine systems via mixed-integer programming. <i>Automatica</i> , <b>2004</b> , 40, 37-50	5.7	260
137	Stochastic MPC With Learning for Driver-Predictive Vehicle Control and its Application to HEV Energy Management. <i>IEEE Transactions on Control Systems Technology</i> , <b>2014</b> , 22, 1018-1031	4.8	248
136	Dynamic programming for constrained optimal control of discrete-time linear hybrid systems. <i>Automatica</i> , <b>2005</b> , 41, 1709-1721	5.7	245
135	Model Predictive Control (MPC) for Enhancing Building and HVAC System Energy Efficiency: Problem Formulation, Applications and Opportunities. <i>Energies</i> , <b>2018</b> , 11, 631	3.1	184
134	Stability analysis of stochastic networked control systems. <i>Automatica</i> , <b>2012</b> , 48, 917-925	5.7	148
133	. <i>IEEE Transactions on Automatic Control</i> , <b>2014</b> , 59, 18-33	5.9	143
132	On-line optimization via off-line parametric optimization tools. <i>Computers and Chemical Engineering</i> , <b>2002</b> , 26, 175-185	4	134
131	OSQP: an operator splitting solver for quadratic programs. <i>Mathematical Programming Computation</i> , <b>2020</b> , 12, 637-672	7.8	123
130	Multiobjective model predictive control. <i>Automatica</i> , <b>2009</b> , 45, 2823-2830	5.7	98
129	Stabilizing Model Predictive Control of Stochastic Constrained Linear Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2012</b> , 57, 1468-1480	5.9	90
128	Model Predictive Control Tuning by Controller Matching. <i>IEEE Transactions on Automatic Control</i> , <b>2010</b> , 55, 185-190	5.9	88
127	Model Predictive Control Design: New Trends and Tools <b>2006</b> ,		86

126	Fulfilling Hard Constraints in Uncertain Linear Systems by Reference Managing. <i>Automatica</i> , <b>1998</b> , 34, 451-461	5.7	85
125	An Algorithm for Approximate Multiparametric Convex Programming. <i>Computational Optimization and Applications</i> , <b>2006</b> , 35, 87-108	1.4	83
124	From linear to nonlinear MPC: bridging the gap via the real-time iteration. <i>International Journal of Control</i> , <b>2020</b> , 93, 62-80	1.5	83
123	<b>2009</b> ,		74
122	Efficient On-Line Computation of Constrained Optimal Control. <i>SIAM Journal on Control and Optimization</i> , <b>2008</b> , 47, 2470-2489	1.9	64
121	Combined Design of Disturbance Model and Observer for Offset-Free Model Predictive Control. <i>IEEE Transactions on Automatic Control</i> , <b>2007</b> , 52, 1048-1053	5.9	64
120	Ultra-Fast Stabilizing Model Predictive Control via Canonical Piecewise Affine Approximations. <i>IEEE Transactions on Automatic Control</i> , <b>2011</b> , 56, 2883-2897	5.9	63
119	Convexity recognition of the union of polyhedra. <i>Computational Geometry: Theory and Applications</i> , <b>2001</b> , 18, 141-154	0.4	60
118	Passivity Analysis and Passification of Discrete-Time Hybrid Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2008</b> , 53, 1004-1009	5.9	52
117	Stochastic model predictive control for constrained discrete-time Markovian switching systems. <i>Automatica</i> , <b>2014</b> , 50, 2504-2514	5.7	51
116	Energy-aware robust model predictive control based on noisy wireless sensors. <i>Automatica</i> , <b>2012</b> , 48, 36-44	5.7	50
115	Decentralized model predictive control of dynamically coupled linear systems. <i>Journal of Process Control</i> , <b>2011</b> , 21, 705-714	3.9	50
114	Piecewise affine regression via recursive multiple least squares and multicategory discrimination. <i>Automatica</i> , <b>2016</b> , 73, 155-162	5.7	48
113	A simple effective heuristic for embedded mixed-integer quadratic programming. <i>International Journal of Control</i> , <b>2020</b> , 93, 2-12	1.5	47
112	A Quadratic Programming Algorithm Based on Nonnegative Least Squares With Applications to Embedded Model Predictive Control. <i>IEEE Transactions on Automatic Control</i> , <b>2016</b> , 61, 1111-1116	5.9	43
111	Model Predictive Idle Speed Control: Design, Analysis, and Experimental Evaluation. <i>IEEE Transactions on Control Systems Technology</i> , <b>2011</b> ,	4.8	42
110	Optimization-based automatic flatness control in cold tandem rolling. <i>Journal of Process Control</i> , <b>2010</b> , 20, 396-407	3.9	39
109	Assessment of non-centralised model predictive control techniques for electrical power networks. <i>International Journal of Control</i> , <b>2012</b> , 85, 1162-1177	1.5	38

108	A Multiparametric Quadratic Programming Algorithm With Polyhedral Computations Based on Nonnegative Least Squares. <i>IEEE Transactions on Automatic Control</i> , <b>2015</b> , 60, 2892-2903	5.9	36
107	Inner and outer approximations of polytopes using boxes. <i>Computational Geometry: Theory and Applications</i> , <b>2004</b> , 27, 151-178	0.4	36
106	Reference trajectory planning under constraints and path tracking using linear time-varying model predictive control for agricultural machines. <i>Biosystems Engineering</i> , <b>2017</b> , 153, 28-41	4.8	35
105	Optimal energy management of a small-size building via hybrid model predictive control. <i>Energy and Buildings</i> , <b>2017</b> , 140, 1-8	7	34
104	Exact Complexity Certification of Active-Set Methods for Quadratic Programming. <i>IEEE Transactions on Automatic Control</i> , <b>2017</b> , 62, 6094-6109	5.9	34
103	Online model predictive torque control for Permanent Magnet Synchronous Motors <b>2015</b> ,		32
102	Direct Data-Driven Control of Constrained Systems. <i>IEEE Transactions on Control Systems Technology</i> , <b>2018</b> , 26, 1422-1429	4.8	31
101	<b>2019</b> , 3, 577-582		31
100	Stabilizing Linear Model Predictive Control Under Inexact Numerical Optimization. <i>IEEE Transactions on Automatic Control</i> , <b>2014</b> , 59, 1660-1666	5.9	31
99	Anti-windup synthesis via sampled-data piecewise affine optimal control. <i>Automatica</i> , <b>2004</b> , 40, 549-562	5.7	30
98	Model predictive control for pre-compensated voltage mode controlled DCDC converters. <i>IET Control Theory and Applications</i> , <b>2017</b> , 11, 2514-2520	2.5	29
97	A Predictive Controller with Artificial Lyapunov Function for Linear Systems with Input/State Constraints. <i>Automatica</i> , <b>1998</b> , 34, 1255-1260	5.7	28
96	Hybrid modelling and optimal control of a Multiproduct Batch Plant. <i>Control Engineering Practice</i> , <b>2004</b> , 12, 1127-1137	3.9	24
95	Embedded Model Predictive Control With Certified Real-Time Optimization for Synchronous Motors. <i>IEEE Transactions on Control Systems Technology</i> , <b>2021</b> , 29, 893-900	4.8	24
94	<b>2016</b> ,		23
93	Embedded code generation using the OSQP solver <b>2017</b> ,		23
92	Model-Predictive Control of Discrete Hybrid Stochastic Automata. <i>IEEE Transactions on Automatic Control</i> , <b>2011</b> , 56, 1307-1321	5.9	23
91	A predictive reference governor for constrained control systems. <i>Computers in Industry</i> , <b>1998</b> , 36, 55-64	11.6	23

90	A bias-correction method for closed-loop identification of Linear Parameter-Varying systems. <i>Automatica</i> , <b>2018</b> , 87, 128-141	5.7	20
89	GPU-Accelerated Stochastic Predictive Control of Drinking Water Networks. <i>IEEE Transactions on Control Systems Technology</i> , <b>2018</b> , 26, 551-562	4.8	19
88	Fitting jump models. <i>Automatica</i> , <b>2018</b> , 96, 11-21	5.7	19
87	Optimal distributed task scheduling in volunteer clouds. <i>Computers and Operations Research</i> , <b>2017</b> , 81, 231-246	4.6	19
86	Stabilizing Dynamic Controllers for Hybrid Systems: A Hybrid Control Lyapunov Function Approach. <i>IEEE Transactions on Automatic Control</i> , <b>2014</b> , 59, 2629-2643	5.9	18
85	Dynamic option hedging via stochastic model predictive control based on scenario simulation. <i>Quantitative Finance</i> , <b>2014</b> , 14, 1739-1751	1.6	18
84	Scenario-based stochastic model predictive control for dynamic option hedging <b>2010</b> ,		18
83	Solving Mixed-Integer Quadratic Programs via Nonnegative Least Squares. <i>IFAC-PapersOnLine</i> , <b>2015</b> , 48, 73-79	0.7	17
82	Risk-averse model predictive control. <i>Automatica</i> , <b>2019</b> , 100, 281-288	5.7	16
81	Embedded Mixed-Integer Quadratic Optimization using Accelerated Dual Gradient Projection. <i>IFAC-PapersOnLine</i> , <b>2017</b> , 50, 10723-10728	0.7	15
80	Optimal Control of Discrete Hybrid Stochastic Automata. <i>Lecture Notes in Computer Science</i> , <b>2005</b> , 151-163		14
79	Complexity and convergence certification of a block principal pivoting method for box-constrained quadratic programs. <i>Automatica</i> , <b>2019</b> , 100, 29-37	5.7	13
78	Fast Linear Parameter Varying Model Predictive Control of Buck DC-DC Converters Based on FPGA. <i>IEEE Access</i> , <b>2018</b> , 6, 52434-52446	3.5	13
77	High-Speed Piecewise Affine Virtual Sensors. <i>IEEE Transactions on Industrial Electronics</i> , <b>2012</b> , 59, 1228-1237	5.7	12
76	Global optimization via inverse distance weighting and radial basis functions. <i>Computational Optimization and Applications</i> , <b>2020</b> , 77, 571-595	1.4	12
75	Equivalent Piecewise Affine Models of Linear Hybrid Automata. <i>IEEE Transactions on Automatic Control</i> , <b>2010</b> , 55, 498-502	5.9	11
74	A Numerically Stable Solver for Positive Semidefinite Quadratic Programs Based on Nonnegative Least Squares. <i>IEEE Transactions on Automatic Control</i> , <b>2018</b> , 63, 525-531	5.9	11
73	A Numerically Robust Mixed-Integer Quadratic Programming Solver for Embedded Hybrid Model Predictive Control. <i>IFAC-PapersOnLine</i> , <b>2018</b> , 51, 412-417	0.7	11

72	A dual gradient-projection algorithm for model predictive control in fixed-point arithmetic. <i>Automatica</i> , <b>2015</b> , 55, 226-235	5.7	10
71	Robust explicit model predictive control via regular piecewise-affine approximation. <i>International Journal of Control</i> , <b>2014</b> , 87, 2583-2593	1.5	10
70	Fixed-point dual gradient projection for embedded model predictive control <b>2013</b> ,		10
69	<b>2011</b> ,		10
68	Learning Nonlinear State-Space Models Using Deep Autoencoders <b>2018</b> ,		10
67	Stability and Invariance Analysis of Uncertain Discrete-Time Piecewise Affine Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2013</b> , 58, 2359-2365	5.9	9
66	Learning nonlinear state-space models using autoencoders. <i>Automatica</i> , <b>2021</b> , 129, 109666	5.7	9
65	Identification of hybrid and linear parameter varying models via recursive piecewise affine regression and discrimination <b>2016</b> ,		8
64	Regularized moving-horizon piecewise affine regression using mixed-integer quadratic programming <b>2017</b> ,		8
63	Safe Reinforcement Learning via Projection on a Safe Set: How to Achieve Optimality?. <i>IFAC-PapersOnLine</i> , <b>2020</b> , 53, 8076-8081	0.7	8
62	Real-time model predictive control based on dual gradient projection: Theory and fixed-point FPGA implementation. <i>International Journal of Robust and Nonlinear Control</i> , <b>2016</b> , 26, 3292-3310	3.6	8
61	A Lyapunov method for stability analysis of piecewise-affine systems over non-invariant domains. <i>International Journal of Control</i> , <b>2016</b> , 89, 950-959	1.5	7
60	Sparse Solutions to the Average Consensus Problem via Various Regularizations of the Fastest Mixing Markov-Chain Problem. <i>IEEE Transactions on Network Science and Engineering</i> , <b>2015</b> , 2, 97-111	4.9	7
59	Fast model predictive control based on linear input/output models and bounded-variable least squares <b>2017</b> ,		7
58	Model predictive control: A multi-parametric programming approach. <i>Computer Aided Chemical Engineering</i> , <b>2000</b> , 8, 301-306	0.6	7
57	Global optimization based on active preference learning with radial basis functions. <i>Machine Learning</i> , <b>2021</b> , 110, 417-448	4	7
56	Synthesis of stabilizing model predictive controllers via canonical piecewise affine approximations <b>2010</b> ,		6
55	Dynamic option hedging with transaction costs: A stochastic model predictive control approach. <i>International Journal of Robust and Nonlinear Control</i> , <b>2019</b> , 29, 5058-5077	3.6	6

54	Optimal and receding horizon drift counteraction control: Linear programming approaches <b>2017</b> ,		5
53	Efficient Calibration of Embedded MPC. <i>IFAC-PapersOnLine</i> , <b>2020</b> , 53, 5189-5194	0.7	5
52	Regularized least square support vector machines for order and structure selection of LPV-ARX models <b>2016</b> ,		5
51	A Bounded-Variable Least-Squares Solver Based on Stable QR Updates. <i>IEEE Transactions on Automatic Control</i> , <b>2020</b> , 65, 1242-1247	5.9	5
50	Interpolation based predictive control by ellipsoidal invariant sets. <i>IFAC Journal of Systems and Control</i> , <b>2020</b> , 12, 100084	0.9	5
49	A Fast NMPC Approach based on Bounded-Variable Nonlinear Least Squares. <i>IFAC-PapersOnLine</i> , <b>2018</b> , 51, 337-342	0.7	5
48	Simple Interpolating Control. <i>IFAC-PapersOnLine</i> , <b>2018</b> , 51, 42-47	0.7	5
47	Rao-Blackwellized sampling for batch and recursive Bayesian inference of Piecewise Affine models. <i>Automatica</i> , <b>2020</b> , 117, 109002	5.7	4
46	Spacecraft Drift Counteraction Optimal Control: Open-Loop and Receding Horizon Solutions. <i>Journal of Guidance, Control, and Dynamics</i> , <b>2018</b> , 41, 1859-1872	2.1	4
45	Stochastic economic model predictive control for Markovian switching systems. <i>IFAC-PapersOnLine</i> , <b>2017</b> , 50, 524-530	0.7	4
44	Distributed solution of stochastic optimal control problems on GPUs <b>2015</b> ,		4
43	Preference-based MPC calibration <b>2021</b> ,		4
42	Identification of hybrid and linear parameter-varying models via piecewise affine regression using mixed integer programming. <i>International Journal of Robust and Nonlinear Control</i> , <b>2020</b> , 30, 5802-5819	3.6	4
41	SAT-Based Synthesis of Spoofing Attacks in Cyber-Physical Control Systems <b>2018</b> ,		4
40	Pairwise Preferences-Based Optimization of a Path-Based Velocity Planner in Robotic Sealing Tasks. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 6632-6639	4.2	4
39	Uncertainty-aware demand management of water distribution networks in deregulated energy markets. <i>Environmental Modelling and Software</i> , <b>2018</b> , 101, 10-22	5.2	3
38	Low-complexity piecewise-affine virtual sensors: theory and design. <i>International Journal of Control</i> , <b>2014</b> , 87, 622-632	1.5	3
37	Model Predictive Control With Environment Adaptation for Legged Locomotion. <i>IEEE Access</i> , <b>2021</b> , 9, 145710-145727	3.5	3

36	A hierarchical consensus method for the approximation of the consensus state, based on clustering and spectral graph theory. <i>Engineering Applications of Artificial Intelligence</i> , <b>2016</b> , 56, 157-174	7.2	3
35	Synthesis of Optimal Feedback Controllers from Data via Stochastic Gradient Descent <b>2019</b> ,		3
34	Optimal direct data-driven control with stability guarantees. <i>European Journal of Control</i> , <b>2021</b> , 59, 175-187	18.7	3
33	Complexity Certification of Proximal-Point Methods for Numerically Stable Quadratic Programming <b>2021</b> , 5, 1381-1386		3
32	LQG Online Learning. <i>Neural Computation</i> , <b>2017</b> , 29, 2203-2291	2.9	2
31	Online end-use energy disaggregation via jump linear models. <i>Control Engineering Practice</i> , <b>2019</b> , 89, 30-42	3.9	2
30	Exact Complexity Certification of a Nonnegative Least-Squares Method for Quadratic Programming <b>2020</b> , 4, 1036-1041		2
29	Cloud-aided collaborative estimation by ADMM-RLS algorithms for connected diagnostics and prognostics <b>2018</b> ,		2
28	Constrained Control and Observer Design by Inverse Optimality. <i>IEEE Transactions on Automatic Control</i> , <b>2021</b> , 1-1	5.9	2
27	Learning Approximate Semi-Explicit Hybrid MPC with an Application to Microgrids. <i>IFAC-PapersOnLine</i> , <b>2020</b> , 53, 5207-5212	0.7	2
26	Tight Error Analysis in Fixed-Point Arithmetic. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 318-336	0.9	2
25	Estimation of jump Box-Jenkins models. <i>Automatica</i> , <b>2020</b> , 120, 109126	5.7	2
24	Cooperative constrained parameter estimation by ADMM-RLS. <i>Automatica</i> , <b>2020</b> , 121, 109175	5.7	2
23	Model predictive control for drift counteraction of stochastic constrained linear systems. <i>Automatica</i> , <b>2021</b> , 123, 109304	5.7	2
22	Energy Disaggregation using Piecewise Affine Regression and Binary Quadratic Programming <b>2018</b> ,		2
21	Stochastic MPC Approach to Drift Counteraction <b>2018</b> ,		2
20	Tuning LQR Controllers: A Sensitivity-Based Approach <b>2021</b> , 1-1		2
19	Data-driven modelling, learning and stochastic predictive control for the steel industry <b>2017</b> ,		1



18	Parallel investments in multiple call and put options for the tracking of desired profit profiles <b>2017</b> ,		1
17	Online learning as an LQG optimal control problem with random matrices <b>2015</b> ,		1
16	PLC implementation of a real-time embedded MPC algorithm based on linear input/output models. <i>IFAC-PapersOnLine</i> , <b>2020</b> , 53, 6987-6992	0.7	1
15	Regularized Moving-Horizon PWA Regression for LPV System Identification. <i>IFAC-PapersOnLine</i> , <b>2018</b> , 51, 1092-1097	0.7	1
14	Learning affine predictors for MPC of nonlinear systems via artificial neural networks. <i>IFAC-PapersOnLine</i> , <b>2020</b> , 53, 5233-5238	0.7	0
13	C-GLISp: Preference-Based Global Optimization Under Unknown Constraints With Applications to Controller Calibration. <i>IEEE Transactions on Control Systems Technology</i> , <b>2021</b> , 1-12	4.8	0
12	An efficient bounded-variable nonlinear least-squares algorithm for embedded MPC. <i>Automatica</i> , <b>2022</b> , 141, 110293	5.7	0
11	Proximal Limited-Memory Quasi-Newton Methods for Scenario-based Stochastic Optimal Control. <i>IFAC-PapersOnLine</i> , <b>2017</b> , 50, 11865-11870	0.7	
10	LPV Model Order Selection from Noise-corrupted Output and Scheduling Signal Measurements. <i>IFAC-PapersOnLine</i> , <b>2017</b> , 50, 8355-8360	0.7	
9	Data-Driven Synthesis of Robust Invariant Sets and Controllers <b>2022</b> , 6, 1676-1681		
8	A Linear Programming Method Based on Proximal-Point Iterations With Applications to Multi-Parametric Programming <b>2022</b> , 6, 2066-2071		
7	Learning optimal switching feedback controllers from data. <i>IFAC-PapersOnLine</i> , <b>2020</b> , 53, 1602-1607	0.7	
6	Cloud-based collaborative learning of optimal feedback controllers. <i>IFAC-PapersOnLine</i> , <b>2020</b> , 53, 2660-2665	0.7	
5	Variable Elimination in Model Predictive Control Based on K-SVD and QR Factorization. <i>IEEE Transactions on Automatic Control</i> , <b>2021</b> , 1-1	5.9	
4	Input Constraint Sets for Robust Regulation of Linear Systems. <i>IEEE Transactions on Automatic Control</i> , <b>2021</b> , 1-1	5.9	
3	New trends in modeling and control of hybrid systems. <i>International Journal of Robust and Nonlinear Control</i> , <b>2020</b> , 30, 5775-5776	3.6	
2	A machine-learning approach to synthesize virtual sensors for parameter-varying systems. <i>European Journal of Control</i> , <b>2021</b> , 61, 40-49	2.5	
1	Active preference-based optimization for human-in-the-loop feature selection. <i>European Journal of Control</i> , <b>2022</b> , 100647	2.5	

