

# Nicanor Quijano

## List of Publications by Year in descending order

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149  
papers

2,184  
citations

279487

23  
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288905

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g-index

151  
all docs

151  
docs citations

151  
times ranked

1744  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Payoff Dynamics Model for Equality-Constrained Population Games. , 2022, 6, 530-535.		9
2	Discrete-Time Distributed Population Dynamics for Optimization and Control. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 7112-7122.	5.9	3
3	On the Stability of Cyber-Physical Control Systems With Sensor Multiplicative Attacks. IEEE Access, 2022, 10, 39716-39728.	2.6	5
4	Dynamic Modeling of Crop Soil Systems to Design Monitoring and Automatic Irrigation Processes: A Review with Worked Examples. Water (Switzerland), 2022, 14, 889.	1.2	6
5	A payoff dynamics model for generalized Nash equilibrium seeking in population games. Automatica, 2022, 140, 110227.	3.0	1
6	Nash equilibrium seeking in full-potential population games under capacity and migration constraints. Automatica, 2022, 141, 110285.	3.0	3
7	Decentralized Control for Urban Drainage Systems Using Replicator Dynamics. IEEE Access, 2022, 10, 56740-56762.	2.6	2
8	On Distributed Nash Equilibrium Seeking in a Class of Contractive Population Games. , 2022, 6, 2972-2977.		1
9	Robust Optimization Over Networks Using Distributed Restarting of Accelerated Dynamics. , 2021, 5, 301-306.		7
10	Distributed population dynamics for active and reactive power dispatch in islanded microgrids. International Journal of Electrical Power and Energy Systems, 2021, 125, 106407.	3.3	10
11	Detection, Isolation, and Magnitude Estimation of Unknown Flows in Open-Channel Irrigation Systems. IEEE Access, 2021, 9, 115348-115369.	2.6	0
12	Dynamic Data Integration for Resilience to Sensor Attacks in Multi-Agent Systems. IEEE Access, 2021, 9, 31236-31245.	2.6	8
13	Modeling and control in open-channel irrigation systems: A review. Annual Reviews in Control, 2021, 51, 153-171.	4.4	29
14	An Agent-Based Crop Model Framework for Heterogeneous Soils. Agronomy, 2021, 11, 85.	1.3	3
15	Distributed stochastic economic dispatch via model predictive control and data-driven scenario generation. International Journal of Electrical Power and Energy Systems, 2021, 129, 106796.	3.3	20
16	An Unknown Input Moving Horizon Estimator for Open Channel Irrigation Systems. , 2021, , .		1
17	Intra-Hour Microgrid Economic Dispatch Based on Model Predictive Control. IEEE Transactions on Smart Grid, 2020, 11, 1968-1979.	6.2	32
18	A Multi-Critic Reinforcement Learning Method: An Application to Multi-Tank Water Systems. IEEE Access, 2020, 8, 173227-173238.	2.6	15

#	ARTICLE	IF	CITATIONS
19	Distributed Formation Control of Mobile Robots Using Discrete-Time Distributed Population Dynamics. IFAC-PapersOnLine, 2020, 53, 3131-3136.	0.5	2
20	Control-Oriented Modeling Approach for Open Channel Irrigation Systems. IFAC-PapersOnLine, 2020, 53, 16630-16635.	0.5	2
21	Online Network-Constrained Dispatch of Distributed Generators in Radial Networks. , 2020, , .		0
22	Mitigating Sensor Attacks Against Industrial Control Systems. IEEE Access, 2019, 7, 92444-92455.	2.6	15
23	Distributed model predictive control for economic dispatch of power systems with high penetration of renewable energy resources. International Journal of Electrical Power and Energy Systems, 2019, 113, 607-617.	3.3	37
24	Hierarchical dispatch of multiple microgrids using nodal price: an approach from consensus and replicator dynamics. Journal of Modern Power Systems and Clean Energy, 2019, 7, 1573-1584.	3.3	9
25	Data-Driven Decentralized Algorithm for Wind Farm Control with Population-Games Assistance. Energies, 2019, 12, 1164.	1.6	6
26	Incentive mechanisms to prevent efficiency loss of non-profit utilities. International Journal of Electrical Power and Energy Systems, 2019, 110, 523-535.	3.3	7
27	Time-varying partitioning for predictive control design: Density-games approach. Journal of Process Control, 2019, 75, 1-14.	1.7	30
28	Control of Urban Drainage Systems: Optimal Flow Control and Deep Learning in Action. , 2019, , .		12
29	Hybrid Robust Optimal Resource Allocation with Momentum. , 2019, , .		4
30	Distributed MPC and Potential Game Controller for Consensus in Multiple Differential-Drive Robots. , 2019, , .		1
31	Distributed optimization with information-constrained population dynamics. Journal of the Franklin Institute, 2019, 356, 209-236.	1.9	17
32	Synchronisation of heterogeneous Kuramoto oscillators with sampled information and a constant leader. International Journal of Control, 2019, 92, 2591-2607.	1.2	13
33	Evolutionaryâ€¦games approach for distributed predictive control involving resource allocation. IET Control Theory and Applications, 2019, 13, 772-782.	1.2	6
34	A Virtual Environment for Industrial Control Systems. , 2018, , .		8
35	DDDAS for Attack Detection and Isolation of Control Systems. , 2018, , 407-422.		5
36	On the Use of Agent-Based Modeling for Smart Farming. , 2018, , .		2

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37	Mitigation of communication failures in distributed model predictive control strategies. IET Control Theory and Applications, 2018, 12, 2507-2515.	1.2	3
38	Resilient Information-Exchange Protocol for Distributed Model Predictive Control Schemes. , 2018, , .		4
39	An Affordable Set of Control System Laboratories Using A Low-Cost Robotic Platform. IEEE/ASME Transactions on Mechatronics, 2018, 23, 1705-1715.	3.7	4
40	Integrity Attacks on Real-Time Pricing in Smart Grids: Impact and Countermeasures. IEEE Transactions on Smart Grid, 2017, 8, 2249-2257.	6.2	82
41	Game-Theoretical Methods in Control of Engineering Systems: An Introduction to the Special Issue. IEEE Control Systems, 2017, 37, 30-32.	1.0	12
42	The Role of Population Games and Evolutionary Dynamics in Distributed Control Systems: The Advantages of Evolutionary Game Theory. IEEE Control Systems, 2017, 37, 70-97.	1.0	113
43	On an invariance principle for differential-algebraic equations with jumps and its application to switched differential-algebraic equations. Mathematics of Control, Signals, and Systems, 2017, 29, 1.	1.4	1
44	Dynamical tuning for MPC using population games: A water supply network application. ISA Transactions, 2017, 69, 175-186.	3.1	24
45	Model Predictive Control Applied to the Dynamic Economic Dispatch Problem. IEEE Latin America Transactions, 2017, 15, 656-662.	1.2	1
46	Non-centralized control for flow-based distribution networks: A game-theoretical insight. Journal of the Franklin Institute, 2017, 354, 5771-5796.	1.9	11
47	A centre-free approach for resource allocation with lower bounds. International Journal of Control, 2017, 90, 1830-1845.	1.2	6
48	Comparative analysis of MPPT techniques for a photovoltaic system in cundinamarca. , 2017, , .		0
49	Partitioning for Large-scale Systems: A Sequential Distributed MPC Design * *This work has been partially supported by the project DEOCS (Ref. DPI2016-76493-C3-3-R). J. Barreiro-Gomez is partially supported by Colciencias and AGAUR.. IFAC-PapersOnLine, 2017, 50, 8838-8843.	0.5	10
50	Distributed Resource Allocation Among a Subset of Nodes of a Graph * *This work is supported in part by project SGR Cundinamarca. G. Obando is supported in part by Colciencias-Colfuturo Grant 528.. IFAC-PapersOnLine, 2017, 50, 8417-8422.	0.5	1
51	On the Communication Discussion of Two Distributed Population-game Approaches for Optimization Purposes * *Authors would like to thank COLCIENCIAS (grant 6172) and the Agència de Gestió d'ajuts Universitaris i de Recerca, AGAUR, for supporting J. Barreiro-Gomez. Authors would also like to thank the project DEOCS (Ref. DPI2016-76493-C3-3-R), which have partially supported this work.. IFAC-PapersOnLine, 2017, 50, 11782-11787.	0.5	3
52	Social SCADA and microgrid prototype La Guajira. , 2017, , .		0
53	A population-games application with the balls-in-tubes experiment. , 2017, , .		0
54	Notions and a passivity tool for switched DAE systems. , 2017, , .		1

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55	Co-simulation tool for control in agricultural processes. , 2017, , .		0
56	Mitigation of sensor attacks on legacy industrial control systems. , 2017, , .		6
57	Low-Cost â€œball and Plateâ€-design and implementation for learning control systems. , 2017, , .		4
58	Optimal Routing and Scheduling of Charge for Electric Vehicles: A Case Study. Mathematical Problems in Engineering, 2017, 2017, 1-16.	0.6	51
59	Data-Driven Evolutionary-Game-Based Control for Drinking-Water Networks. Advances in Industrial Control, 2017, , 363-383.	0.4	3
60	Gameâ€-theoretic dispatch control in microgrids considering network losses and renewable distributed energy resources integration. IET Generation, Transmission and Distribution, 2017, 11, 1583-1590.	1.4	21
61	A class of population dynamics for reaching epsilon-equilibria: Engineering applications. , 2016, , .		2
62	Distributed MPC with time-varying communication network: A density-dependent population games approach. , 2016, , .		6
63	Distributed formation control of multiple unmanned aerial vehicles over time-varying graphs using population games. , 2016, , .		10
64	Constrained distributed optimization: A population dynamics approach. Automatica, 2016, 69, 101-116.	3.0	52
65	Optimal placement of switches on DG enhanced feeders with short circuit constraints. Electric Power Systems Research, 2016, 141, 221-232.	2.1	17
66	A differential game approach to urban drainage systems control. , 2016, , .		4
67	Replicator dynamics under perturbations and time delays. Mathematics of Control, Signals, and Systems, 2016, 28, 1.	1.4	16
68	Distributed dispatch control in microgrids with network losses. , 2016, , .		4
69	Decentralized control for urban drainage systems via moving horizon observer. , 2016, , .		0
70	Distributed control of small-scale power systems using noncooperative games. International Journal of Electrical Power and Energy Systems, 2016, 82, 535-544.	3.3	7
71	MatSWMM â€œ An open-source toolbox for designing real-time control of urban drainage systems. Environmental Modelling and Software, 2016, 83, 143-154.	1.9	48
72	Distributed Population Dynamics: Optimization and Control Applications. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2016, , 1-11.	5.9	60

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73	Market power mitigation in the Colombian electricity market through on-site generation and demand response. , 2015, , .		1
74	Distributed resource management by using population dynamics: Wastewater treatment application. , 2015, , .		6
75	Juggler System: Hybrid Model and Implementation. , 2015, , .		0
76	Multi-objective model-free control based on population dynamics and cooperative games. , 2015, , .		5
77	Honey Bee Social Foraging Algorithm for Resource Allocation. , 2015, , 1361-1376.		1
78	Shahshahani gradient-like extremum seeking. Automatica, 2015, 58, 51-59.	3.0	43
79	Multi-objective planning of recloser-based protection systems on DG enhanced feeders. , 2015, , .		2
80	Model-free control for wind farms using a gradient estimation-based algorithm. , 2015, , .		7
81	Distributed resource allocation over stochastic networks: An application in smart grids. , 2015, , .		4
82	Invariance principles for switched Differential-Algebraic Equations under arbitrary and dwell-time switching. , 2015, , .		2
83	Co-simulation for the design of controllers in urban drainage systems. , 2015, , .		1
84	Planning distribution primary feeders for smart-grid operation via network flow analysis. , 2015, , .		0
85	Planning open and closed-loop feeders with efficiency analysis. , 2015, , .		2
86	Response and reconfiguration of cyber-physical control systems: A survey. , 2015, , .		28
87	Making Non-Centralized a Model Predictive Control Scheme by Using Distributed Smith Dynamics** This work is supported by the ANR project entitled Hamiltonian Methods for the Control of Multidomain Distributed Parameter Systems, HAMECMOPSYs financed by the French National Research Agency. Further information is available at <a href="http://www.hamecmopsys.ens2m.fr/">http://www.hamecmopsys.ens2m.fr/</a> .. IFAC-PapersOnLine, 2015, 48, 501-506.	0.5	2
88	Decentralized Control for Urban Drainage Systems via population dynamics: BogotÃ¡ case study. , 2015, , .		15
89	Population Games Methods for Distributed Control of Microgrids. IEEE Transactions on Smart Grid, 2015, 6, 2586-2595.	6.2	34
90	Modeling and real-time control of urban drainage systems: A review. Advances in Water Resources, 2015, 85, 120-132.	1.7	160

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91	Evolutionary Game-Based Dynamical Tuning for Multi-objective Model Predictive Control. Lecture Notes in Control and Information Sciences, 2015, , 115-138.	0.6	9
92	Distributed building temperature control with power constraints. , 2014, , .		3
93	Technical assessment of microgrids integration into distribution systems. , 2014, , .		0
94	CPS. , 2014, , .		17
95	Constrained distributed optimization based on population dynamics. , 2014, , .		7
96	Control Systems for the Power Grid and Their Resiliency to Attacks. IEEE Security and Privacy, 2014, 12, 15-23.	1.5	12
97	Distributed control of Drinking Water Networks using population dynamics: Barcelona case study. , 2014, , .		7
98	Delay and sampling independence of a consensus algorithm and its application to smart grid privacy. , 2014, , .		4
99	A polynomial approach for optimal control of switched nonlinear systems. International Journal of Robust and Nonlinear Control, 2014, 24, 1797-1808.	2.1	20
100	Dynamic Population Games for Optimal Dispatch on Hierarchical Microgrid Control. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2014, 44, 306-317.	5.9	125
101	Tracking of Kuramoto oscillators with input saturation and applications in smart grids. , 2014, , .		4
102	Synchronization of isolated microgrids with a communication infrastructure using energy storage systems. International Journal of Electrical Power and Energy Systems, 2014, 63, 71-82.	3.3	26
103	Dispatch of distributed generators under local-information constraints. , 2014, , .		23
104	Building Temperature Control Based on Population Dynamics. IEEE Transactions on Control Systems Technology, 2014, 22, 404-412.	3.2	43
105	Dynamic population games for hierarchical microgrid management. , 2013, , .		0
106	Time-delay effect on load frequency control for microgrids. , 2013, , .		37
107	Extremum seeking for multi-population games. , 2013, , .		4
108	Distributed extremum seeking for real-time resource allocation. , 2013, , .		32

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109	Design of mechanisms for demand response programs. , 2013, , .		11
110	A population dynamics model for opinion dynamics with prominent agents and incentives. , 2013, , .		3
111	Synchronization of dynamical networks with a communication infrastructure: A smart grid application. , 2013, , .		17
112	Synchronization of dynamical networks under sampling. , 2013, , .		1
113	Controllability of Dynamical Systems: Threat Models and Reactive Security. Lecture Notes in Computer Science, 2013, , 45-64.	1.0	13
114	Distributed optimization using population dynamics with a local replicator equation. , 2012, , .		22
115	A Shahshahani Gradient based extremum seeking scheme. , 2012, , .		13
116	Delay Independent Evolutionary Dynamics for Resource Allocation with Asynchronous Distributed Sensors. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 121-126.	0.4	1
117	A replicator dynamics weighted control technique for a DC-DC converter. , 2011, , .		1
118	A survey on Cyber Physical Energy Systems and their applications on smart grids. , 2011, , .		50
119	Current results and research trends in networked control systems. , 2011, , .		5
120	A Population Dynamics Approach for the Dispatch of Distributed Generators. IEEE Transactions on Industrial Electronics, 2011, 58, 4559-4567.	5.2	101
121	A Replicator Dynamics Weighted Control Technique for Two Coupled Pendulums. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 12662-12667.	0.4	0
122	Foraging theory for dimensionality reduction of clustered data. Machine Learning, 2011, 82, 71-90.	3.4	8
123	Dispatch of distributed generators using a local replicator equation. , 2011, , .		15
124	A bioinspired approach for a multizone temperature control system. Bioinspiration and Biomimetics, 2011, 6, 016007.	1.5	8
125	Population dynamics applied to building energy efficiency. , 2011, , .		3
126	Low cost experiment for control systems. , 2011, , .		0



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127	Building Temperature Control Based on Replicator Dynamics *. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1140-1145.	0.4	0
128	Honey bee social foraging algorithms for resource allocation: Theory and application. Engineering Applications of Artificial Intelligence, 2010, 23, 845-861.	4.3	38
129	A polynomial approach for stability analysis of switched systems. Systems and Control Letters, 2010, 59, 98-104.	1.3	53
130	Microclimate modeling and control: A multizone approach. , 2010, , .		5
131	Weighted controller for an inverted pendulum: A replicator dynamics approach. , 2010, , .		2
132	A population dynamics approach for the water distribution problem. International Journal of Control, 2010, 83, 1947-1964.	1.2	48
133	An academic platform to illustrate game-theoretical approaches. , 2010, , .		0
134	Dispatch of Distributed Generators Using Replicator Dynamics. , 2010, , .		2
135	Analysis and control for the water distribution problem. , 2010, , .		0
136	E. Coli bacterial foraging algorithm applied to pressure reducing valves control. , 2009, , .		5
137	Honeybee Social Foraging for Urban Traffic Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 588-593.	0.4	1
138	A Generalization of a Polynomial Optimal Control of Switched Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 120-125.	0.4	0
139	Switching Between Controllers Using Replicator Dynamics. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 186-191.	0.4	4
140	Ideal free distributions in growing networks. , 2008, , .		0
141	Stability analysis of switched polynomial systems using dissipation inequalities. , 2008, , .		7
142	Modeling and analysis for a temperature system based on resource dynamics and the ideal free distribution. , 2008, , .		5
143	Emergence of scale-free networks from ideal free distributions. Europhysics Letters, 2008, 82, 28004.	0.7	6
144	Optimal Control of Switched Systems: A Polynomial Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 7808-7813.	0.4	7

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145	The Ideal Free Distribution: Theory and Engineering Application. IEEE Transactions on Systems, Man, and Cybernetics, 2007, 37, 154-165.	5.5	37
146	Honey Bee Social Foraging Algorithms for Resource Allocation, Part I: Algorithm and Theory. Proceedings of the American Control Conference, 2007, , .	0.0	26
147	Honey Bee Social Foraging Algorithms for Resource Allocation, Part II: Application. Proceedings of the American Control Conference, 2007, , .	0.0	24
148	Nicanor Quijano and Kevin M. Passino Ohio State University, USA Burton W Andrews Johns Hopkins University, USA Foraging theory for multizone temperature control. IEEE Computational Intelligence Magazine, 2006, 1, 18-27.	3.4	4
149	Experiments for dynamic resource allocation, scheduling, and control: new challenges from information technology-enabled feedback control. IEEE Control Systems, 2005, 25, 63-79.	1.0	34