

# Nicanor Quijano

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6553159/publications.pdf>

Version: 2024-02-01

149  
papers

2,184  
citations

279487

23  
h-index

288905

40  
g-index

151  
all docs

151  
docs citations

151  
times ranked

1744  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Modeling and real-time control of urban drainage systems: A review. <i>Advances in Water Resources</i> , 2015, 85, 120-132.  | 1.7 | 160       |
| 2  | Dynamic Population Games for Optimal Dispatch on Hierarchical Microgrid Control. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2014, 44, 306-317.   | 5.9 | 125       |
| 3  | The Role of Population Games and Evolutionary Dynamics in Distributed Control Systems: The Advantages of Evolutionary Game Theory. <i>IEEE Control Systems</i> , 2017, 37, 70-97.  | 1.0 | 113       |
| 4  | A Population Dynamics Approach for the Dispatch of Distributed Generators. <i>IEEE Transactions on Industrial Electronics</i> , 2011, 58, 4559-4567.   | 5.2 | 101       |
| 5  | Integrity Attacks on Real-Time Pricing in Smart Grids: Impact and Countermeasures. <i>IEEE Transactions on Smart Grid</i> , 2017, 8, 2249-2257.  | 6.2 | 82        |
| 6  | Distributed Population Dynamics: Optimization and Control Applications. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2016, , 1-11.   | 5.9 | 60        |
| 7  | A polynomial approach for stability analysis of switched systems. <i>Systems and Control Letters</i> , 2010, 59, 98-104.   | 1.3 | 53        |
| 8  | Constrained distributed optimization: A population dynamics approach. <i>Automatica</i> , 2016, 69, 101-116.   | 3.0 | 52        |
| 9  | Optimal Routing and Scheduling of Charge for Electric Vehicles: A Case Study. <i>Mathematical Problems in Engineering</i> , 2017, 2017, 1-16.  | 0.6 | 51        |
| 10 | A survey on Cyber Physical Energy Systems and their applications on smart grids. , 2011, , .   |     | 50        |
| 11 | A population dynamics approach for the water distribution problem. <i>International Journal of Control</i> , 2010, 83, 1947-1964.  | 1.2 | 48        |
| 12 | MatSWMM “An open-source toolbox for designing real-time control of urban drainage systems. <i>Environmental Modelling and Software</i> , 2016, 83, 143-154.  | 1.9 | 48        |
| 13 | Building Temperature Control Based on Population Dynamics. <i>IEEE Transactions on Control Systems Technology</i> , 2014, 22, 404-412.   | 3.2 | 43        |
| 14 | Shahshahani gradient-like extremum seeking. <i>Automatica</i> , 2015, 58, 51-59.   | 3.0 | 43        |
| 15 | Honey bee social foraging algorithms for resource allocation: Theory and application. <i>Engineering Applications of Artificial Intelligence</i> , 2010, 23, 845-861.  | 4.3 | 38        |
| 16 | The Ideal Free Distribution: Theory and Engineering Application. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , 2007, 37, 154-165.  | 5.5 | 37        |
| 17 | Time-delay effect on load frequency control for microgrids. , 2013, , .  |     | 37        |
| 18 | Distributed model predictive control for economic dispatch of power systems with high penetration of renewable energy resources. <i>International Journal of Electrical Power and Energy Systems</i> , 2019, 113, 607-617. | 3.3 | 37        |

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 19 | 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        |
| 20 | Population Games Methods for Distributed Control of Microgrids. IEEE Transactions on Smart Grid, 2015, 6, 2586-2595.   | 6.2 | 34        |
| 21 | Distributed extremum seeking for real-time resource allocation. , 2013, , .  |     | 32        |
| 22 | Intra-Hour Microgrid Economic Dispatch Based on Model Predictive Control. IEEE Transactions on Smart Grid, 2020, 11, 1968-1979.  | 6.2 | 32        |
| 23 | Time-varying partitioning for predictive control design: Density-games approach. Journal of Process Control, 2019, 75, 1-14.   | 1.7 | 30        |
| 24 | Modeling and control in open-channel irrigation systems: A review. Annual Reviews in Control, 2021, 51, 153-171.   | 4.4 | 29        |
| 25 | Response and reconfiguration of cyber-physical control systems: A survey. , 2015, , .  |     | 28        |
| 26 | Honey Bee Social Foraging Algorithms for Resource Allocation, Part I: Algorithm and Theory. Proceedings of the American Control Conference, 2007, , .  | 0.0 | 26        |
| 27 | 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        |
| 28 | Honey Bee Social Foraging Algorithms for Resource Allocation, Part II: Application. Proceedings of the American Control Conference, 2007, , .  | 0.0 | 24        |
| 29 | Dynamical tuning for MPC using population games: A water supply network application. ISA Transactions, 2017, 69, 175-186.  | 3.1 | 24        |
| 30 | Dispatch of distributed generators under local-information constraints. , 2014, , .  |     | 23        |
| 31 | Distributed optimization using population dynamics with a local replicator equation. , 2012, , .   |     | 22        |
| 32 | Game-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        |
| 33 | A polynomial approach for optimal control of switched nonlinear systems. International Journal of Robust and Nonlinear Control, 2014, 24, 1797-1808.   | 2.1 | 20        |
| 34 | 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        |
| 35 | Synchronization of dynamical networks with a communication infrastructure: A smart grid application. , 2013, , .   |     | 17        |
| 36 | CPS. , 2014, , .   |     | 17        |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 37 | Optimal placement of switches on DG enhanced feeders with short circuit constraints. Electric Power Systems Research, 2016, 141, 221-232.   | 2.1 | 17        |
| 38 | Distributed optimization with information-constrained population dynamics. Journal of the Franklin Institute, 2019, 356, 209-236.   | 1.9 | 17        |
| 39 | Replicator dynamics under perturbations and time delays. Mathematics of Control, Signals, and Systems, 2016, 28, 1.   | 1.4 | 16        |
| 40 | Dispatch of distributed generators using a local replicator equation. , 2011, , .   |     | 15        |
| 41 | Decentralized Control for Urban Drainage Systems via population dynamics: Bogotá case study. , 2015, , .  |     | 15        |
| 42 | Mitigating Sensor Attacks Against Industrial Control Systems. IEEE Access, 2019, 7, 92444-92455.  | 2.6 | 15        |
| 43 | A Multi-Critic Reinforcement Learning Method: An Application to Multi-Tank Water Systems. IEEE Access, 2020, 8, 173227-173238.  | 2.6 | 15        |
| 44 | A Shahshahani Gradient based extremum seeking scheme. , 2012, , .   |     | 13        |
| 45 | Synchronisation of heterogeneous Kuramoto oscillators with sampled information and a constant leader. International Journal of Control, 2019, 92, 2591-2607.  | 1.2 | 13        |
| 46 | Controllability of Dynamical Systems: Threat Models and Reactive Security. Lecture Notes in Computer Science, 2013, , 45-64.  | 1.0 | 13        |
| 47 | Control Systems for the Power Grid and Their Resiliency to Attacks. IEEE Security and Privacy, 2014, 12, 15-23.   | 1.5 | 12        |
| 48 | Game-Theoretical Methods in Control of Engineering Systems: An Introduction to the Special Issue. IEEE Control Systems, 2017, 37, 30-32.  | 1.0 | 12        |
| 49 | Control of Urban Drainage Systems: Optimal Flow Control and Deep Learning in Action. , 2019, , .  |     | 12        |
| 50 | Design of mechanisms for demand response programs. , 2013, , .  |     | 11        |
| 51 | Non-centralized control for flow-based distribution networks: A game-theoretical insight. Journal of the Franklin Institute, 2017, 354, 5771-5796.  | 1.9 | 11        |
| 52 | Distributed formation control of multiple unmanned aerial vehicles over time-varying graphs using population games. , 2016, , .   |     | 10        |
| 53 | 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        |
| 54 | 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        |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 55 | Hierarchical dispatch of multiple microgrids using nodal price: an approach from consensus and replicator dynamics. <i>Journal of Modern Power Systems and Clean Energy</i> , 2019, 7, 1573-1584. | 3.3 | 9         |
| 56 | A Payoff Dynamics Model for Equality-Constrained Population Games. , 2022, 6, 530-535.  |     | 9         |
| 57 | Evolutionary Game-Based Dynamical Tuning for Multi-objective Model Predictive Control. <i>Lecture Notes in Control and Information Sciences</i> , 2015, , 115-138.                                | 0.6 | 9         |
| 58 | Foraging theory for dimensionality reduction of clustered data. <i>Machine Learning</i> , 2011, 82, 71-90.  | 3.4 | 8         |
| 59 | A bioinspired approach for a multizone temperature control system. <i>Bioinspiration and Biomimetics</i> , 2011, 6, 016007.   | 1.5 | 8         |
| 60 | A Virtual Environment for Industrial Control Systems. , 2018, , .   |     | 8         |
| 61 | Dynamic Data Integration for Resilience to Sensor Attacks in Multi-Agent Systems. <i>IEEE Access</i> , 2021, 9, 31236-31245.  | 2.6 | 8         |
| 62 | Stability analysis of switched polynomial systems using dissipation inequalities. , 2008, , .   |     | 7         |
| 63 | Optimal Control of Switched Systems: A Polynomial Approach. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2008, 41, 7808-7813.                             | 0.4 | 7         |
| 64 | Constrained distributed optimization based on population dynamics. , 2014, , .  |     | 7         |
| 65 | Distributed control of Drinking Water Networks using population dynamics: Barcelona case study. , 2014, , .   |     | 7         |
| 66 | Model-free control for wind farms using a gradient estimation-based algorithm. , 2015, , .  |     | 7         |
| 67 | Distributed control of small-scale power systems using noncooperative games. <i>International Journal of Electrical Power and Energy Systems</i> , 2016, 82, 535-544.                             | 3.3 | 7         |
| 68 | Incentive mechanisms to prevent efficiency loss of non-profit utilities. <i>International Journal of Electrical Power and Energy Systems</i> , 2019, 110, 523-535.                                | 3.3 | 7         |
| 69 | Robust Optimization Over Networks Using Distributed Restarting of Accelerated Dynamics. , 2021, 5, 301-306.   |     | 7         |
| 70 | Emergence of scale-free networks from ideal free distributions. <i>Europhysics Letters</i> , 2008, 82, 28004.   | 0.7 | 6         |
| 71 | Distributed resource management by using population dynamics: Wastewater treatment application. , 2015, , .   |     | 6         |
| 72 | Distributed MPC with time-varying communication network: A density-dependent population games approach. , 2016, , .   |     | 6         |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 73 | A centre-free approach for resource allocation with lower bounds. <i>International Journal of Control</i> , 2017, 90, 1830-1845.  | 1.2 | 6         |
| 74 | Mitigation of sensor attacks on legacy industrial control systems. , 2017, , .  |     | 6         |
| 75 | Data-Driven Decentralized Algorithm for Wind Farm Control with Population-Games Assistance. <i>Energies</i> , 2019, 12, 1164.   | 1.6 | 6         |
| 76 | Evolutionary-games approach for distributed predictive control involving resource allocation. <i>IET Control Theory and Applications</i> , 2019, 13, 772-782.             | 1.2 | 6         |
| 77 | Dynamic Modeling of Crop-Soil Systems to Design Monitoring and Automatic Irrigation Processes: A Review with Worked Examples. <i>Water (Switzerland)</i> , 2022, 14, 889. | 1.2 | 6         |
| 78 | Modeling and analysis for a temperature system based on resource dynamics and the ideal free distribution. , 2008, , .  |     | 5         |
| 79 | E. Coli bacterial foraging algorithm applied to pressure reducing valves control. , 2009, , .   |     | 5         |
| 80 | Microclimate modeling and control: A multizone approach. , 2010, , .  |     | 5         |
| 81 | Current results and research trends in networked control systems. , 2011, , .   |     | 5         |
| 82 | Multi-objective model-free control based on population dynamics and cooperative games. , 2015, , .  |     | 5         |
| 83 | DDAS for Attack Detection and Isolation of Control Systems. , 2018, , 407-422.  |     | 5         |
| 84 | On the Stability of Cyber-Physical Control Systems With Sensor Multiplicative Attacks. <i>IEEE Access</i> , 2022, 10, 39716-39728.  | 2.6 | 5         |
| 85 | Switching Between Controllers Using Replicator Dynamics. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2009, 42, 186-191.          | 0.4 | 4         |
| 86 | Extremum seeking for multi-population games. , 2013, , .  |     | 4         |
| 87 | Delay and sampling independence of a consensus algorithm and its application to smart grid privacy. , 2014, , .   |     | 4         |
| 88 | Tracking of Kuramoto oscillators with input saturation and applications in smart grids. , 2014, , .   |     | 4         |
| 89 | Distributed resource allocation over stochastic networks: An application in smart grids. , 2015, , .  |     | 4         |
| 90 | A differential game approach to urban drainage systems control. , 2016, , .   |     | 4         |

| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 91  | Distributed dispatch control in microgrids with network losses. , 2016, , .   |     | 4         |
| 92  | Low-Cost "ball and Plate" design and implementation for learning control systems. , 2017, , .   |     | 4         |
| 93  | Resilient Information-Exchange Protocol for Distributed Model Predictive Control Schemes. , 2018, , .   |     | 4         |
| 94  | 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         |
| 95  | Hybrid Robust Optimal Resource Allocation with Momentum. , 2019, , .  |     | 4         |
| 96  | 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         |
| 97  | Population dynamics applied to building energy efficiency. , 2011, , .  |     | 3         |
| 98  | A population dynamics model for opinion dynamics with prominent agents and incentives. , 2013, , .  |     | 3         |
| 99  | Distributed building temperature control with power constraints. , 2014, , .  |     | 3         |
| 100 | On the Communication Discussion of Two Distributed Population-game Approaches for Optimization Purposes * *Authors would like to thank COLCIENCIAS (grant 6172) and the Ag"ncia de Gest"o de Atividades 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         |
| 101 | Mitigation of communication failures in distributed model predictive control strategies. IET Control Theory and Applications, 2018, 12, 2507-2515.  | 1.2 | 3         |
| 102 | An Agent-Based Crop Model Framework for Heterogeneous Soils. Agronomy, 2021, 11, 85.  | 1.3 | 3         |
| 103 | Data-Driven Evolutionary-Game-Based Control for Drinking-Water Networks. Advances in Industrial Control, 2017, , 363-383.   | 0.4 | 3         |
| 104 | Discrete-Time Distributed Population Dynamics for Optimization and Control. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2022, 52, 7112-7122.   | 5.9 | 3         |
| 105 | Nash equilibrium seeking in full-potential population games under capacity and migration constraints. Automatica, 2022, 141, 110285.  | 3.0 | 3         |
| 106 | Weighted controller for an inverted pendulum: A replicator dynamics approach. , 2010, , .   |     | 2         |
| 107 | Dispatch of Distributed Generators Using Replicator Dynamics. , 2010, , .   |     | 2         |
| 108 | Multi-objective planning of recloser-based protection systems on DG enhanced feeders. , 2015, , .   |     | 2         |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 109 | Invariance principles for switched Differential-Algebraic Equations under arbitrary and dwell-time switching. , 2015, , .  |     | 2         |
| 110 | Planning open and closed-loop feeders with efficiency analysis. , 2015, , .  |     | 2         |
| 111 | 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         |
| 112 | A class of population dynamics for reaching epsilon-equilibria: Engineering applications. , 2016, , .  |     | 2         |
| 113 | On the Use of Agent-Based Modeling for Smart Farming. , 2018, , .  |     | 2         |
| 114 | Distributed Formation Control of Mobile Robots Using Discrete-Time Distributed Population Dynamics. IFAC-PapersOnLine, 2020, 53, 3131-3136.  | 0.5 | 2         |
| 115 | Control-Oriented Modeling Approach for Open Channel Irrigation Systems. IFAC-PapersOnLine, 2020, 53, 16630-16635.  | 0.5 | 2         |
| 116 | Decentralized Control for Urban Drainage Systems Using Replicator Dynamics. IEEE Access, 2022, 10, 56740-56762.  | 2.6 | 2         |
| 117 | Honeybee Social Foraging for Urban Traffic Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 588-593.  | 0.4 | 1         |
| 118 | A replicator dynamics weighted control technique for a DC-DC converter. , 2011, , .  |     | 1         |
| 119 | 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         |
| 120 | Synchronization of dynamical networks under sampling. , 2013, , .  |     | 1         |
| 121 | Market power mitigation in the Colombian electricity market through on-site generation and demand response. , 2015, , .  |     | 1         |
| 122 | Honey Bee Social Foraging Algorithm for Resource Allocation. , 2015, , 1361-1376.  |     | 1         |
| 123 | Co-simulation for the design of controllers in urban drainage systems. , 2015, , .   |     | 1         |
| 124 | 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         |
| 125 | Model Predictive Control Applied to the Dynamic Economic Dispatch Problem. IEEE Latin America Transactions, 2017, 15, 656-662.   | 1.2 | 1         |
| 126 | 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         |



| #   | ARTICLE   | IF  | CITATIONS |
|-----|---|-----|-----------|
| 127 | Notions and a passivity tool for switched DAE systems. , 2017, , .  |     | 1         |
| 128 | Distributed MPC and Potential Game Controller for Consensus in Multiple Differential-Drive Robots. , 2019, , .  |     | 1         |
| 129 | An Unknown Input Moving Horizon Estimator for Open Channel Irrigation Systems. , 2021, , .  |     | 1         |
| 130 | A payoff dynamics model for generalized Nash equilibrium seeking in population games. Automatica, 2022, 140, 110227.  | 3.0 | 1         |
| 131 | On Distributed Nash Equilibrium Seeking in a Class of Contractive Population Games. , 2022, 6, 2972-2977.   |     | 1         |
| 132 | Ideal free distributions in growing networks. , 2008, , .   |     | 0         |
| 133 | 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         |
| 134 | Building Temperature Control Based on Replicator Dynamics *. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 1140-1145.                  | 0.4 | 0         |
| 135 | An academic platform to illustrate game-theoretical approaches. , 2010, , .   |     | 0         |
| 136 | Analysis and control for the water distribution problem. , 2010, , .  |     | 0         |
| 137 | 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         |
| 138 | Dynamic population games for hierarchical microgrid management. , 2013, , .   |     | 0         |
| 139 | Technical assessment of microgrids integration into distribution systems. , 2014, , .   |     | 0         |
| 140 | Juggler System: Hybrid Model and Implementation. , 2015, , .  |     | 0         |
| 141 | Planning distribution primary feeders for smart-grid operation via network flow analysis. , 2015, , .   |     | 0         |
| 142 | Decentralized control for urban drainage systems via moving horizon observer. , 2016, , .   |     | 0         |
| 143 | Comparative analysis of MPPT techniques for a photovoltaic system in cundinamarca. , 2017, , .  |     | 0         |
| 144 | Social SCADA and microgrid prototype La Guajira. , 2017, , .  |     | 0         |

| #   | ARTICLE  | IF  | CITATIONS |
|-----|--|-----|-----------|
| 145 | A population-games application with the balls-in-tubes experiment. , 2017, , .   |     | 0         |
| 146 | Co-simulation tool for control in agricultural processes. , 2017, , .  |     | 0         |
| 147 | Detection, Isolation, and Magnitude Estimation of Unknown Flows in Open-Channel Irrigation Systems. IEEE Access, 2021, 9, 115348-115369. | 2.6 | 0         |
| 148 | Online Network-Constrained Dispatch of Distributed Generators in Radial Networks. , 2020, , .  |     | 0         |
| 149 | Low cost experiment for control systems. , 2011, , .   |     | 0         |