

# Mario Zanon

## List of Publications by Year in descending order

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78  
papers

1,872  
citations

430874

18  
h-index

377865

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g-index

79  
all docs

79  
docs citations

79  
times ranked

1197  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Scheduling and Robust Invariance in Networked Control Systems. IEEE Transactions on Automatic Control, 2022, 67, 3075-3082.   | 5.7 | 2         |
| 2  | Tuning LQR Controllers: A Sensitivity-Based Approach. , 2022, 6, 932-937.   |     | 5         |
| 3  | Constrained Controller and Observer Design by Inverse Optimality. IEEE Transactions on Automatic Control, 2022, 67, 5432-5439.  | 5.7 | 4         |
| 4  | Input Constraint Sets for Robust Regulation of Linear Systems. IEEE Transactions on Automatic Control, 2022, 67, 5533-5540.   | 5.7 | 1         |
| 5  | A Semidistributed Interior Point Algorithm for Optimal Coordination of Automated Vehicles at Intersections. IEEE Transactions on Control Systems Technology, 2022, 30, 1977-1989. | 5.2 | 2         |
| 6  | Data-Driven Synthesis of Robust Invariant Sets and Controllers. , 2022, 6, 1676-1681.   |     | 6         |
| 7  | A new dissipativity condition for asymptotic stability of discounted economic MPC. Automatica, 2022, 141, 110287.   | 5.0 | 10        |
| 8  | Stability-constrained Markov Decision Processes using MPC. Automatica, 2022, 143, 110399.   | 5.0 | 4         |
| 9  | Computation of Input Disturbance Sets for Constrained Output Reachability. IEEE Transactions on Automatic Control, 2022, , 1-8.   | 5.7 | 0         |
| 10 | Optimal control of the spatial allocation of COVID-19 vaccines: Italy as a case study. PLoS Computational Biology, 2022, 18, e1010237.  | 3.2 | 19        |
| 11 | Optimal Control Design for Perturbed Constrained Networked Control Systems. , 2021, 5, 553-558.   |     | 21        |
| 12 | A Robust Scenario MPC Approach for Uncertain Multi-Modal Obstacles. , 2021, 5, 947-952.   |     | 29        |
| 13 | Computation of Least-Conservative State-Constraint Sets for Decentralized MPC With Dynamic and Constraint Coupling. , 2021, 5, 235-240.   |     | 2         |
| 14 | A Gauss-Newton-Like Hessian Approximation for Economic NMPC. IEEE Transactions on Automatic Control, 2021, 66, 4206-4213.   | 5.7 | 4         |
| 15 | Safe Reinforcement Learning Using Robust MPC. IEEE Transactions on Automatic Control, 2021, 66, 3638-3652.  | 5.7 | 96        |
| 16 | Practical Economic MPC. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000216.   | 0.2 | 0         |
| 17 | Bias Correction in Reinforcement Learning via the Deterministic Policy Gradient Method for MPC-Based Policies. , 2021, , .  |     | 5         |
| 18 | Reinforcement Learning based on MPC and the Stochastic Policy Gradient Method. , 2021, , .  |     | 10        |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 19 | Primal or Dual Terminal Constraints in Economic MPC? Comparison and Insights. Lecture Notes in Control and Information Sciences, 2021, , 45-64.   | 1.0 | 2         |
| 20 | Model Predictive Control With Environment Adaptation for Legged Locomotion. IEEE Access, 2021, 9, 145710-145727.  | 4.2 | 18        |
| 21 | From linear to nonlinear MPC: bridging the gap via the real-time iteration. International Journal of Control, 2020, 93, 62-80.  | 1.9 | 164       |
| 22 | Data-Driven Economic NMPC Using Reinforcement Learning. IEEE Transactions on Automatic Control, 2020, 65, 636-648.  | 5.7 | 110       |
| 23 | Experimental validation of a semi-distributed sequential quadratic programming method for optimal coordination of automated vehicles at intersections. Optimal Control Applications and Methods, 2020, 41, 1068-1096. | 2.1 | 11        |
| 24 | Optimisation-based coordination of connected, automated vehicles at intersections. Vehicle System Dynamics, 2020, 58, 726-747.  | 3.7 | 23        |
| 25 | TuneMPC – A Tool for Economic Tuning of Tracking (N)MPC Problems. , 2020, 4, 910-915.   |     | 13        |
| 26 | Reinforcement Learning Based on Real-Time Iteration NMPC. IFAC-PapersOnLine, 2020, 53, 5213-5218.   | 0.9 | 4         |
| 27 | Practical Reinforcement Learning of Stabilizing Economic MPC. , 2019, , .   |     | 30        |
| 28 | Real-Time Constrained Trajectory Planning and Vehicle Control for Proactive Autonomous Driving With Road Users. , 2019, , .   |     | 37        |
| 29 | Receding-horizon robust online communication scheduling for constrained networked control systems. , 2019, , .  |     | 5         |
| 30 | Optimal Coordination of Automated Vehicles at Intersections: Theory and Experiments. IEEE Transactions on Control Systems Technology, 2019, 27, 2510-2525.  | 5.2 | 52        |
| 31 | Optimal Coordination of Automated Vehicles at Intersections with Turns. , 2019, , .   |     | 14        |
| 32 | A Parallel Decomposition Scheme for Solving Long-Horizon Optimal Control Problems. , 2019, , .  |     | 10        |
| 33 | Day-Ahead Scheduling and Real-Time Economic MPC of CHP Unit in Microgrid With Smart Buildings. IEEE Transactions on Smart Grid, 2019, 10, 1992-2001.  | 9.0 | 52        |
| 34 | Numerical Optimal Control With Periodicity Constraints in the Presence of Invariants. IEEE Transactions on Automatic Control, 2018, 63, 2818-2832.  | 5.7 | 9         |
| 35 | Economic MPC without terminal constraints: Gradient-correcting end penalties enforce asymptotic stability. Journal of Process Control, 2018, 63, 1-14.  | 3.3 | 34        |
| 36 | Optimal Scheduling of Downlink Communication for a Multi-Agent System With a Central Observation Post. , 2018, 2, 37-42.  |     | 16        |

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|----|---|-----|-----------|
| 37 | An MIQP-based heuristic for Optimal Coordination of Vehicles at Intersections. , 2018, , .  |     | 25        |
| 38 | Energy-Optimal Coordination of Autonomous Vehicles at Intersections. , 2018, , .  |     | 22        |
| 39 | A Computationally Efficient Model for Pedestrian Motion Prediction. , 2018, , .   |     | 23        |
| 40 | Impact of Communication Frequency on Remote Control of Automated Vehicles. , 2018, , .  |     | 3         |
| 41 | Distributed control algorithm for vehicle coordination at traffic intersections. , 2018, , .  |     | 14        |
| 42 | Asymptotic Stability of Economic NMPC: The Importance of Adjoints. IFAC-PapersOnLine, 2018, 51, 157-168.  | 0.9 | 17        |
| 43 | A Fast NMPC Approach based on Bounded-Variable Nonlinear Least Squares. IFAC-PapersOnLine, 2018, 51, 337-342.   | 0.9 | 5         |
| 44 | Experimental Validation of Distributed Optimal Vehicle Coordination. , 2018, , .  |     | 2         |
| 45 | Penalty Functions for Handling Large Deviation of Quadrature States in NMPC. IEEE Transactions on Automatic Control, 2017, 62, 3848-3860.   | 5.7 | 9         |
| 46 | Direct Optimal Control and Model Predictive Control. Lecture Notes in Mathematics, 2017, , 263-382.   | 0.2 | 9         |
| 47 | Periodic Optimal Control, Dissipativity and MPC. IEEE Transactions on Automatic Control, 2017, 62, 2943-2949.   | 5.7 | 55        |
| 48 | Distributed Algorithm for Optimal Vehicle Coordination at Traffic Intersections. IFAC-PapersOnLine, 2017, 50, 11577-11582.  | 0.9 | 22        |
| 49 | An Asynchronous Algorithm for Optimal Vehicle Coordination at Traffic Intersections * *This work was supported by Copplar (project number 32226302), the Swedish Research Council (VR, grant number) Tj ETQq1_1_0.784314 rgBT /Over IFAC-PapersOnLine, 2017, 50, 12008-12014.                 | 0.9 | 14        |
| 50 | A Periodic Tracking MPC that is Locally Equivalent to Periodic Economic MPC * *This research was supported by the EU via ERC-HIGHWIND (259 166), FP7-ITN-TEMPO (607 957), and H2020-ITN-AWESCO (642) Tj ETQq0 0 0 rgBT /Over zyklischer Prozesseâ€• IFAC-PapersOnLine, 2017, 50, 10711-10716. | 0.9 | 5         |
| 51 | A Sparsity Preserving Convexification Procedure for Indefinite Quadratic Programs Arising in Direct Optimal Control. SIAM Journal on Optimization, 2017, 27, 2085-2109.   | 2.0 | 16        |
| 52 | On the resource allocation problem in wireless networked control systems. , 2017, , .   |     | 17        |
| 53 | Time-optimal race car driving using an online exact hessian based nonlinear MPC algorithm. , 2016, , .  |     | 35        |
| 54 | Primal decomposition of the optimal coordination of vehicles at traffic intersections. , 2016, , .  |     | 31        |

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 55 | A tracking MPC formulation that is locally equivalent to economic MPC. Journal of Process Control, 2016, 45, 30-42.  | 3.3 | 41        |
| 56 | Model Predictive Control of Nonholonomic Mobile Robots Without Stabilizing Constraints and Costs. IEEE Transactions on Control Systems Technology, 2016, 24, 1394-1406.  | 5.2 | 86        |
| 57 | A compression algorithm for real-time distributed nonlinear MPC. , 2015, , .   |     | 0         |
| 58 | Baumgarte stabilisation over the SO(3) rotation group for control. , 2015, , .   |     | 15        |
| 59 | Autogenerating microsecond solvers for nonlinear MPC: A tutorial using ACADO integrators. Optimal Control Applications and Methods, 2015, 36, 685-704.   | 2.1 | 107       |
| 60 | Estimation of uncertain ARX models with ellipsoidal parameter variability. , 2015, , .   |     | 1         |
| 61 | Regulation of Differential Drive Robots using Continuous Time MPC without Stabilizing Constraints or Costs**M.W. Mehrez, C.K.I. Mann, and R.G. Gosine are supported by Natural Sciences and Engineering Research Council of Canada (NSERC), the Research and Development Corporation (RDC), CCORE J.I. Clark Chair, and Memorial University of Newfoundland. M. Zanon and M. Diehl are supported by Research Council KUL: PFV/10/002 Optimization in Engineering Center OPTEC, GOA/10/09 MaNet and GOA/10/11 Global real-time o. IFAC-PapersOnLine, 2015, 48, 129-135. | 0.9 | 19        |
| 62 | Towards time-optimal race car driving using nonlinear MPC in real-time. , 2014, , .  |     | 70        |
| 63 | Model Predictive Control of Autonomous Vehicles. Lecture Notes in Control and Information Sciences, 2014, , 41-57.   | 1.0 | 27        |
| 64 | Control of Dual-Airfoil Airborne Wind Energy systems based on nonlinear MPC and MHE. , 2014, , .   |     | 17        |
| 65 | Indefinite linear MPC and approximated economic MPC for nonlinear systems. Journal of Process Control, 2014, 24, 1273-1281.  | 3.3 | 41        |
| 66 | Airborne Wind Energy: Airfoil-Airmass Interaction. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 5814-5819.   | 0.4 | 9         |
| 67 | Local properties of economic NMPC, dissipativity and dynamic programming. , 2014, , .  |     | 4         |
| 68 | Airborne Wind Energy Based on Dual Airfoils. IEEE Transactions on Control Systems Technology, 2013, 21, 1215-1222.   | 5.2 | 45        |
| 69 | A Lyapunov function for periodic economic optimizing Model Predictive Control. , 2013, , .   |     | 36        |
| 70 | Nonlinear Moving Horizon Estimation for combined state and friction coefficient estimation in autonomous driving. , 2013, , .  |     | 23        |
| 71 | Control of Airborne Wind Energy systems based on Nonlinear Model Predictive Control & Moving Horizon Estimation. , 2013, , .   |     | 24        |
| 72 | Model Predictive Control of Rigid-Airfoil Airborne Wind Energy Systems. Green Energy and Technology, 2013, , 219-233.  | 0.6 | 10        |

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|----|--|-----|-----------|
| 73 | An Experimental Test Setup for Advanced Estimation and Control of an Airborne Wind Energy System. Green Energy and Technology, 2013, , 459-471.  | 0.6 | 4         |
| 74 | Rotational start-up of tethered airplanes based on nonlinear MPC and MHE. , 2013, , .  |     | 10        |
| 75 | An auto-generated nonlinear MPC algorithm for real-time obstacle avoidance of ground vehicles. , 2013, , .   |     | 102       |
| 76 | Orbit control for a power generating airfoil based on nonlinear MPC. , 2012, , .   |     | 10        |
| 77 | Nonlinear MPC and MHE for Mechanical Multi-Body Systems with Application to Fast Tethered Airplanes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 86-93. | 0.4 | 21        |
| 78 | Optimal scheduling and control for constrained multi-agent networked control systems. Optimal Control Applications and Methods, 0, , .   | 2.1 | 3         |