

# Carlo Novara

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4867334/publications.pdf>

Version: 2024-02-01

138  
papers

1,911  
citations

331670

21  
h-index

302126

39  
g-index

139  
all docs

139  
docs citations

139  
times ranked

1212  
citing authors

#	ARTICLE	IF	CITATIONS
1	Set Membership identification of nonlinear systems. Automatica, 2004, 40, 957-975.	5.0	228
2	Semi-Active Suspension Control Using "Fast" Model-Predictive Techniques. IEEE Transactions on Control Systems Technology, 2006, 14, 1034-1046.	5.2	189
3	A time-varying SIRD model for the COVID-19 contagion in Italy. Annual Reviews in Control, 2020, 50, 361-372.	7.9	135
4	Data-driven control of nonlinear systems: An on-line direct approach. Automatica, 2017, 75, 1-10.	5.0	100
5	UAV quadrotor attitude control: An ADRC-EMC combined approach. Control Engineering Practice, 2019, 84, 13-22.	5.5	66
6	Unified Set Membership theory for identification, prediction and filtering of nonlinear systems. Automatica, 2011, 47, 2141-2151.	5.0	50
7	Parametric identification of structured nonlinear systems. Automatica, 2011, 47, 711-721.	5.0	46
8	Optimal Strategy to Exploit the Flexibility of an Electric Vehicle Charging Station. Energies, 2019, 12, 3834.	3.1	39
9	Set membership prediction of nonlinear time series. IEEE Transactions on Automatic Control, 2005, 50, 1655-1669.	5.7	38
10	Direct feedback control design for nonlinear systems. Automatica, 2013, 49, 849-860.	5.0	37
11	Data-driven design of two degree-of-freedom nonlinear controllers: The $D^2$ approach. Automatica, 2016, 72, 19-27.	5.0	37
12	Direct Filtering: A New Approach to Optimal Filter Design for Nonlinear Systems. IEEE Transactions on Automatic Control, 2013, 58, 86-99.	5.7	36
13	Guest Editorial Special Issue on Applied LPV Modeling and Identification. IEEE Transactions on Control Systems Technology, 2011, 19, 1-4.	5.2	34
14	Direct Identification of Optimal SM-LPV Filters and Application to Vehicle Yaw Rate Estimation. IEEE Transactions on Control Systems Technology, 2011, 19, 5-17.	5.2	33
15	Computation of local radius of information in SM-IBC identification of nonlinear systems. Journal of Complexity, 2007, 23, 937-951.	1.3	31
16	The filter design from data (FD2) problem: Nonlinear Set Membership approach. Automatica, 2009, 45, 2350-2357.	5.0	30
17	Input design for structured nonlinear system identification. Automatica, 2010, 46, 990-998.	5.0	30
18	Parametric and nonparametric curve fitting. Automatica, 2006, 42, 1869-1873.	5.0	27

#	ARTICLE	IF	CITATIONS
19	Sparse Identification of Nonlinear Functions and Parametric Set Membership Optimality Analysis. IEEE Transactions on Automatic Control, 2012, 57, 3236-3241.	5.7	26
20	Filter design from data: direct vs. two-step approaches. , 2006, , .		25
21	Model quality in identification of nonlinear systems. IEEE Transactions on Automatic Control, 2005, 50, 1606-1611.	5.7	24
22	A Nonlinear Blind Identification Approach to Modeling of Diabetic Patients. IEEE Transactions on Control Systems Technology, 2016, 24, 1092-1100.	5.2	24
23	Control Design for UAV Quadrotors via Embedded Model Control. IEEE Transactions on Control Systems Technology, 2020, 28, 1741-1756.	5.2	23
24	Direct design from data of optimal filters for LPV systems. Systems and Control Letters, 2010, 59, 1-8.	2.3	20
25	Learning a Nonlinear Controller From Data: Theory, Computation, and Experimental Results. IEEE Transactions on Automatic Control, 2016, 61, 1854-1868.	5.7	20
26	Active Braking Control System Design: The $\mathcal{H}_2$ and $\mathcal{H}_\infty$ IBC Approach. IEEE/ASME Transactions on Mechatronics, 2015, 20, 1573-1584.	5.8	18
27	Design and rapid prototyping of a closed-loop control strategy of the injected mass for the reduction of CO <sub>2</sub> , combustion noise and pollutant emissions in diesel engines. Applied Energy, 2018, 232, 358-367.	10.1	17
28	A new closed-loop control of the injected mass for a full exploitation of digital and continuous injection-rate shaping. Energy Conversion and Management, 2018, 177, 629-639.	9.2	17
29	A combined Moving Horizon and Direct Virtual Sensor approach for constrained nonlinear estimation. Automatica, 2013, 49, 193-199.	5.0	16
30	The four-tank control problem: Comparison of two disturbance rejection control solutions. ISA Transactions, 2017, 71, 252-271.	5.7	16
31	Data-Driven Inversion-Based Control of Nonlinear Systems With Guaranteed Closed-Loop Stability. IEEE Transactions on Automatic Control, 2018, 63, 1147-1154.	5.7	15
32	Experimental Modeling of Vertical Dynamics of Vehicles with Controlled Suspensions. , 0, , .		14
33	Direct data-driven inverse control of a power kite for high altitude wind energy conversion. , 2011, , .		14
34	Identification of Nonlinear Maps in Interconnected Systems. , 0, , .		13
35	Set membership inversion and robust control from data of nonlinear systems. International Journal of Robust and Nonlinear Control, 2014, 24, 3170-3195.	3.7	13
36	Design of experiments for nonlinear system identification: A set membership approach. Automatica, 2020, 119, 109036.	5.0	13

#	ARTICLE	IF	CITATIONS
37	Structured Set Membership identification of nonlinear systems with application to vehicles with controlled suspension. Control Engineering Practice, 2007, 15, 1-16.	5.5	12
38	Sparse identification of nonlinear functions and parametric Set Membership optimality analysis. , 2011, , .		12
39	A DVS-MHE Approach to Vehicle Side-Slip Angle Estimation. IEEE Transactions on Control Systems Technology, 2014, 22, 2048-2055.	5.2	12
40	Direct design of optimal filters from data. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 462-467.	0.4	11
41	Embedded Model Control for UAV Quadrotor via Feedback Linearization. IFAC-PapersOnLine, 2016, 49, 266-271.	0.9	11
42	A flow optimization approach for the rebalancing of mobility on demand systems. , 2017, , .		11
43	Control of MIMO nonlinear systems: A data-driven model inversion approach. Automatica, 2019, 101, 417-430.	5.0	11
44	Nonlinear Set Membership prediction of river flow. Systems and Control Letters, 2004, 53, 31-39.	2.3	10
45	The filter design from data (FD2) problem: parametric statistical approach. International Journal of Robust and Nonlinear Control, 2012, 22, 1853-1872.	3.7	9
46	Sparse identification of posynomial models. Automatica, 2015, 59, 27-34.	5.0	9
47	Control of systems with sector-bounded nonlinearities: robust stability and command effort minimization by disturbance rejection. Control Theory and Technology, 2016, 14, 209-223.	1.6	9
48	Leading impulse response identification via the Elastic Net criterion. Automatica, 2017, 80, 75-87.	5.0	9
49	Set membership prediction of nonlinear time series. , 0, , .		8
50	SET MEMBERSHIP ESTIMATION OF NONLINEAR REGRESSIONS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 7-12.	0.4	8
51	Automatic crosswind flight of tethered wings for airborne wind energy: a direct data-driven approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4927-4932.	0.4	8
52	Multivariable Nonlinear Data-Driven Control With Application to Autonomous Vehicle Lateral Dynamics. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2019, 141, .	1.6	8
53	The LISA DFACS: Model Predictive Control design for the test mass release phase. Acta Astronautica, 2022, 193, 731-743.	3.2	8
54	A new approach to optimal filter design for nonlinear systems. , 2009, , .		7

#	ARTICLE	IF	CITATIONS
55	GNC robustness stability verification for an autonomous lander. Aerospace Science and Technology, 2020, 100, 105831.	4.8	7
56	How Imitation Learning and Human Factors Can Be Combined in a Model Predictive Control Algorithm for Adaptive Motion Planning and Control. Sensors, 2021, 21, 4012.	3.8	7
57	Earth Gravity In-Orbit Sensing: MPC Formation Control Based on a Novel Constellation Model. Remote Sensing, 2022, 14, 2815.	4.0	7
58	Structured SM identification of vehicle vertical dynamics. Mathematical and Computer Modelling of Dynamical Systems, 2005, 11, 195-207.	2.2	6
59	NONLINEAR VIRTUAL SENSORS DESIGN FROM DATA. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 576-581.	0.4	6
60	Input Design for Structured Nonlinear System Identification. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 174-179.	0.4	6
61	Mixed parametric/non-parametric identification of systems with discontinuous nonlinearities. Automatica, 2013, 49, 3661-3669.	5.0	6
62	Sparse set membership identification of nonlinear functions and application to fault detection. International Journal of Adaptive Control and Signal Processing, 2016, 30, 206-223.	4.1	6
63	From GOCE to NGGM: Automatic Control Breakthroughs for European future Gravity Missions. IFAC-PapersOnLine, 2017, 50, 6428-6433.	0.9	6
64	Nonlinear stability control of autonomous vehicles: a MIMO D 2 -IBC solution. IFAC-PapersOnLine, 2017, 50, 3691-3696.	0.9	6
65	Approaches to Daily Monitoring of the SARS-CoV-2 Outbreak in Northern Italy. Frontiers in Public Health, 2020, 8, 222.	2.7	6
66	Optimality in SM Identification of Nonlinear Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 1519-1524.	0.4	5
67	Semi-active suspension control using "fast" model predictive control. , 0, , .		5
68	NSM constrained approximation with application to fast predictive control. , 2007, , .		5
69	Experimental modeling of controlled suspension vehicles from onboard sensors. Vehicle System Dynamics, 2007, 45, 133-148.	3.7	5
70	Set membership approximations of predictive control laws: the tradeoff between accuracy and complexity. IET Control Theory and Applications, 2010, 4, 2907-2920.	2.1	5
71	Data-driven Model Predictive Control for Lean NO x Trap Regeneration * *This work has been carried out within the project "Experiment design in nonlinear system identification with application to automotive problems", funded by General Motors Global Propulsion Systems.. IFAC-PapersOnLine, 2017, 50, 6004-6009.	0.9	5
72	Data-Driven Disturbance Estimation and Control With Application to Blood Glucose Regulation. IEEE Transactions on Control Systems Technology, 2020, 28, 48-62.	5.2	5

#	ARTICLE	IF	CITATIONS
73	Sparse Reconstruction of Glucose Fluxes Using Continuous Glucose Monitors. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2020, 17, 1797-1809.	3.0	5
74	Nonlinear set membership prediction of river flow. , 0, , .		4
75	Experiment design in Nonlinear Set Membership identification. Proceedings of the American Control Conference, 2007, , .	0.0	4
76	Left-inversion of nonlinear fading memory systems from data. , 2008, , .		4
77	A direct Moving Horizon approach to vehicle side-slip angle estimation. , 2010, , .		4
78	Set membership identification of state-space LPV systems. , 2011, , 65-93.		4
79	Nonlinear MIMO Data-Driven Control Design for the Air and Charging Systems of Diesel Engines. , 0, , .		4
80	A data-driven approach to nonlinear braking control. , 2015, , .		4
81	A data-driven model inversion approach to cancer immunotherapy control. , 2016, , .		4
82	Polynomial classification model for real-time fall prediction system. , 2017, , .		4
83	Model quality in nonlinear sm identification. , 0, , .		3
84	Set Membership methods in identification, prediction and filtering of nonlinear systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 263-272.	0.4	3
85	Vehicle side-slip angle estimation using a direct MH estimator. , 2010, , .		3
86	A new approach to optimal filter design for nonlinear systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 11453-11458.	0.4	3
87	On the guaranteed accuracy of Polynomial Chaos Expansions. , 2011, , .		3
88	Direct Design of Discrete-Time LPV Feedback Controllers. IEEE Transactions on Automatic Control, 2015, 60, 2819-2824.	5.7	3
89	System and AOCS Challenges for the Design Consolidation of the Next Generation Gravity Mission. , 2018, , .		3
90	Embedded model control: Reconciling modern control theory and error-based control design. Control Theory and Technology, 2018, 16, 261-283.	1.6	3

#	ARTICLE	IF	CITATIONS
91	Set membership approximations of Predictive Control laws: The tradeoff between accuracy and complexity. , 2009, , .		3
92	NONLINEAR SET MEMBERSHIP FORECAST OF URBAN OZONE PEAKS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 94-99.	0.4	2
93	Direct identification of optimal filters for LPV systems. , 2008, , .		2
94	Implementation of Input Design for Structured Nonlinear System Identification via Linear IMC Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 168-173.	0.4	2
95	NSM constrained approximation of Lipschitz functions from data. Systems and Control Letters, 2010, 59, 396-403.	2.3	2
96	DFK control design for nonlinear systems. , 2012, , .		2
97	Direct design from data of LPV feedback controllers. , 2013, , .		2
98	Effective Vehicle Sideslip Angle Estimation using DVS Technology. , 2014, , .		2
99	Sparse Identification of Polynomial and Posynomial Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 3238-3243.	0.4	2
100	Data-driven inversion-based control of nonlinear systems. IFAC-PapersOnLine, 2015, 48, 1343-1348.	0.9	2
101	Robust stability and control effort minimization by disturbance rejection. , 2015, , .		2
102	Leading impulse response identification via the weighted elastic net criterion. , 2016, , .		2
103	Orbit and Formation Control for the Next Generation Gravity Mission <sup>***</sup> Part of this research was carried out within the study Next Generation Gravity Mission (NGGM): AOCS Solutions and Technologies study and within the ESA Networking Partner Initiative (NPI) PhD project Laser Metrology Spacecraft Formation (Ref. 4000109653/13/NL/MH) funded by the European Space Agency; Thales Alenia Space Italy (Turin) being the prime contractor. IFAC PapersOnLine, 2016, 49, 284-289.	0.9	2
104	Identification and control of a quadrotor from experimental data. , 2016, , .		2
105	Embedded model control GNC for the Next Generation Gravity Mission. Acta Astronautica, 2017, 140, 497-508.	3.2	2
106	Lean NO <sub>x</sub> trap regeneration control: A data-driven MPC approach. , 2017, , .		2
107	Introduction to Embedded Model Control. , 2018, , 725-762.		2
108	A Finite-Time Local Observer in the Original Coordinates for Nonlinear Control Systems. IEEE Transactions on Automatic Control, 2020, 65, 4808-4815.	5.7	2

#	ARTICLE	IF	CITATIONS
109	Structured experimental modeling of complex nonlinear systems. , 0, , .		1
110	Experimental Modeling of Controlled Suspension Vehicles from Onboard Sensors. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 541-546.	0.4	1
111	Distortion Prediction for Video Quality Optimization over Packet Switched Networks. , 2009, , .		1
112	A Nonlinear IMC approach using model inversion from data. , 2009, , .		1
113	Sparse Set Membership identification of nonlinear functions and application to control of power kites for wind energy conversion. , 2011, , .		1
114	LPV Model Identification for a Web Winding System. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 1779-1784.	0.4	1
115	A sparse Set Membership approach to interval estimation of nonlinear functions and application to fault detection. , 2013, , .		1
116	Mixed parametric/non-parametric identification of systems with discontinuous nonlinearities. , 2013, , .		1
117	A nonlinear blind identification approach to modeling of diabetic patients. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 4116-4121.	0.4	1
118	On-line direct control design for nonlinear systems. IFAC-PapersOnLine, 2015, 48, 144-149.	0.9	1
119	The four-tank benchmark: A simple solution by Embedded Model Control. , 2016, , .		1
120	Feasibility analysis of sustainable methods through manufacturing algebra and Monte-Carlo simulations. , 2016, , .		1
121	A novel algorithm for integrated control model using swarm robots for intruder detection and rescue schedules. Telecommunication Systems, 2019, 72, 273-284.	2.5	1
122	Asynchronous Multi-rate Sampled-data Control: an Embedded Model Control Perspective. , 2019, , .		1
123	Data-driven polynomial MPC and application to blood glucose regulation in a diabetic patient. , 2018, , .		1
124	Docking Manoeuvre Control for CubeSats. Journal of the Astronautical Sciences, 2022, 69, 312-334.	1.5	1
125	Local sliding mode inversion algorithms and state observers with space applications. International Journal of Robust and Nonlinear Control, 0, , .	3.7	1
126	A nonlinear IMC approach to vehicle yaw control. , 2009, , .		0



#	ARTICLE	IF	CITATIONS
127	A simple approach to direct LPV filter design from data for nonlinear systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 348-353.	0.4	0
128	Improvement of Moving Horizon Estimators via Direct Virtual Sensor techniques. , 2011, , .		0
129	Robustly optimal filter design for nonlinear systems. , 2012, , .		0
130	Learning a nonlinear controller from data: Theory and computation. , 2014, , .		0
131	Control of MIMO nonlinear systems via approximate model inversion. , 2017, , .		0
132	APSEplus. , 2017, , .		0
133	Attitude Dynamics. , 2018, , 299-387.		0
134	Further assessment of the injected mass closed-loop control strategy in the design of innovative fuel injection systems. AIP Conference Proceedings, 2019, , .	0.4	0
135	A Data-Driven Model Predictive Control Approach to Lean NOx Trap Regeneration. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2019, 141, .	1.6	0
136	Optimal Strategies for Adaptive Cruise Control. Communications in Computer and Information Science, 2017, , 227-241.	0.5	0
137	Identification of nonlinear systems and optimality analysis in Sobolev spaces. IFAC-PapersOnLine, 2020, 53, 1144-1149.	0.9	0
138	Nonlinear system identification in Sobolev spaces. International Journal of Control, 0, , 1-16.	1.9	0