Daniel E Rivera

List of Publications by Year
in descending order

156 papers	6,274 citations	147801 31 h-index	82547 72 g-index
163 all docs	163 docs citations	163 times ranked	5619 citing authors

#	Article	IF	Citations
1	Internal model control: PID controller design. Industrial & Engineering Chemistry Process Design and Development, 1986, 25, 252-265.	0.6	1,247
2	Health behavior models in the age of mobile interventions: are our theories up to the task?. Translational Behavioral Medicine, 2011, 1, 53-71.	2.4	876
3	Evaluating Digital Health Interventions. American Journal of Preventive Medicine, 2016, 51, 843-851.	3.0	553
4	Building new computational models to support health behavior change and maintenance: new opportunities in behavioral research. Translational Behavioral Medicine, 2015, 5, 335-346.	2.4	185
5	Agile science: creating useful products for behavior change in the real world. Translational Behavioral Medicine, 2016, 6, 317-328.	2.4	171
6	A Model Predictive Control framework for robust management of multi-product, multi-echelon demand networks. Annual Reviews in Control, 2003, 27, 229-245.	7.9	135
7	Advancing Models and Theories for Digital Behavior Change Interventions. American Journal of Preventive Medicine, 2016, 51, 825-832.	3.0	132
8	Simulation-based optimization of process control policies for inventory management in supply chains. Automatica, 2006, 42, 1311-1320.	5.0	131
9	Using engineering control principles to inform the design of adaptive interventions: A conceptual introduction. Drug and Alcohol Dependence, 2007, 88, S31-S40.	3.2	127
10	Smith predictor design for robust performance. International Journal of Control, 1987, 46, 477-504.	1.9	118
11	Tutorial for Using Control Systems Engineering to Optimize Adaptive Mobile Health Interventions. Journal of Medical Internet Research, 2018, 20, e214.	4.3	109
12	Model predictive control strategies for supply chain management in semiconductor manufacturing. International Journal of Production Economics, 2007, 107, 56-77.	8.9	101
13	Adaptive step goals and rewards: a longitudinal growth model of daily steps for a smartphone-based walking intervention. Journal of Behavioral Medicine, 2018, 41, 74-86.	2.1	83
14	Constrained multisine input signals for plant-friendly identification of chemical process systems. Journal of Process Control, 2009, 19, 623-635.	3.3	79
15	Control-relevant prefiltering: a systematic design approach and case study. IEEE Transactions on Automatic Control, 1992, 37, 964-974.	5.7	76
16	A 'Model-on-Demand' identification methodology for non-linear process systems. International Journal of Control, 2001, 74, 1708-1717.	1.9	74
17	A dynamical model for describing behavioural interventions for weight loss and body composition change. Mathematical and Computer Modelling of Dynamical Systems, 2011, 17, 183-203.	2.2	73
18	Model Predictive Control for Tactical Decision-Making in Semiconductor Manufacturing Supply Chain Management. IEEE Transactions on Control Systems Technology, 2008, 16, 841-855.	5.2	71

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19	A process control approach to tactical inventory management in production-inventory systems. International Journal of Production Economics, 2010, 125, 111-124.	8.9	66
20	Dynamic energy-balance model predicting gestational weight gain. American Journal of Clinical Nutrition, 2012, 95, 115-122.	4.7	64
21	A hierarchical approach to production control of reentrant semiconductor manufacturing lines. IEEE Transactions on Control Systems Technology, 2003, 11, 578-587.	5.2	61
22	Control-relevant model reduction problems for SISO H2, Hâˆž, and Î¼-controller synthesis. International Journal of Control, 1987, 46, 505-527.	1.9	60
23	High-Purity Distillation. IEEE Control Systems, 2007, 27, 72-89.	0.8	52
24	An Improved Formulation of Hybrid Model Predictive Control With Application to Production-Inventory Systems. IEEE Transactions on Control Systems Technology, 2013, 21, 121-135.	5.2	51
25	Application of minimum crest factor multisinusoidal signals for â€œplant-friendlyâ€•identification of nonlinear process systems. Control Engineering Practice, 2002, 10, 301-313.	5.5	48
26	A dynamical systems model of Social Cognitive Theory. , 2014, , .		48
27	Development of a dynamic computational model of social cognitive theory. Translational Behavioral Medicine, 2016, 6, 483-495.	2.4	47
28	An integrated identification and control design methodology for multivariable process system applications. IEEE Control Systems, 2000, 20, 25-37.	0.8	46
29	"Plant-Friendly" system identification: a challenge for the process industries. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 891-896.	0.4	39
30	Multilayer optimization and scheduling using model predictive control: application to reentrant semiconductor manufacturing lines. Computers and Chemical Engineering, 2000, 24, 2009-2021.	3.8	37
31	Modeling individual differences: A case study of the application of system identification for personalizing a physical activity intervention. Journal of Biomedical Informatics, 2018, 79, 82-97.	4.3	37
32	An interactive software tool for system identification. Advances in Engineering Software, 2012, 45, 115-123.	3.8	36
33	Exploring Behavioral Markers of Long-Term Physical Activity Maintenance. Health Education and Behavior, 2013, 40, 51S-62S.	2.5	35
34	Guest Editorial Special Issue on Applied LPV Modeling and Identification. IEEE Transactions on Control Systems Technology, 2011, 19, 1-4.	5.2	34
35	A model predictive control approach for real-time optimization of reentrant manufacturing lines. Computers in Industry, 2001, 45, 45-57.	9.9	33
36	Control relevant model reduction of Volterra series models. Journal of Process Control, 1998, 8, 79-88.	3.3	32

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37	Systematic techniques for determining modelling requirements for SISO and MIMO feedback control. Journal of Process Control, 1995, 5, 213-224.	3.3	28
38	A Dynamical Systems Approach to Understanding Self-Regulation in Smoking Cessation Behavior Change. Nicotine and Tobacco Research, 2013, 16, S159-S168.	2.6	28
39	Methodologies for optimizing behavioral interventions: introduction to special section. Translational Behavioral Medicine, 2014, 4, 234-237.	2.4	27
40	Individually Tailored, Adaptive Intervention to Manage Gestational Weight Gain: Protocol for a Randomized Controlled Trial in Women With Overweight and Obesity. JMIR Research Protocols, 2018, 7, e150.	1.0	27
41	On adaptive smoothing of empirical transfer function estimates. Control Engineering Practice, 2000, 8, 1309-1315.	5.5	25
42	Development of a Control-Oriented Model of Social Cognitive Theory for Optimized mHealth Behavioral Interventions. IEEE Transactions on Control Systems Technology, 2020, 28, 331-346.	5.2	25
43	Adaptive, behavioral intervention impact on weight gain, physical activity, energy intake, and motivational determinants: results of a feasibility trial in pregnant women with overweight/obesity. Journal of Behavioral Medicine, 2021, 44, 605-621.	2.1	24
44	A control engineering approach for designing an optimized treatment plan for fibromyalgia. , 2011, 2011, 4798-4803.		22
45	Optimized treatment of fibromyalgia using system identification and hybrid model predictive control. Control Engineering Practice, 2014, 33, 161-173.	5.5	22
46	Functional data analysis for dynamical system identification of behavioral processes.. Psychological Methods, 2014, 19, 175-187.	3.5	22
47	System identification of Just Walk: A behavioral mHealth intervention for promoting physical activity. , 2017, , .		22
48	Low-order SISO controller tuning methods for the H2, Hâˆž and Î¼ objective functions. Automatica, 1990, 26, 361-369.	5.0	21
49	Simulation of Semiconductor Manufacturing Supply-Chain Systems With DEVS, MPC, and KIB. IEEE Transactions on Semiconductor Manufacturing, 2009, 22, 164-174.	1.7	21
50	Systems Modeling of Behavior Change: Two Illustrations from Optimized Interventions for Improved Health Outcomes. IEEE Pulse, 2013, 4, 41-47.	0.3	21
51	Engineering Person-Specific Behavioral Interventions to Promote Physical Activity. Exercise and Sport Sciences Reviews, 2020, 48, 170-179.	3.0	21
52	Control Systems Engineering for Optimizing a Prenatal Weight Gain Intervention to Regulate Infant Birth Weight. American Journal of Public Health, 2014, 104, 1247-1254.	2.7	20
53	A system identification approach for improving behavioral interventions based on Social Cognitive Theory. , 2015, , .		20
54	A Risk-Based Model Predictive Control Approach to Adaptive Interventions in Behavioral Health. IEEE Transactions on Control Systems Technology, 2011, 19, 891-901.	5.2	19

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55	A dynamical systems model for improving gestational weight gain behavioral interventions. , 2012, , 4059-4064.		19
56	System identification: A Wiener-Hammerstein benchmark. Control Engineering Practice, 2012, 20, 1095-1096.	5.5	19
57	A control systems engineering approach for adaptive behavioral interventions: illustration with a fibromyalgia intervention. Translational Behavioral Medicine, 2014, 4, 275-289.	2.4	19
58	Continuous-time system identification of a smoking cessation intervention. International Journal of Control, 2014, 87, 1423-1437.	1.9	18
59	Managing risk in semiconductor manufacturing: A stochastic predictive control approach. Control Engineering Practice, 2007, 15, 969-984.	5.5	17
60	Optimized behavioral interventions: what does system identification and control engineering have to offer?. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 882-893.	0.4	16
61	Hybrid model predictive control for optimizing gestational weight gain behavioral interventions. , 2013, , 1970-1975.		16
62	A decision framework for an adaptive behavioral intervention for physical activity using hybrid model predictive control. , 2016, , .		16
63	Consydâ€"Integrated software for computer aided control system design and analysis. Computers and Chemical Engineering, 1987, 11, 187-203.	3.8	15
64	Multivariable frequency-response curve fitting with application to control-relevant parameter estimation. Automatica, 1997, 33, 1169-1174.	5.0	15
65	Perspectives on control-relevant identification through the use of interactive tools. Control Engineering Practice, 2013, 21, 171-183.	5.5	15
66	The importance of behavior theory in control system modeling of physical activity sensor data. , 2014, 2014, 6880-3.		15
67	A Hybrid Model Predictive Control strategy for optimizing a smoking cessation intervention. , 2014, 2014, 2389-2394.		15
68	Digital PID controller design using ARX estimation. Computers and Chemical Engineering, 1996, 20, 1317-1334.	3.8	14
69	Hybrid Discrete Event Simulation with Model Predictive Control for Semiconductor Supply-chain Manufacturing. , 0, , .		14
70	Control systems engineering for understanding and optimizing smoking cessation interventions. , 2013, , 1964-1969.		14
71	Goal setting and achievement for walking: A series of N-of-1 digital interventions.. Health Psychology, 2021, 40, 30-39.	1.6	13
72	Control-Relevant Parameter Estimation: A Systematic Procedure for Prefilter Design. , 1991, , .		12

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73	Control-Relevant Demand Forecasting for Tactical Decision-Making in Semiconductor Manufacturing Supply Chain Management. IEEE Transactions on Semiconductor Manufacturing, 2009, 22, 154-163.	1.7	12
74	Hybrid model predictive control for sequential decision policies in adaptive behavioral interventions. , 2014, 2014, 4198-4203.		12
75	Plant and controller reduction problems for closed-loop performance. IEEE Transactions on Automatic Control, 1992, 37, 398-404.	5.7	11
76	Design of Informative Identification Experiments for Behavioral Interventions. IFAC-PapersOnLine, 2015, 48, 1325-1330.	0.9	11
77	Semi-physical identification and state estimation of energy intake for interventions to manage gestational weight gain. , 2016, 2016, 1271-1276.		11
78	Experimental Design for Robust Process Control Using Schroeder-Phased Input Signals. , 1993, , .		10
79	A novel model predictive control formulation for hybrid systems with application to adaptive behavioral interventions. , 2010, 2010, 6286-6292.		10
80	Towards Patient-Friendly Input Signal Design for Optimized Pain Treatment Interventions*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 1311-1316.	0.4	10
81	An identification test monitoring procedure for MIMO systems based on statistical uncertainty estimation. , 2015, , .		10
82	Intensively Adaptive Interventions Using Control Systems Engineering: Two Illustrative Examples. Statistics for Social and Behavioral Sciences, 2018, , 121-173.	0.3	10
83	A methodology for control-relevant nonlinear system identification using restricted complexity models. Journal of Process Control, 2001, 11, 209-222.	3.3	9
84	Constrained minimum crest factor multisine signals for "Plant-Friendly" identification of highly interactive systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 915-920.	0.4	9
85	LPV system identification using a separable least squares support vector machines approach. , 2014, , .		9
86	System Identification Approaches for Energy Intake Estimation: Enhancing Interventions for Managing Gestational Weight Gain. IEEE Transactions on Control Systems Technology, 2020, 28, 63-78.	5.2	9
87	Advancing Behavioral Intervention and Theory Development for Mobile Health: The HeartSteps II Protocol. International Journal of Environmental Research and Public Health, 2022, 19, 2267.	2.6	9
88	Integrated MIMO identification and robust PID controller design through loop shaping. , 1998, , .		8
89	Model-on-Demand predictive control for nonlinear hybrid systems with application to adaptive behavioral interventions. , 2010, 2010, 6113-6118.		8
90	A Personalized and Control Systems Engineering Conceptual Approach to Target Childhood Anxiety in the Contexts of Cultural Diversity. Journal of Clinical Child and Adolescent Psychology, 2014, 43, 442-453.	3.4	8

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91	Uncontrolled Eating during Pregnancy Predicts Fetal Growth: The Healthy Mom Zone Trial. Nutrients, 2019, 11, 899.	4.1	8
92	A computer-aided design tool for robustness analysis and control-relevant identification of Horizon Predictive Control with application to a binary distillation column. Journal of Process Control, 1996, 6, 177-186.	3.3	7
93	Application of robustified Model Predictive Control to a production-inventory system. , 2009, , .		7
94	Plant-Friendly Signal Generation for System Identification Using a Modified Simultaneous Perturbation Stochastic Approximation (SPSA) Methodology. IEEE Transactions on Control Systems Technology, 2011, 19, 1604-1612.	5.2	7
95	Optimal input signal design for data-centric estimation methods. , 2013, , 3924-3929.		7
96	Control Systems Engineering for Optimizing Behavioral mHealth Interventions. , 2017, , 455-493.		7
97	Gestational Weight Gain Intervention Impacts Determinants of Healthy Eating and Exercise in Overweight/Obese Pregnant Women. Journal of Obesity, 2018, 2018, 1-12.	2.7	7
98	Short Nighttime Sleep Duration and High Number of Nighttime Awakenings Explain Increases in Gestational Weight Gain and Decreases in Physical Activity but Not Energy Intake among Pregnant Women with Overweight/Obesity. Clocks & Sleep, 2020, 2, 487-501.	2.0	7
99	CONTROL-RELEVANT DEMAND MODELING FOR SUPPLY CHAIN MANAGEMENT. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 267-272.	0.4	6
100	Applications Of System Identification. IEEE Control Systems, 2007, 27, 24-26.	0.8	6
101	Optimization-based design of plant-friendly multisine signals using geometric discrepancy criteria. Computational Optimization and Applications, 2007, 38, 173-190.	1.6	6
102	A data-centric system identification approach to input signal design for Hammerstein systems. , 2013, , .		6
103	Evaluating PID Control for Supply Chain Management: A Freshman Design Project. , 0, , .		5
104	A control engineering framework for managing whole hospital occupancy. Mathematical and Computer Modelling, 2012, 55, 1401-1417.	2.0	5
105	Formalization of Computational Human Behavior Models for Contextual Persuasive Technology. Lecture Notes in Computer Science, 2016, , 150-161.	1.3	5
106	State Estimation Under Correlated Partial Measurement Losses: Implications for Weight Control Interventions * *Support for this work has been provided by the National Heart, Lung, and Blood Institute (NHLBI) through grant R01 HL119245. The opinions expressed in this article are the authors' own and do not necessarily reflect the views of NHLBI.. IFAC-PapersOnLine, 2017, 50, 13532-13537.	0.9	5
107	A Dynamical Systems Model for Understanding Behavioral Interventions for Weight Loss. Lecture Notes in Computer Science, 2010, , 170-179.	1.3	5
108	Closed-Loop System Identification of Restricted Complexity Models Using Iterative Refinement. , 1993, , .		4

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109	A Control-Relevant Multivariable System Identification Methodology Based on Orthogonal Multifrequency Input Perturbations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 573-578.	0.4	4
110	pIDtune TM : A Graphical Package for Integrated System Identification and PID Controller Design. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 681-686.	0.4	4
111	Modeling and simulation of the Michigan Aerospace autonomous satellite docking system II. , 2005, , .		4
112	CR-IDENT: A MATLAB TOOLBOX FOR MULTIVARIABLE CONTROL-RELEVANT SYSTEM IDENTIFICATION. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 708-713.	0.4	4
113	Flexible Experimentation and Analysis for Hybrid DEVS and MPC Models. , 2006, , .		4
114	Guest Editorial: Special Issue on Relaxation Methods in Identification and Estimation Problems. IEEE Transactions on Automatic Control, 2014, 59, 2869-2870.	5.7	4
115	Constrained Optimal Input Signal Design for Data-Centric Estimation Methods. IEEE Transactions on Automatic Control, 2014, 59, 2990-2995.	5.7	4
116	Leveraging intensive longitudinal data to better understand health behaviors. , 2014, 2014, 6888-91.		4
117	Understanding closed-loop identification with ITCLI. IFAC-PapersOnLine, 2015, 48, 739-744.	0.9	4
118	An enhanced identification test monitoring procedure for MIMO systems relying on uncertainty estimates. , 2016, , .		4
119	ITTSAE: A Set of Interactive Software Tools for Time Series Analysis Education [Lecture Notes]. IEEE Control Systems, 2016, 36, 112-120.	0.8	4
120	A â€œModel-on-Demandâ€•Methodology For Energy Intake Estimation to Improve Gestational Weight Control Interventions. IFAC-PapersOnLine, 2018, 51, 144-149.	0.9	4
121	Modeling Opportunities in mHealth Cyber-Physical Systems. , 2017, , 443-453.		4
122	Modeling for Control Design in Combined Feedback/Feedforward Control. , 1992, , .		3
123	Restricted Complexity Approximation of Nonlinear Processes Using a Control-Relevant Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1996, 29, 6019-6024.	0.4	3
124	Inner and outer loop optimization in semiconductor manufacturing supply chain management. Computational Management Science, 2009, 6, 411-434.	1.3	3
125	System Identification Modeling of a Smoking Cessation Intervention*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 786-791.	0.4	3
126	A control-relevant approach to demand modeling for supply chain management. Computers and Chemical Engineering, 2014, 70, 78-90.	3.8	3

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127	A control engineering approach for optimizing physical activity behavioral interventions. , 2016, , .		3
128	System Identification of <i>Just Walk</i>: Using Matchable-Observable Linear Parametrizations. IEEE Transactions on Control Systems Technology, 2020, 28, 264-275.	5.2	3
129	Foreword Identification and Control in Biomedical Applications. IEEE Transactions on Control Systems Technology, 2020, 28, 1-2.	5.2	3
130	Underreporting of Energy Intake Increases over Pregnancy: An Intensive Longitudinal Study of Women with Overweight and Obesity. Nutrients, 2022, 14, 2326.	4.1	3
131	Control-relevant estimation of demand models for closed-loop control of a production-inventory system. , 2009, , .		2
132	A System Identification Approach to PDE Modeling of a Semiconductor Manufacturing Process. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 964-969.	0.4	2
133	Probabilistic uncertainty description for an ETFE estimated plant using a sequence of multi-sinusoidal signals. , 2010, , .		2
134	A MoliZoft System Identification Approach of the Just Walk Data. IFAC-PapersOnLine, 2017, 50, 12508-12513.	0.9	2
135	Identifying ActiGraph non-wear time in pregnant women with overweight or obesity. Journal of Science and Medicine in Sport, 2020, 23, 1197-1201.	1.3	2
136	Optimizing behavioral interventions to regulate gestational weight gain with sequential decision policies using hybrid model predictive control. Computers and Chemical Engineering, 2022, 160, 107721.	3.8	2
137	Optimization-based Design of Plant-Friendly Input Signals for Model-on-Demand Estimation and Model Predictive Control. Proceedings of the American Control Conference, 2007, , .	0.0	1
138	Control-relevant demand forecasting for management of a production-inventory system. , 2008, , .		1
139	Plant-friendly signal generation for system identification using a modified SPSA methodology. , 2009, , .		1
140	Hybrid Model Predictive Control Applied to Production-Inventory Systems*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 7328-7333.	0.4	1
141	Identification of affine linear parameter varying models for adaptive interventions in fibromyalgia treatment. , 2013, 2013, 1976-1981.		1
142	Interactive Education for Time-Domain Time Series Analysis using ITTSAE. IFAC-PapersOnLine, 2015, 48, 751-756.	0.9	1
143	Control-Relevant Design of System Identification Experiments to Improve Behavioral Interventions. IFAC-PapersOnLine, 2017, 50, 15115-15120.	0.9	1
144	LPV system identification using the matchable observable linear identification approach. , 2017, , .		1

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145	A dynamical systems model of intrauterine fetal growth. Mathematical and Computer Modelling of Dynamical Systems, 2018, 24, 661-687.	2.2	1
146	A control‐based observer approach for estimating energy intake during pregnancy. International Journal of Robust and Nonlinear Control, 2023, 33, 5105-5127.	3.7	1
147	Un esquema de decisiones para intervenciones adaptativas comportamentales de actividad fÃsica basado en control predictivo por modelo hÃbrido: ilustraciÃ³n con Just Walk. RIAI - Revista Iberoamericana De Automatica E Informatica Industrial, 2022, 19, 297-308.	1.0	1
148	High-Order ARX Estimation and its Application to Decentralized, Decoupled and Full Multivariable Control. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1997, 30, 559-564.	0.4	0
149	Events, actors and interaction of hybrid entities in virtual reality. , 2005, , .		0
150	PROCESS CONTROL EDUCATION USING INVENTORY MANAGEMENT IN SUPPLY CHAINS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 631-636.	0.4	0
151	Multi-Objective Control-Relevant Demand Modeling for Production and Inventory Control. , 2007, , .		0
152	Identification of LPV State Space systems by a separable least squares approach. , 2013, , .		0
153	Data-centric input signal design for highly interactive dynamical systems. , 2014, , .		0
154	Towards data-centric input signal design using sparse polynomial optimization. , 2014, , .		0
155	Lessons Learned in Development of a Behavior Modeling Tool for Health Intervention Design: BehaviorSim. Advances in Intelligent Systems and Computing, 2017, , 279-290.	0.6	0
156	An Adaptive Identification Test Monitoring Procedure for Nonlinear Behavioral Interventions. IFAC-PapersOnLine, 2020, 53, 16476-16481.	0.9	0