

# Richard D Braatz

## List of Publications by Year in descending order

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488  
papers

21,380  
citations

9786

73  
h-index

12946

131  
g-index

499  
all docs

499  
docs citations

499  
times ranked

13016  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | A Polynomial Chaos Approach to Robust Static Output-Feedback Control With Bounded Truncation Error. IEEE Transactions on Automatic Control, 2023, 68, 470-477.          | 5.7  | 6         |
| 2  | Fast charging design for Lithium-ion batteries via Bayesian optimization. Applied Energy, 2022, 307, 118244.  | 10.1 | 35        |
| 3  | Compact neural network modeling of nonlinear dynamical systems via the standard nonlinear operator form. Computers and Chemical Engineering, 2022, 159, 107674.         | 3.8  | 4         |
| 4  | Weighing the DNA Content of Adeno-Associated Virus Vectors with Zeptogram Precision Using Nanomechanical Resonators. Nano Letters, 2022, 22, 1511-1517.                 | 9.1  | 7         |
| 5  | Bayesian optimization for material discovery processes with noise. Molecular Systems Design and Engineering, 2022, 7, 622-636.  | 3.4  | 7         |
| 6  | Method of Characteristics for the Efficient Simulation of Population Balance Models. Springer Optimization and Its Applications, 2022, , 33-51.                         | 0.9  | 1         |
| 7  | Efficient numerical schemes for population balance models. Computers and Chemical Engineering, 2022, 162, 107808.   | 3.8  | 4         |
| 8  | Fast Model Predictive Control of Modular Systems for Continuous Manufacturing of Pharmaceuticals. Springer Optimization and Its Applications, 2022, , 289-322.          | 0.9  | 1         |
| 9  | Water electrolysis: from textbook knowledge to the latest scientific strategies and industrial developments. Chemical Society Reviews, 2022, 51, 4583-4762.             | 38.1 | 453       |
| 10 | Whither chemical engineering?. AIChE Journal, 2022, 68, .   | 3.6  | 4         |
| 11 | Meeting the challenge of water sustainability: The role of process systems engineering. AIChE Journal, 2021, 67, e17113.  | 3.6  | 4         |
| 12 | Macroscopic modeling of bioreactors for recombinant protein producing <i>Pichia pastoris</i> in defined medium. Biotechnology and Bioengineering, 2021, 118, 1199-1212. | 3.3  | 14        |
| 13 | Smart process analytics for predictive modeling. Computers and Chemical Engineering, 2021, 144, 107134.   | 3.8  | 24        |
| 14 | A Reduced-order Model for Real-time NMPC of Ethanol Steam Reformers. IFAC-PapersOnLine, 2021, 54, 103-108.  | 0.9  | 0         |
| 15 | Robust Control Theory Based Stability Certificates for Neural Network Approximated Nonlinear Model Predictive Control. IFAC-PapersOnLine, 2021, 54, 347-352.            | 0.9  | 4         |
| 16 | Modeling of copy number variability in <i>Pichia pastoris</i> . Biotechnology and Bioengineering, 2021, 118, 1832-1839.   | 3.3  | 0         |
| 17 | Crystallization of a nonreplicating rotavirus vaccine candidate. Biotechnology and Bioengineering, 2021, 118, 1750-1756.  | 3.3  | 2         |
| 18 | Perspective "Combining Physics and Machine Learning to Predict Battery Lifetime. Journal of the Electrochemical Society, 2021, 168, 030525.                             | 2.9  | 107       |

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|----|--|------|-----------|
| 19 | Fictitious phase separation in Li layered oxides driven by electro-autocatalysis. <i>Nature Materials</i> , 2021, 20, 991-999.   | 27.5 | 101       |
| 20 | Analytical methods for process and product characterization of recombinant adeno-associated virus-based gene therapies. <i>Molecular Therapy - Methods and Clinical Development</i> , 2021, 20, 740-754.   | 4.1  | 85        |
| 21 | Mechanistic modeling and parameter-adaptive nonlinear model predictive control of a microbioreactor. <i>Computers and Chemical Engineering</i> , 2021, 147, 107255.  | 3.8  | 7         |
| 22 | Leveraging Neural Networks and Genetic Algorithms to Refine Electrode Properties in Redox Flow Batteries. <i>Journal of the Electrochemical Society</i> , 2021, 168, 050547.   | 2.9  | 5         |
| 23 | Mathematical modeling and experimental validation of continuous slug-flow tubular crystallization with ultrasonication-induced nucleation and spatially varying temperature. <i>Chemical Engineering Research and Design</i> , 2021, 169, 275-287. | 5.6  | 13        |
| 24 | Output Feedback Control and Observer Design for Dynamic Artificial Neural Networks. , 2021, , .  |      | 3         |
| 25 | Stability Certificates for Neural Network Learning-based Controllers using Robust Control Theory. , 2021, , .  |      | 6         |
| 26 | Mechanistic model for production of recombinant adeno-associated virus via triple transfection of HEK293 cells. <i>Molecular Therapy - Methods and Clinical Development</i> , 2021, 21, 642-655.   | 4.1  | 39        |
| 27 | Model-based control for column-based continuous viral inactivation of biopharmaceuticals. <i>Biotechnology and Bioengineering</i> , 2021, 118, 3215-3224.  | 3.3  | 3         |
| 28 | Image inversion and uncertainty quantification for constitutive laws of pattern formation. <i>Journal of Computational Physics</i> , 2021, 436, 110279.  | 3.8  | 14        |
| 29 | Cellular pathways of recombinant adeno-associated virus production for gene therapy. <i>Biotechnology Advances</i> , 2021, 49, 107764.   | 11.7 | 22        |
| 30 | Methods-PETLION: Open-Source Software for Millisecond-Scale Porous Electrode Theory-Based Lithium-Ion Battery Simulations. <i>Journal of the Electrochemical Society</i> , 2021, 168, 090504.  | 2.9  | 25        |
| 31 | Nonlinear Identifiability Analysis of the Porous Electrode Theory Model of Lithium-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2021, 168, 090546.   | 2.9  | 19        |
| 32 | Measuring the reversible heat of lithium-ion cells via current pulses for modeling of temperature dynamics. <i>Journal of Power Sources</i> , 2021, 506, 230110.   | 7.8  | 3         |
| 33 | Polynomial chaos-based output-feedback control of systems with probabilistic parametric uncertainties. <i>Automatica</i> , 2021, 131, 109743.  |      |           |
| 34 | Multi-scale fluid dynamics simulation based on MP-PIC-PBE method for PMMA suspension polymerization. <i>Computers and Chemical Engineering</i> , 2021, 152, 107391.  | 3.8  | 5         |
| 35 | Mathematical modeling and analysis of microwave-assisted freeze-drying in biopharmaceutical applications. <i>Computers and Chemical Engineering</i> , 2021, 153, 107412.   | 3.8  | 13        |
| 36 | Tunable protein crystal size distribution via continuous slug-flow crystallization with spatially varying temperature. <i>CrystEngComm</i> , 2021, 23, 6495-6505.  | 2.6  | 5         |

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|----|---|------|-----------|
| 37 | Droplet-Based Evaporative System for the Estimation of Protein Crystallization Kinetics. <i>Crystal Growth and Design</i> , 2021, 21, 6064-6075.  | 3.0  | 2         |
| 38 | Bayesian learning for rapid prediction of lithium-ion battery-cycling protocols. <i>Joule</i> , 2021, 5, 3187-3203.   | 24.0 | 51        |
| 39 | Theory of Formation Cycling of Graphite By Understanding Primary and Secondary SEI. <i>ECS Meeting Abstracts</i> , 2021, MA2021-02, 415-415.  | 0.0  | 0         |
| 40 | Stochastic model predictive control with joint chance constraints. <i>International Journal of Control</i> , 2020, 93, 126-139.   | 1.9  | 72        |
| 41 | Multi-phase particle-in-cell coupled with population balance equation (MP-PIC-PBE) method for multiscale computational fluid dynamics simulation. <i>Computers and Chemical Engineering</i> , 2020, 134, 106686.  | 3.8  | 12        |
| 42 | Fault detection and identification using Bayesian recurrent neural networks. <i>Computers and Chemical Engineering</i> , 2020, 141, 106991.   | 3.8  | 70        |
| 43 | A Virtual Plant for Integrated Continuous Manufacturing of a Carfilzomib Drug Substance Intermediate, Part 1: CDI-Promoted Amide Bond Formation. <i>Organic Process Research and Development</i> , 2020, 24, 1861-1875.   | 2.7  | 25        |
| 44 | A Virtual Plant for Integrated Continuous Manufacturing of a Carfilzomib Drug Substance Intermediate, Part 2: Enone Synthesis via a Barbier-Type Grignard Process. <i>Organic Process Research and Development</i> , 2020, 24, 1876-1890.                         | 2.7  | 18        |
| 45 | A Virtual Plant for Integrated Continuous Manufacturing of a Carfilzomib Drug Substance Intermediate, Part 3: Manganese-Catalyzed Asymmetric Epoxidation, Crystallization, and Filtration. <i>Organic Process Research and Development</i> , 2020, 24, 1891-1908. | 2.7  | 23        |
| 46 | Stochastic Dynamic Optimization and Model Predictive Control based on Polynomial Chaos Theory and Symbolic Arithmetic. , 2020, , .  |      | 2         |
| 47 | ALVEN: Algebraic learning via elastic net for static and dynamic nonlinear model identification. <i>Computers and Chemical Engineering</i> , 2020, 143, 107103.   | 3.8  | 20        |
| 48 | BEEP: A Python library for Battery Evaluation and Early Prediction. <i>SoftwareX</i> , 2020, 11, 100506.  | 2.6  | 29        |
| 49 | An internal model control design method for failure-tolerant control with multiple objectives. <i>Computers and Chemical Engineering</i> , 2020, 140, 106955.   | 3.8  | 5         |
| 50 | Learning the Physics of Pattern Formation from Images. <i>Physical Review Letters</i> , 2020, 124, 060201.  | 7.8  | 34        |
| 51 | A new mathematical model for monitoring the temporal evolution of the ice crystal size distribution during freezing in pharmaceutical solutions. <i>European Journal of Pharmaceutics and Biopharmaceutics</i> , 2020, 148, 148-159.                              | 4.3  | 20        |
| 52 | Fault detection for uncertain LPV systems using probabilistic set-membership parity relation. <i>Journal of Process Control</i> , 2020, 87, 27-36.  | 3.3  | 20        |
| 53 | Real-time Nonlinear Model Predictive Control (NMPC) Strategies using Physics-Based Models for Advanced Lithium-ion Battery Management System (BMS). <i>Journal of the Electrochemical Society</i> , 2020, 167, 063505.  | 2.9  | 34        |
| 54 | Opportunities in tensorial data analytics for chemical and biological manufacturing processes. <i>Computers and Chemical Engineering</i> , 2020, 143, 107099.   | 3.8  | 12        |

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|----|---|------|-----------|
| 55 | Self-Optimizing Control of a Continuous-Flow Pharmaceutical Manufacturing Plant. IFAC-PapersOnLine, 2020, 53, 11601-11606.  | 0.9  | 1         |
| 56 | Optimal charging of an electric vehicle battery pack: A real-time sensitivity-based model predictive control approach. Journal of Power Sources, 2020, 461, 228133.   | 7.8  | 37        |
| 57 | Closed-loop optimization of fast-charging protocols for batteries with machine learning. Nature, 2020, 578, 397-402.  | 27.8 | 470       |
| 58 | Slug-flow Continuous Crystallization: Fundamentals and Process Intensification. , 2020, , 219-247.  |      | 3         |
| 59 | Editorsâ€™ Choiceâ€”Perspectiveâ€”Challenges in Moving to Multiscale Battery Models: Where Electrochemistry Meets and Demands More from Math. Journal of the Electrochemical Society, 2020, 167, 133501.          | 2.9  | 12        |
| 60 | Feedback Control of Dynamic Artificial Neural Networks Using Linear Matrix Inequalities. , 2020, , .  |      | 5         |
| 61 | Fast Stochastic Model Predictive Control of Unstable Dynamical Systems. IFAC-PapersOnLine, 2020, 53, 7262-7267.   | 0.9  | 1         |
| 62 | Nonlinearity Measures for Distributed Parameter and Descriptor Systems. IFAC-PapersOnLine, 2020, 53, 7545-7550.   | 0.9  | 1         |
| 63 | Challenges in Moving to Multiscale Battery Models - Where Electrochemistry Meets and Demands More from Math. ECS Meeting Abstracts, 2020, MA2020-02, 3832-3832.   | 0.0  | 0         |
| 64 | Challenges in Moving to Multiscale Battery Models - Where Electrochemistry meets and demands more from Math. ECS Meeting Abstracts, 2020, MA2020-02, 1604-1604.   | 0.0  | 0         |
| 65 | Incorporating Solvent-Dependent Kinetics To Design a Multistage, Continuous, Combined Cooling/Antisolvent Crystallization Process. Organic Process Research and Development, 2019, 23, 1960-1969.                 | 2.7  | 15        |
| 66 | Monitoring and Advanced Control of Crystallization Processes. , 2019, , 313-345.  |      | 5         |
| 67 | Designs of continuous-flow pharmaceutical crystallizers: developments and practice. CrystEngComm, 2019, 21, 3534-3551.  | 2.6  | 87        |
| 68 | Data-driven prediction of battery cycle life before capacity degradation. Nature Energy, 2019, 4, 383-391.  | 39.5 | 1,237     |
| 69 | The Materials Research Platform: Defining the Requirements from User Stories. Matter, 2019, 1, 1433-1438.   | 10.0 | 19        |
| 70 | Model Predictive Control of Polynomial Systems. Control Engineering, 2019, , 221-237.   | 0.3  | 1         |
| 71 | Direct coupling of continuum and kinetic Monte Carlo models for multiscale simulation of electrochemical systems. Computers and Chemical Engineering, 2019, 121, 722-735.   | 3.8  | 28        |
| 72 | Coupling of the population balance equation into a two-phase model for the simulation of combined cooling and antisolvent crystallization using OpenFOAM. Computers and Chemical Engineering, 2019, 123, 246-256. | 3.8  | 20        |

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|----|---|------|-----------|
| 73 | Offset-free Input-Output Formulations of Stochastic Model Predictive Control Based on Polynomial Chaos Theory. , 2019, , .  |      | 5         |
| 74 | Mathematical modelling of the evolution of the particle size distribution during ultrasound-induced breakage of aspirin crystals. Chemical Engineering Research and Design, 2018, 132, 170-177.                         | 5.6  | 11        |
| 75 | A systematic approach for finding the objective function and active constraints for dynamic flux balance analysis. Bioprocess and Biosystems Engineering, 2018, 41, 641-655.  | 3.4  | 7         |
| 76 | Nucleation and Growth Kinetics for Combined Cooling and Antisolvent Crystallization in a Mixed-Suspension, Mixed-Product Removal System: Estimating Solvent Dependency. Crystal Growth and Design, 2018, 18, 1560-1570. | 3.0  | 43        |
| 77 | Challenges and opportunities in biopharmaceutical manufacturing control. Computers and Chemical Engineering, 2018, 110, 106-114.  | 3.8  | 78        |
| 78 | Multiscale Modeling and Simulation of Macromixing, Micromixing, and Crystal Size Distribution in Radial Mixers/Crystallizers. Industrial & Engineering Chemistry Research, 2018, 57, 5433-5441.                         | 3.7  | 24        |
| 79 | Tablet coating by injection molding technology – Optimization of coating formulation attributes and coating process parameters. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 122, 25-36.               | 4.3  | 12        |
| 80 | Low-Cost Noninvasive Real-Time Imaging for Tubular Continuous-Flow Crystallization. Chemical Engineering and Technology, 2018, 41, 143-148.   | 1.5  | 27        |
| 81 | Standard representation and unified stability analysis for dynamic artificial neural network models. Neural Networks, 2018, 98, 251-262.  | 5.9  | 30        |
| 82 | Demonstration of pharmaceutical tablet coating process by injection molding technology. International Journal of Pharmaceutics, 2018, 535, 106-112.   | 5.2  | 6         |
| 83 | Probability-Guaranteed Set-Membership State Estimation for Polynomially Uncertain Linear Time-Invariant Systems. , 2018, , .  |      | 3         |
| 84 | An Information-Theoretic Framework for Fault Detection Evaluation and Design of Optimal Dimensionality Reduction Methods. IFAC-PapersOnLine, 2018, 51, 1311-1316.   | 0.9  | 2         |
| 85 | Review – Dynamic Models of Li-Ion Batteries for Diagnosis and Operation: A Review and Perspective. Journal of the Electrochemical Society, 2018, 165, A3656-A3673.  | 2.9  | 149       |
| 86 | On-demand manufacturing of clinical-quality biopharmaceuticals. Nature Biotechnology, 2018, 36, 988-995.  | 17.5 | 75        |
| 87 | Sparse canonical variate analysis approach for process monitoring. Journal of Process Control, 2018, 71, 90-102.  | 3.3  | 32        |
| 88 | A Systematic Approach to Process Data Analytics in Pharmaceutical Manufacturing. , 2018, , 295-312.   |      | 1         |
| 89 | Locality preserving discriminative canonical variate analysis for fault diagnosis. Computers and Chemical Engineering, 2018, 117, 309-319.  | 3.8  | 27        |
| 90 | openCrys: Open-Source Software for the Multiscale Modeling of Combined Antisolvent and Cooling Crystallization in Turbulent Flow. Industrial & Engineering Chemistry Research, 2018, 57, 11702-11711.                   | 3.7  | 16        |

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|-----|---|-----|-----------|
| 91  | Closed-Loop Active Fault Diagnosis for Stochastic Linear Systems. , 2018, , .   |     | 11        |
| 92  | Fast stochastic model predictive control of end-to-end continuous pharmaceutical manufacturing 1<br>1Financial support from Novartis is acknowledged.. Computer Aided Chemical Engineering, 2018, ,<br>353-378.           | 0.5 | 5         |
| 93  | Mixed Polynomial Chaos and Worst-Case Synthesis Approach to Robust Observer based Linear<br>Quadratic Regulation. , 2018, , .   |     | 3         |
| 94  | Control and Systems Theory for Advanced Manufacturing. Lecture Notes in Control and Information<br>Sciences - Proceedings, 2018, , 63-79.   | 0.1 | 0         |
| 95  | Robust static and fixed-order dynamic output feedback control of discrete-time parametric uncertain<br>LurÅ© systems: Sequential SDP relaxation approaches. Optimal Control Applications and Methods, 2017,<br>38, 36-58. | 2.1 | 8         |
| 96  | (Invited) Analyzing and Minimizing Capacity Fade through Optimal Model-based Control - Theory and<br>Experimental Validation. ECS Transactions, 2017, 75, 51-75.  | 0.5 | 20        |
| 97  | Analysis of focused indirect ultrasound via high-speed spatially localized pressure sensing and its<br>consequences on nucleation. Chemical Engineering and Processing: Process Intensification, 2017, 117,<br>186-194.   | 3.6 | 10        |
| 98  | Model Predictive Control of an Integrated Continuous Pharmaceutical Manufacturing Pilot Plant.<br>Organic Process Research and Development, 2017, 21, 844-854.  | 2.7 | 57        |
| 99  | Continuous Heterogeneous Crystallization on Excipient Surfaces. Crystal Growth and Design, 2017, 17,<br>3321-3330.  | 3.0 | 33        |
| 100 | Multi-Scale Simulation of Heterogeneous Surface Film Growth Mechanisms in Lithium-Ion Batteries.<br>Journal of the Electrochemical Society, 2017, 164, E3335-E3344.   | 2.9 | 52        |
| 101 | Integrated B2Bâ€NMPC control strategy for batch/semibatch crystallization processes. AIChE Journal,<br>2017, 63, 5007-5018.   | 3.6 | 17        |
| 102 | Design of Piecewise Affine and Linear Time-Varying Model Predictive Control Strategies for Advanced<br>Battery Management Systems. Journal of the Electrochemical Society, 2017, 164, A949-A959.                          | 2.9 | 20        |
| 103 | A method for learning a sparse classifier in the presence of missing data for high-dimensional<br>biological datasets. Bioinformatics, 2017, 33, 2897-2905.   | 4.1 | 10        |
| 104 | Fault detection of process correlation structure using canonical variate analysis-based correlation<br>features. Journal of Process Control, 2017, 58, 131-138.   | 3.3 | 42        |
| 105 | Opportunities and challenges of real-time release testing in biopharmaceutical manufacturing.<br>Biotechnology and Bioengineering, 2017, 114, 2445-2456.  | 3.3 | 89        |
| 106 | Towards adaptive health-aware charging of Li-ion batteries: A real-time predictive control approach<br>using first-principles models. , 2017, , .   |     | 12        |
| 107 | On stability of stochastic linear systems via polynomial chaos expansions. , 2017, , .  |     | 9         |
| 108 | A piecewise polynomial chaos approach to stochastic linear quadratic regulation for systems with<br>probabilistic parametric uncertainties. , 2017, , .   |     | 1         |

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|-----|---|-----|-----------|
| 109 | Probabilistic robust parity relation for fault detection using polynomial chaos. IFAC-PapersOnLine, 2017, 50, 1019-1024.  | 0.9 | 4         |
| 110 | Polynomial Chaos-Based H <sub>2</sub> -optimal Static Output Feedback Control of Systems with Probabilistic Parametric Uncertainties. IFAC-PapersOnLine, 2017, 50, 3536-3541.                                   | 0.9 | 3         |
| 111 | Principal Component Analysis of Process Datasets with Missing Values. Processes, 2017, 5, 38.   | 2.8 | 33        |
| 112 | Optimal Structure Synthesis of Ternary Distillation Processes Using a Stepwise VLE Description. Computer Aided Chemical Engineering, 2017, 40, 739-744.   | 0.5 | 0         |
| 113 | Multi-Scale Modeling of Solid Electrolyte Interface Formation in Lithium-Ion Batteries. Computer Aided Chemical Engineering, 2016, 38, 157-162.   | 0.5 | 17        |
| 114 | Polynomial chaos-based robust design of systems with probabilistic uncertainties. AIChE Journal, 2016, 62, 3310-3318.   | 3.6 | 28        |
| 115 | An Analytical Solution for Exciton Generation, Reaction, and Diffusion in Nanotube and Nanowire-Based Solar Cells. Journal of Physical Chemistry Letters, 2016, 7, 2683-2688.                                   | 4.6 | 7         |
| 116 | Fast Model Predictive Control for hydrogen outflow regulation in Ethanol Steam Reformers. , 2016, , .   |     | 5         |
| 117 | Optimal charging of a Li-ion cell: A hybrid Model Predictive Control approach. , 2016, , .  |     | 4         |
| 118 | Crystallization of Calcium Sulphate During Phosphoric Acid Production: Modeling Particle Shape and Size Distribution. Procedia Engineering, 2016, 138, 390-402.   | 1.2 | 20        |
| 119 | LIONSIMBA: A Matlab Framework Based on a Finite Volume Model Suitable for Li-Ion Battery Design, Simulation, and Control. Journal of the Electrochemical Society, 2016, 163, A1192-A1205.                       | 2.9 | 184       |
| 120 | Robustness analysis, prediction, and estimation for uncertain biochemical networks: An overview. Journal of Process Control, 2016, 42, 14-34.   | 3.3 | 29        |
| 121 | Just-in-Time-Learning based Extended Prediction Self-Adaptive Control for batch processes. Journal of Process Control, 2016, 43, 1-9.   | 3.3 | 29        |
| 122 | Optimal Health-aware Charging Protocol for Lithium-ion Batteries: A Fast Model Predictive Control Approach. IFAC-PapersOnLine, 2016, 49, 827-832.   | 0.9 | 22        |
| 123 | Mathematical Modeling and Analysis of Carbon Nanotube Photovoltaic Systems**Support acknowledged from the U.S. Department of Energy and the National Science Foundation.. IFAC-PapersOnLine, 2016, 49, 442-447. | 0.9 | 1         |
| 124 | Closed-loop input design for guaranteed fault diagnosis using set-valued observers. Automatica, 2016, 74, 107-117.  | 5.0 | 77        |
| 125 | State-of-charge estimation in lithium-ion batteries: A particle filter approach. Journal of Power Sources, 2016, 331, 208-223.  | 7.8 | 96        |
| 126 | Maximization of ellipsoidal design space for continuous-time systems: A robust optimal control approach. , 2016, , .  |     | 1         |



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|-----|--|------|-----------|
| 127 | Control systems analysis and design of multiscale simulation models. , 2016, , .   |      | 1         |
| 128 | pH and conductivity control in an integrated biomanufacturing plant. , 2016, , .   |      | 2         |
| 129 | Nonlinear model predictive control using polynomial optimization methods. , 2016, , .  |      | 11        |
| 130 | Control on a molecular scale: A perspective. , 2016, , .   |      | 7         |
| 131 | Perspectives on process monitoring of industrial systems. Annual Reviews in Control, 2016, 42, 190-200.  | 7.9  | 124       |
| 132 | Mathematical modeling and optimal design of multi-stage slug-flow crystallization. Computers and Chemical Engineering, 2016, 95, 240-248.  | 3.8  | 29        |
| 133 | Output feedback model predictive control with probabilistic uncertainties for linear systems. , 2016, , .  |      | 7         |
| 134 | A robust dual-mode MPC approach to ensuring critical quality attributes in Quality-by-Design. , 2016, , .  |      | 3         |
| 135 | Regularized maximum likelihood estimation of sparse stochastic monomolecular biochemical reaction networks. Computers and Chemical Engineering, 2016, 90, 111-120.   | 3.8  | 4         |
| 136 | Estimation of local concentration from measurements of stochastic adsorption dynamics using carbon nanotube-based sensors. Korean Journal of Chemical Engineering, 2016, 33, 33-45.  | 2.7  | 0         |
| 137 | On the Analysis of the Eigenvalues of Uncertain Matrices by $u$ and $v$ : Applications to Bifurcation Avoidance and Convergence Rates. IEEE Transactions on Automatic Control, 2016, 61, 748-753.  | 5.7  | 7         |
| 138 | Constrained zonotopes: A new tool for set-based estimation and fault detection. Automatica, 2016, 69, 126-136.   | 5.0  | 198       |
| 139 | Switched model predictive control of switched linear systems: Feasibility, stability and robustness. Automatica, 2016, 67, 8-21.   | 5.0  | 195       |
| 140 | Designer Dual Therapy Nanolayered Implant Coatings Eradicate Biofilms and Accelerate Bone Tissue Repair. ACS Nano, 2016, 10, 4441-4450.  | 14.6 | 193       |
| 141 | Free surface electrospinning of aqueous polymer solutions from a wire electrode. Chemical Engineering Journal, 2016, 289, 203-211.   | 12.7 | 45        |
| 142 | Economical control of indoor air quality in underground metro station using an iterative dynamic programming-based ventilation system. Indoor and Built Environment, 2016, 25, 949-961.  | 2.8  | 20        |
| 143 | Nonlinear Model Predictive Control of Systems with Probabilistic Time-invariant Uncertainties**Financial support is acknowledged from the NSF Graduate Re-search Fellowship and Novartis Pharma AGhttp://www.hamecmopsys.ens2m.fr/.. IFAC-PapersOnLine, 2015, 48, 16-25. | 0.9  | 7         |
| 144 | Optimal spatial field control for controlled release. Optimal Control Applications and Methods, 2015, 36, 968-984.   | 2.1  | 0         |

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|-----|---|------|-----------|
| 145 | Derivation of an Analytical Solution to a Reaction-Diffusion Model for Autocatalytic Degradation and Erosion in Polymer Microspheres. PLoS ONE, 2015, 10, e0135506.   | 2.5  | 15        |
| 146 | Quality-by-Design by skewed spherical structured singular value. IET Control Theory and Applications, 2015, 9, 2202-2210.   | 2.1  | 4         |
| 147 | Indoor air quality control for improving passenger health in subway platforms using an outdoor air quality dependent ventilation system. Building and Environment, 2015, 92, 407-417.                         | 6.9  | 64        |
| 148 | Control of self-assembly in micro- and nano-scale systems. Journal of Process Control, 2015, 27, 38-49.   | 3.3  | 37        |
| 149 | Fast robust model predictive control of high-dimensional systems. , 2015, , .   |      | 1         |
| 150 | State estimation for a carbon nanotube-based sensor array system. , 2015, , .   |      | 0         |
| 151 | Control systems technology in the advanced manufacturing of biologic drugs. , 2015, , .   |      | 6         |
| 152 | Plant-wide model predictive control for a continuous pharmaceutical process. , 2015, , .  |      | 10        |
| 153 | Optimal Low Temperature Charging of Lithium-ion Batteries. IFAC-PapersOnLine, 2015, 48, 1216-1221.  | 0.9  | 10        |
| 154 | Control Systems Engineering in Continuous Pharmaceutical Manufacturing May 2011, 2014 Continuous Manufacturing Symposium. Journal of Pharmaceutical Sciences, 2015, 104, 832-839.                             | 3.3  | 86        |
| 155 | Canonical variate analysis-based contributions for fault identification. Journal of Process Control, 2015, 26, 17-25.   | 3.3  | 100       |
| 156 | Assessment of Recent Process Analytical Technology (PAT) Trends: A Multiauthor Review. Organic Process Research and Development, 2015, 19, 3-62.  | 2.7  | 329       |
| 157 | Gypsum Crystallization during Phosphoric Acid Production: Modeling and Experiments Using the Mixed-Solvent-Electrolyte Thermodynamic Model. Industrial & Engineering Chemistry Research, 2015, 54, 7914-7924. | 3.7  | 26        |
| 158 | Canonical variate analysis-based monitoring of process correlation structure using causal feature representation. Journal of Process Control, 2015, 32, 109-116.  | 3.3  | 38        |
| 159 | A combined canonical variate analysis and Fisher discriminant analysis (CVA-FDA) approach for fault diagnosis. Computers and Chemical Engineering, 2015, 77, 1-9.   | 3.8  | 89        |
| 160 | Diagnosis of multiple and unknown faults using the causal map and multivariate statistics. Journal of Process Control, 2015, 28, 27-39.   | 3.3  | 74        |
| 161 | Layer Number Dependence of MoS <sub>2</sub> Photoconductivity Using Photocurrent Spectral Atomic Force Microscopic Imaging. ACS Nano, 2015, 9, 2843-2855.   | 14.6 | 84        |
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