# Prodromos Daoutidis

List of Publications by Year
in descending order

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Version: 2024-02-01

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|---|---|---|---|
| 77<br>papers | 2,448<br>citations | 201575<br>27<br>h-index | 214721<br>47<br>g-index |
| 79<br>all docs | 79<br>docs citations | 79<br>times ranked | 2067<br>citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Zeolitic imidazolate framework membranes made by ligand-induced permselectivation. Science, 2018, 361, 1008-1011. | 6.0 | 324 |
| 2 | Economic Optimization of a Lignocellulosic Biomass-to-Ethanol Supply Chain. Chemical Engineering Science, 2012, 67, 68-79. | 1.9 | 195 |
| 3 | Using hydrogen and ammonia for renewable energy storage: A geographically comprehensive techno-economic study. Computers and Chemical Engineering, 2020, 136, 106785. | 2.0 | 96 |
| 4 | Biorefinery Location and Technology Selection Through Supply Chain Optimization. Industrial & Engineering Chemistry Research, 2013, 52, 3192-3208. | 1.8 | 94 |
| 5 | Language-oriented rule-based reaction network generation and analysis: Description of RING. Computers and Chemical Engineering, 2012, 45, 114-123. | 2.0 | 86 |
| 6 | Structural evaluation of control configurations for multivariable nonlinear processes. Chemical Engineering Science, 1992, 47, 1091-1107. | 1.9 | 85 |
| 7 | Dynamics and Control of Process Networks with Large Energy Recycle. Industrial & Engineering Chemistry Research, 2009, 48, 6087-6097. | 1.8 | 63 |
| 8 | Renewable ammonia for sustainable energy and agriculture: vision and systems engineering opportunities. Current Opinion in Chemical Engineering, 2021, 31, 100667. | 3.8 | 63 |
| 9 | Modeling and Optimal Design of Absorbent Enhanced Ammonia Synthesis. Processes, 2018, 6, 91. | 1.3 | 57 |
| 10 | Microgrid/Macrogrid Energy Exchange: A Novel Market Structure and Stochastic Scheduling. IEEE Transactions on Smart Grid, 2017, 8, 178-189. | 6.2 | 55 |
| 11 | Impact of Decomposition on Distributed Model Predictive Control: A Process Network Case Study. Industrial & Engineering Chemistry Research, 2017, 56, 9606-9616. | 1.8 | 53 |
| 12 | Integrating operations and control: A perspective and roadmap for future research. Computers and Chemical Engineering, 2018, 115, 179-184. | 2.0 | 50 |
| 13 | Exploring the Benefits of Modular Renewable-Powered Ammonia Production: A Supply Chain Optimization Study. Industrial & Engineering Chemistry Research, 2019, 58, 5898-5908. | 1.8 | 49 |
| 14 | Schedulingâ€informed optimal design of systems with timeâ€varying operation: A windâ€powered ammonia case study. AICHE Journal, 2019, 65, e16434. | 1.8 | 49 |
| 15 | Optimal decomposition for distributed optimization in nonlinear model predictive control through community detection. Computers and Chemical Engineering, 2018, 111, 43-54. | 2.0 | 48 |
| 16 | Optimal scheduling for wind-powered ammonia generation: Effects of key design parameters. Chemical Engineering Research and Design, 2018, 131, 5-15. | 2.7 | 47 |
| 17 | Community-based synthesis of distributed control architectures for integrated process networks. Chemical Engineering Science, 2017, 172, 434-443. | 1.9 | 44 |
| 18 | Energy management and load shaping for commercial microgrids coupled with flexible building environment control. Journal of Energy Storage, 2018, 16, 61-75. | 3.9 | 39 |

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|---|---|---|---|
| 19 | A framework for ammonia supply chain optimization incorporating conventional and renewable generation. AIChE Journal, 2017, 63, 4390-4402. | 1.8 | 38 |
| 20 | A novel system for ammonia-based sustainable energy and agriculture: Concept and design optimization. Chemical Engineering and Processing: Process Intensification, 2019, 140, 11-21. | 1.8 | 38 |
| 21 | Decomposing complex plants for distributed control: Perspectives from network theory. Computers and Chemical Engineering, 2018, 114, 43-51. | 2.0 | 36 |
| 22 | Automated synthesis of control configurations for process networks based on structural coupling. Chemical Engineering Science, 2015, 136, 76-87. | 1.9 | 35 |
| 23 | Controlâ€relevant decomposition of process networks via optimizationâ€based hierarchical clustering. AIChE Journal, 2016, 62, 3177-3188. | 1.8 | 35 |
| 24 | Language-oriented rule-based reaction network generation and analysis: Applications of RING. Computers and Chemical Engineering, 2012, 46, 141-152. | 2.0 | 33 |
| 25 | Network decomposition for distributed control through community detection in inputâ€“output bipartite graphs. Journal of Process Control, 2018, 64, 7-14. | 1.7 | 33 |
| 26 | Control configuration synthesis using agglomerative hierarchical clustering: A graph-theoretic approach. Journal of Process Control, 2016, 46, 43-54. | 1.7 | 31 |
| 27 | A mathematical model for zeolite membrane module performance and its use for techno-economic evaluation of improved energy efficiency hybrid membrane-distillation processes for butane isomer separations. Journal of Membrane Science, 2016, 520, 434-449. | 4.1 | 30 |
| 28 | Distributed Estimation and Nonlinear Model Predictive Control Using Community Detection. Industrial & Engineering Chemistry Research, 2019, 58, 13495-13507. | 1.8 | 28 |
| 29 | Distributed adaptive dynamic programming for data-driven optimal control. Systems and Control Letters, 2018, 120, 36-43. | 1.3 | 26 |
| 30 | Decomposition of control and optimization problems by network structure: Concepts, methods, and inspirations from biology. AIChE Journal, 2019, 65, e16708. | 1.8 | 26 |
| 31 | Process design and supply chain optimization of supercritical biodiesel synthesis from waste cooking oils. Chemical Engineering Research and Design, 2013, 91, 1456-1466. | 2.7 | 24 |
| 32 | Relative timeâ€averaged gain array (RTAGA) for distributed controlâ€oriented network decomposition. AIChE Journal, 2018, 64, 1682-1690. | 1.8 | 21 |
| 33 | Distributed Model Predictive Control of an Amine Gas Sweetening Plant. Industrial & Engineering Chemistry Research, 2018, 57, 13103-13115. | 1.8 | 21 |
| 34 | Dissipativity learning control (DLC): A framework of inputâ€“output data-driven control. Computers and Chemical Engineering, 2019, 130, 106576. | 2.0 | 21 |
| 35 | Distributed model predictive control of process networks: Impact of control architecture * *Financial support from the Petroleum Institute, Abu Dhabi, UAE is gratefully acknowledged.. IFAC-PapersOnLine, 2017, 50, 12452-12457. | 0.5 | 20 |
| 36 | System Decomposition for Distributed Multivariate Statistical Process Monitoring by Performance Driven Agglomerative Clustering. Industrial & Engineering Chemistry Research, 2018, 57, 8283-8298. | 1.8 | 20 |

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|---|---|---|---|
| 37 | Comprehensive study of decomposition effects on distributed output tracking of an integrated process over a wide operating range. Chemical Engineering Research and Design, 2018, 134, 553-563. | 2.7 | 20 |
| 38 | Harnessing the Wind Power of the Ocean with Green Offshore Ammonia. ACS Sustainable Chemistry and Engineering, 2021, 9, 14605-14617. | 3.2 | 20 |
| 39 | Economic assessment of Temperature Swing Adsorption systems as Claus Tail Gas Clean Up Units. Chemical Engineering Science, 2015, 126, 186-195. | 1.9 | 19 |
| 40 | Graph representation and decomposition of ODE/hyperbolic PDE systems. Computers and Chemical Engineering, 2017, 106, 532-543. | 2.0 | 19 |
| 41 | Bioethanol enrichment using zeolite membranes: Molecular modeling, conceptual process design and techno-economic analysis. Journal of Membrane Science, 2017, 540, 464-476. | 4.1 | 18 |
| 42 | DeCODe: a community-based algorithm for generating high-quality decompositions of optimization problems. Optimization and Engineering, 2019, 20, 1067-1084. | 1.3 | 17 |
| 43 | Process design and optimization for etherification of glycerol with isobutene. Chemical Engineering Science, 2016, 144, 326-335. | 1.9 | 16 |
| 44 | Distributed decision making for intensified process systems. Current Opinion in Chemical Engineering, 2019, 25, 75-81. | 3.8 | 16 |
| 45 | Model-Driven Engineering of N-Linked Glycosylation in Chinese Hamster Ovary Cells. ACS Synthetic Biology, 2019, 8, 2524-2535. | 1.9 | 15 |
| 46 | Automated network generation and analysis of biochemical reaction pathways using RING. Metabolic Engineering, 2018, 49, 84-93. | 3.6 | 14 |
| 47 | Distributed control and optimization of process system networks: A review and perspective. Chinese Journal of Chemical Engineering, 2019, 27, 1461-1473. | 1.7 | 14 |
| 48 | Scheduling and supervisory control for cost effective load shaping of microgrids with flexible demands. Journal of Process Control, 2019, 74, 202-214. | 1.7 | 14 |
| 49 | Dissipativity learning control (DLC): Theoretical foundations of inputâ€“output data-driven model-free control. Systems and Control Letters, 2021, 147, 104831. | 1.3 | 12 |
| 50 | Networks with large solvent recycle: Dynamics, hierarchical control, and a biorefinery application. AICHE Journal, 2012, 58, 1764-1777. | 1.8 | 11 |
| 51 | Decomposition of integrated scheduling and dynamic optimization problems using community detection. Journal of Process Control, 2020, 90, 63-74. | 1.7 | 11 |
| 52 | Optimal Design of Sustainable Ammonia-Based Foodâ€“Energyâ€“Water Systems with Nitrogen Management. ACS Sustainable Chemistry and Engineering, 2021, 9, 2816-2834. | 3.2 | 11 |
| 53 | Renewable hydrogen and ammonia for combined heat and power systems in remote locations: Optimal design and scheduling. Optimal Control Applications and Methods, 2023, 44, 719-738. | 1.3 | 11 |
| 54 | Optimization of Adsorption-Based Natural Gas Dryers. Industrial & Engineering Chemistry Research, 2016, 55, 4658-4667. | 1.8 | 10 |

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|---|---|---|---|
| 55 | Fast and stable nonconvex constrained distributed optimization: the ELLADA algorithm. Optimization and Engineering, 2022, 23, 259-301. | 1.3 | 10 |
| 56 | Generating optimal overlapping subsystems for distributed statistical fault detection subject to constraints. Journal of Process Control, 2019, 80, 143-151. | 1.7 | 9 |
| 57 | Distributed nonlinear model predictive control through accelerated parallel ADMM. , 2019, , . | | 8 |
| 58 | Stochastic blockmodeling for learning the structure of optimization problems. AICHE Journal, 2022, 68, e17415. | 1.8 | 8 |
| 59 | Distributed/Hierarchical Control Architecture Design * *Financial support from NSF-CBET is gratefully acknowledged.. IFAC-PapersOnLine, 2017, 50, 12015-12020. | 0.5 | 7 |
| 60 | Towards a Generic Algorithm for Identifying High-Quality Decompositions of Optimization Problems. Computer Aided Chemical Engineering, 2018, 44, 943-948. | 0.3 | 7 |
| 61 | The role of community structures in sparse feedback control. , 2018, , . | | 7 |
| 62 | Efficient Water Pollution Abatement. Industrial & Engineering Chemistry Research, 2019, 58, 22483-22487. | 1.8 | 7 |
| 63 | Optimal Feature Selection for Distributed Data-Driven Process Monitoring. Industrial & Engineering Chemistry Research, 2020, 59, 2307-2317. | 1.8 | 7 |
| 64 | A Bilevel Programming Approach to the Convergence Analysis of Control-Lyapunov Functions. IEEE Transactions on Automatic Control, 2019, 64, 4174-4179. | 3.6 | 6 |
| 65 | Graph representation and distributed control of diffusion-convection-reaction system networks. Chemical Engineering Science, 2019, 204, 128-139. | 1.9 | 6 |
| 66 | An integrated platform for mucinâ€type O â€glycosylation network generation and visualization. Biotechnology and Bioengineering, 2019, 116, 1341-1354. | 1.7 | 6 |
| 67 | Mathematical modeling and parameter estimation of <scp>MFI</scp> membranes for para/orthoâ€xylene separation. AICHE Journal, 2021, 67, e17232. | 1.8 | 6 |
| 68 | High-Capacity Regenerable H2S Sorbent for Reducing Sulfur Emissions. Industrial & Engineering Chemistry Research, 0, , . | 1.8 | 6 |
| 69 | Efficient Solution of Enterprise-Wide Optimization Problems Using Nested Stochastic Blockmodeling. Industrial & Engineering Chemistry Research, 2021, 60, 14476-14494. | 1.8 | 5 |
| 70 | Multiple Hotellingâ€™s T2 tests for distributed fault detection of large-scale systems. Computers and Chemical Engineering, 2020, 136, 106807. | 2.0 | 4 |
| 71 | Application of graph theory and filter based variable selection methods in the design of a distributed data-driven monitoring system. Computers and Chemical Engineering, 2020, 143, 107098. | 2.0 | 3 |
| 72 | Nonlinear state and parameter estimation using derivative information: A Lie-Sobolev approach. Computers and Chemical Engineering, 2021, 151, 107369. | 2.0 | 3 |

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| 73 | A multicut generalized benders decomposition approach for the integration of process operations and dynamic optimization for continuous systems. Computers and Chemical Engineering, 2022, 164, 107859. | 2.0 | 3 |
| 74 | Reprint of: Optimal decomposition for distributed optimization in nonlinear model predictive control through community detection. Computers and Chemical Engineering, 2018, 116, 144-155. | 2.0 | 2 |
| 75 | Concept and Design Optimization of a Novel Ammonia-Based System for Food-Energy-Water Sustainability. Computer Aided Chemical Engineering, 2019, , 65-70. | 0.3 | 2 |
| 76 | Decomposition and Distributed Control of Integrated Lumped and Distributed Parameter Process Networks. , 2018, , . | | 1 |
| 77 | Smart manufacturing: A sustainable energy perspective. , 2020, , 423-454. | | 0 |