Arturo JimÃ©nez-GutiÃ©rrez

List of Publications by Year
in descending order

82 papers	2,805 citations	147566 31 h-index	182168 51 g-index
84 all docs	84 docs citations	84 times ranked	1708 citing authors

#	Article	IF	Citations
1	A comparison of pretreatment methods for bioethanol production from lignocellulosic materials. Chemical Engineering Research and Design, 2012, 90, 189-202.	2.7	154
2	Use of genetic algorithms for the optimal design of shell-and-tube heat exchangers. Applied Thermal Engineering, 2009, 29, 203-209.	3.0	134
3	A shortcut method for the preliminary synthesis of process-technology pathways: An optimization approach and application for the conceptual design of integrated biorefineries. Computers and Chemical Engineering, 2011, 35, 1374-1383.	2.0	110
4	Optimal synthesis of heat exchanger networks involving isothermal process streams. Computers and Chemical Engineering, 2008, 32, 1918-1942.	2.0	100
5	Techno-Economic Assessment and Environmental Impact of Shale Gas Alternatives to Methanol. ACS Sustainable Chemistry and Engineering, 2014, 2, 2338-2344.	3.2	100
6	Multiobjective optimization of biorefineries with economic and safety objectives. AIChE Journal, 2013, 59, 2427-2434.	1.8	96
7	A propertyâ€based optimization of direct recycle networks and wastewater treatment processes. AIChE Journal, 2009, 55, 2329-2344.	1.8	93
8	Control analysis of an extractive dividing-wall column used for ethanol dehydration. Chemical Engineering and Processing: Process Intensification, 2014, 82, 88-100.	1.8	93
9	Design of an energy-efficient side-stream extractive distillation system. Computers and Chemical Engineering, 2017, 102, 17-25.	2.0	93
10	Optimization model for re-circulating cooling water systems. Computers and Chemical Engineering, 2010, 34, 177-195.	2.0	86
11	A review of safety indices for process design. Current Opinion in Chemical Engineering, 2016, 14, 42-48.	3.8	84
12	Global optimization for the synthesis of property-based recycle and reuse networks including environmental constraints. Computers and Chemical Engineering, 2010, 34, 318-330.	2.0	81
13	Global optimization of mass and property integration networks with in-plant property interceptors. Chemical Engineering Science, 2010, 65, 4363-4377.	1.9	76
14	Incorporation of Safety and Sustainability in Conceptual Design via a Return on Investment Metric. ACS Sustainable Chemistry and Engineering, 2018, 6, 1411-1416.	3.2	75
15	MINLP optimization of mechanical draft counter flow wet-cooling towers. Chemical Engineering Research and Design, 2010, 88, 614-625.	2.7	63
16	Development of inherently safer distillation systems. Journal of Loss Prevention in the Process Industries, 2014, 29, 225-239.	1.7	63
17	Synthesis of Heat Exchanger Networks with Optimal Placement of Multiple Utilities. Industrial & Engineering Chemistry Research, 2010, 49, 2849-2856.	1.8	55
18	A global optimal formulation for the water integration in eco-industrial parks considering multiple pollutants. Computers and Chemical Engineering, 2011, 35, 1558-1574.	2.0	54

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19	Optimum design of Petlyuk and divided-wall distillation systems using a shortcut model. Chemical Engineering Research and Design, 2010, 88, 1405-1418.	2.7	49
20	An Approach for Solvent Selection in Extractive Distillation Systems Including Safety Considerations. Industrial & Engineering Chemistry Research, 2014, 53, 12023-12031.	1.8	49
21	Design, simulation and techno-economic analysis of two processes for the conversion of shale gas to ethylene. Computers and Chemical Engineering, 2017, 107, 237-246.	2.0	45
22	Including Inherent Safety in the Design of Chemical Processes. Industrial & Engineering Chemistry Research, 2017, 56, 14507-14517.	1.8	44
23	MINLP synthesis of optimal cooling networks. Chemical Engineering Science, 2007, 62, 5728-5735.	1.9	42
24	Dividing-wall columns: Design and control of a kaibel and a satellite distillation column for BTX separation. Chemical Engineering and Processing: Process Intensification, 2017, 114, 1-15.	1.8	41
25	Assessment of Combinations between Pretreatment and Conversion Configurations for Bioethanol Production. ACS Sustainable Chemistry and Engineering, 2013, 1, 956-965.	3.2	37
26	A mathematical programming model for optimal layout considering quantitative risk analysis. Computers and Chemical Engineering, 2014, 68, 165-181.	2.0	37
27	An MINLP model for the simultaneous integration of energy, mass and properties in water networks. Computers and Chemical Engineering, 2014, 71, 52-66.	2.0	35
28	A propertyâ€based approach to the synthesis of material conservation networks with economic and environmental objectives. AICHE Journal, 2011, 57, 2369-2387.	1.8	34
29	A Process Intensification Methodology Including Economic, Sustainability, and Safety Considerations. Industrial & Engineering Chemistry Research, 2019, 58, 6080-6092.	1.8	34
30	A systems-integration approach to the optimization of macroscopic water desalination and distribution networks: a general framework applied to Qatarâ€™s water resources. Clean Technologies and Environmental Policy, 2012, 14, 161-171.	2.1	33
31	Targeting of the Water-Energy Nexus in Gas-to-Liquid Processes: A Comparison of Syngas Technologies. Industrial & Engineering Chemistry Research, 2014, 53, 7087-7102.	1.8	33
32	Techno-Economic Assessment of Benzene Production from Shale Gas. Processes, 2017, 5, 33.	1.3	32
33	Estimation of renewable-based steam costs. Applied Energy, 2019, 250, 1120-1131.	5.1	31
34	Synthesis of multipass heat exchanger networks using genetic algorithms. Computers and Chemical Engineering, 2008, 32, 2320-2332.	2.0	30
35	A Disjunctive Programming Model for Simultaneous Synthesis and Detailed Design of Cooling Networks. Industrial & Engineering Chemistry Research, 2009, 48, 2991-3003.	1.8	30
36	Water and Energy Issues in Gas-to-Liquid Processes: Assessment and Integration of Different Gas-Reforming Alternatives. ACS Sustainable Chemistry and Engineering, 2014, 2, 216-225.	3.2	28

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37	Gas-to-liquid (GTL) technology: Targets for process design and water-energy nexus. Current Opinion in Chemical Engineering, 2014, 5, 49-54.	3.8	27
38	Optimal design of a multi-product reactive distillation system for silanes production. Computers and Chemical Engineering, 2017, 105, 132-141.	2.0	25
39	Two-Level Optimization Algorithm for Heat Exchanger Networks Including Pressure Drop Considerations. Industrial & Engineering Chemistry Research, 2004, 43, 6766-6773.	1.8	24
40	Heat Exchanger Network Synthesis Including Detailed Heat Exchanger Design Using Genetic Algorithms. Industrial & Engineering Chemistry Research, 2007, 46, 8767-8780.	1.8	23
41	Comparison of safety indexes for chemical processes under uncertainty. Chemical Engineering Research and Design, 2021, 148, 225-236.	2.7	23
42	Optimization of Petlyuk sequences using a multi objective genetic algorithm with constraints. Computers and Chemical Engineering, 2011, 35, 236-244.	2.0	22
43	Two alternatives to thermally coupled distillation systems with side columns. AIChE Journal, 2004, 50, 2971-2975.	1.8	21
44	Intensification Methodology To Minimize the Number of Pieces of Equipment and Its Application to a Process To Produce Dioxolane Products. Industrial & Engineering Chemistry Research, 2018, 57, 9810-9820.	1.8	21
45	Superstructure approach for the design of renewable-based utility plants. Computers and Chemical Engineering, 2019, 123, 371-388.	2.0	20
46	Design and optimization of multipass heat exchangers. Chemical Engineering and Processing: Process Intensification, 2008, 47, 906-913.	1.8	19
47	A multi-objective optimization approach for sustainable water management for places with over-exploited water resources. Computers and Chemical Engineering, 2019, 121, 158-173.	2.0	19
48	Feasible Design Space for Shell-and-Tube Heat Exchangers Using the Bellâ˘'Delaware Method. Industrial & Engineering Chemistry Research, 2007, 46, 143-155.	1.8	18
49	An optimization approach for the synthesis of recycle and reuse water integration networks. Clean Technologies and Environmental Policy, 2012, 14, 133-151.	2.1	18
50	Framework for Design Under Uncertainty Including Inherent Safety, Environmental Assessment, and Economic Performance of Chemical Processes. Industrial & Engineering Chemistry Research, 2019, 58, 13239-13248.	1.8	17
51	Control of Dividing-Wall Columns via Fuzzy Logic. Industrial & Engineering Chemistry Research, 2013, 52, 7492-7503.	1.8	16
52	Analysis of ethanol dehydration using membrane separation processes. Open Life Sciences, 2020, 15, 122-132.	0.6	15
53	Targets for Heat Exchanger Network Synthesis with Different Heat Transfer Coefficients and Non-uniform Exchanger Specifications. Chemical Engineering Research and Design, 2007, 85, 1447-1457.	2.7	14
54	Simultaneous optimization of energy management, biocide dosing and maintenance scheduling of thermally integrated facilities. Energy Conversion and Management, 2013, 68, 177-192.	4.4	14

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55	A method for the design of distillation systems aided by ionic liquids. Chemical Engineering and Processing: Process Intensification, 2015, 87, 1-8.	1.8	14
56	A Methodology for the Design of Flexible Renewable-Based Utility Plants. ACS Sustainable Chemistry and Engineering, 2020, 8, 4580-4597.	3.2	14
57	Steady state analysis of snowball effects for reactionâ€"separationâ€"recycle systems with thermally coupled distillation sequences. Chemical Engineering Research and Design, 2011, 89, 2207-2214.	2.7	13
58	Analysis of Multi-Loop Control Structures of Dividing-Wall Distillation Columns Using a Fundamental Model. Processes, 2014, 2, 180-199.	1.3	13
59	An approach for dynamic transitions in multiproduct reactive distillation columns. Chemical Engineering and Processing: Process Intensification, 2020, 153, 107967.	1.8	13
60	Intensified synthesis for ethyl lactate production including economic, sustainability and inherent safety criteria. Chemical Engineering and Processing: Process Intensification, 2020, 154, 108041.	1.8	12
61	Purification of Bioethanol from a Fermentation Process: Alternatives for Dehydration. Computer Aided Chemical Engineering, 2016, 38, 373-378.	0.3	11
62	Method for the Design of Azeotropic Distillation Columns. Industrial & Engineering Chemistry Research, 2007, 46, 6635-6644.	1.8	10
63	A new index for chemical process design considering risk analysis and controllability. Computer Aided Chemical Engineering, 2019, , 373-378.	0.3	10
64	Global optimization of wastewater integration networks for processes with multiple contaminants. Environmental Progress and Sustainable Energy, 2012, 31, 449-458.	1.3	8
65	EFFECT OF DIFFERENT THERMODYNAMIC MODELS ON THE DESIGN OF HOMOGENEOUS AZEOTROPIC DISTILLATION COLUMNS. Chemical Engineering Communications, 2008, 195, 1059-1075.	1.5	7
66	Property integration models with interdependence mixing operators. Chemical Engineering Research and Design, 2014, 92, 3038-3045.	2.7	7
67	A Note on the Controllability of Two Short-Cut Designs for a Class of Thermally Coupled Distillation Sequence. Industrial & Engineering Chemistry Research, 2009, 48, 2283-2289.	1.8	5
68	Recycle and reuse mass exchange networks based on properties using a global optimization technique. Computer Aided Chemical Engineering, 2010, , 871-876.	0.3	5
69	An MINLP model for biofouling control in seawater-cooled facilities. Computers and Chemical Engineering, 2012, 37, 163-171.	2.0	5
70	Gradual Synthesis of Heat Exchanger Networks Taking into Account Economic, Environmental, and Safety Factors. Industrial & Engineering Chemistry Research, 2020, 59, 20123-20130.	1.8	4
71	Dividing-Wall Column Design: Analysis of Methodologies Tailored to Process Simulators. Processes, 2021, 9, 1189.	1.3	4
72	Analysis of two Alternatives to Produce Ethylene from Shale Gas. Computer Aided Chemical Engineering, 2015, , 485-490.	0.3	3

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73	An index to account for safety and controllability during the design of a chemical process. Journal of Loss Prevention in the Process Industries, 2021, 70, 104427.	1.7	3
74	Design of Petlyuk Distillation Columns Aided with Collocation Techniques. Industrial & Engineering Chemistry Research, 2007, 46, 5365-5370.	1.8	2
75	An MINLP Model that Includes the Effect of Temperature and Composition on Property Balances for Mass Integration Networks. Processes, 2014, 2, 675-693.	1.3	2
76	Safety, sustainability and economic assessment in conceptual design stages for chemical processes. Computer Aided Chemical Engineering, 2018, 44, 2353-2358.	0.3	2
77	Multi-objective optimization for the incorporation of safety and reliability considerations in process design. Computer Aided Chemical Engineering, 2021, 50, 101-106.	0.3	2
78	A Mixed-Integer Linear Programming Model for the Design of Shale Gas Industrial Parks. ACS Sustainable Chemistry and Engineering, 2021, 9, 8783-8796.	3.2	2
79	Inherent Safety Evaluation for Process Flowsheets of Natural/Shale Gas Processes. Computer Aided Chemical Engineering, 2017, 40, 1243-1248.	0.3	1
80	Design of Sustainable Renewable-Based Utility Plants in the Face of Uncertainty. Frontiers in Sustainability, 2021, 2, .	1.3	1
81	A disjunctive programming model for the optimal design of cooling water systems. Computer Aided Chemical Engineering, 2009, 26, 1257-1262.	0.3	0
82	Renewable-based process integration. , 2022, , 553-571.		0