Eric S Fraga

List of Publications by Year
in descending order

122 papers	1,838 citations	304701 22 h-index	302107 39 g-index
123 all docs	123 docs citations	123 times ranked	1963 citing authors

#	Article	IF	Citations
1	An energy integrated, multi-microgrid, MILP (mixed-integer linear programming) approach for residential distributed energy system planning â€" A South Australian case-study. Energy, 2015, 85, 30-44.	8.8	140
2	A mixed integer quadratic programming formulation for the economic dispatch of generators with prohibited operating zones. Electric Power Systems Research, 2007, 77, 1292-1296.	3.6	124
3	Options for residential building services design using fuel cell based micro-CHP and the potential for heat integration. Applied Energy, 2015, 138, 685-694.	10.1	123
4	Shale gas flowback water desalination: Single vs multiple-effect evaporation with vapor recompression cycle and thermal integration. Desalination, 2017, 404, 230-248.	8.2	76
5	Fuel cell systems optimisation â€" Methods and strategies. International Journal of Hydrogen Energy, 2011, 36, 14678-14703.	7.1	69
6	Effect of temperature uncertainty on polymer electrolyte fuel cell performance. International Journal of Hydrogen Energy, 2014, 39, 1439-1448.	7.1	67
7	Desalination of shale gas produced water: A rigorous design approach for zero-liquid discharge evaporation systems. Journal of Cleaner Production, 2017, 140, 1399-1414.	9.3	66
8	Mass exchange network synthesis using genetic algorithms. Computers and Chemical Engineering, 1998, 22, 1837-1850.	3.8	63
9	A multi-objective optimisation model for a general polymer electrolyte membrane fuel cell system. Journal of Power Sources, 2010, 195, 2754-2763.	7.8	53
10	Multi-objective optimisation using surrogate models for the design of VPSA systems. Computers and Chemical Engineering, 2015, 82, 318-329.	3.8	50
11	Multicriteria process synthesis for generating sustainable and economic bioprocesses. Computers and Chemical Engineering, 1999, 23, 1455-1467.	3.8	43
12	Process design optimisation using embedded hybrid visualisation and data analysis techniques within a genetic algorithm optimisation framework. Chemical Engineering and Processing: Process Intensification, 2004, 43, 657-669.	3.6	43
13	A multi-objective genetic algorithm for the design of pressure swing adsorption. Engineering Optimization, 2009, 41, 833-854.	2.6	40
14	A multi-agent system to facilitate component-based process modeling and design. Computers and Chemical Engineering, 2008, 32, 2290-2305.	3.8	39
15	Synthesis and optimization of a nonideal distillation system using a parallel genetic algorithm. Computers and Chemical Engineering, 1996, 20, S79-S84.	3.8	37
16	Optimal Pretreatment System of Flowback Water from Shale Gas Production. Industrial & Engineering Chemistry Research, 2017, 56, 4386-4398.	3.7	34
17	A modelling study for the integration of a PEMFC micro-CHP in domestic building services design. Applied Energy, 2018, 225, 85-97.	10.1	34
18	On the modelling of valve point loadings for power electricity dispatch. Applied Energy, 2012, 91, 301-303.	10.1	31

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19	Process optimization for zero-liquid discharge desalination of shale gas flowback water under uncertainty. Journal of Cleaner Production, 2017, 164, 1219-1238.	9.3	31
20	Mathematical programming formulations for non-smooth and non-convex electricity dispatch problems. Electric Power Systems Research, 2013, 95, 302-308.	3.6	28
21	Global sensitivity analysis of the impact of impurities on CO2 pipeline failure. Reliability Engineering and System Safety, 2013, 115, 43-54.	8.9	27
22	Optimal integrated energy systems design incorporating variable renewable energy sources. Computers and Chemical Engineering, 2016, 95, 21-37.	3.8	27
23	Optimal design of hybrid energy systems incorporating stochastic renewable resources fluctuations. Journal of Energy Storage, 2018, 15, 379-399.	8.1	26
24	Data analysis and visualisation for robust multi-criteria process optimisation. Computers and Chemical Engineering, 2006, 30, 1061-1071.	3.8	22
25	Modelling and Optimisation in Terms of CO2 Emissions of a Solid Oxide Fuel Cell based Micro-CHP System in a Four Bedroom House in London. Energy Procedia, 2013, 42, 201-209.	1.8	22
26	Stochastic optimization of trigeneration systems for decision-making under long-term uncertainty in energy demands and prices. Energy, 2019, 175, 781-797.	8.8	22
27	The Generation and Use of Partial Solutions in Process Synthesis. Chemical Engineering Research and Design, 1998, 76, 45-54.	5.6	19
28	An artificial neural network approach to recognise kinetic models from experimental data. Computers and Chemical Engineering, 2020, 135, 106759.	3.8	19
29	Multi-objective optimisation of batch separation processes. Chemical Engineering and Processing: Process Intensification, 2008, 47, 2303-2314.	3.6	18
30	On the application of a nature-inspired stochastic evolutionary algorithm to constrained multi-objective beer fermentation optimisation. Computers and Chemical Engineering, 2018, 108, 448-459.	3.8	18
31	Evaluation of hybrid optimization methods for the optimal design of heat integrated distillation sequences. Advances in Engineering Software, 2003, 34, 73-86.	3.8	17
32	An online reparametrisation approach for robust parameter estimation in automated model identification platforms. Computers and Chemical Engineering, 2019, 124, 270-284.	3.8	16
33	Mathematical Modeling for the Design and Scale-Up of a Large Industrial Aerosol-Assisted Chemical Vapor Deposition Process under Uncertainty. Industrial & Engineering Chemistry Research, 2020, 59, 1249-1260.	3.7	16
34	Surrogate based Optimisation for Design of Pressure Swing Adsorption Systems. Computer Aided Chemical Engineering, 2012, 30, 1217-1221.	0.5	15
35	On the design of complex energy systems: Accounting for renewables variability in systems sizing. Computers and Chemical Engineering, 2017, 103, 103-115.	3.8	15
36	Incorporation of dynamic behaviour in an automated process synthesis system. Computers and Chemical Engineering, 2000, 24, 189-194.	3.8	14

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37	A multi-objective framework for cost-unavailability optimisation of residential distributed energy system design. Sustainable Energy, Grids and Networks, 2017, 9, 104-117.	3.9	14
38	Hydrodynamics and mass transfer in segmented flow small channel contactors for uranium extraction. Chemical Engineering and Processing: Process Intensification, 2020, 153, 107921.	3.6	14
39	Ã©pÃ©e: a process engineering software environment. Computers and Chemical Engineering, 1994, 18, S283-S287.	3.8	13
40	Pinch location and minimum temperature approach for discontinuous composite curves. Computers and Chemical Engineering, 2002, 26, 779-783.	3.8	13
41	A framework for the analysis of the security of supply of utilising carbon dioxide as a chemical feedstock. Faraday Discussions, 2015, 183, 309-326.	3.2	12
42	An automated procedure for multicomponent product separation synthesis. Computers and Chemical Engineering, 1998, 22, S77-S84.	3.8	11
43	Synthesis of purification tags for optimal downstream processing. Computers and Chemical Engineering, 2000, 24, 717-720.	3.8	11
44	Visualization of multi-objective decisions for the optimal design of a pressure swing adsorption system. Chemometrics and Intelligent Laboratory Systems, 2015, 142, 151-158.	3.5	11
45	A model-based data mining approach for determining the domain of validity of approximated models. Chemometrics and Intelligent Laboratory Systems, 2018, 172, 58-67.	3.5	10
46	Model-based design of experiments in the presence of structural model uncertainty: an extended information matrix approach. Chemical Engineering Research and Design, 2018, 136, 129-143.	5.6	10
47	A modelling approach for the comparison between intensified extraction in small channels and conventional solvent extraction technologies. Chemical Engineering Science, 2019, 203, 201-211.	3.8	10
48	The use of dynamic programming with parallel computers for process synthesis. Computers and Chemical Engineering, 1994, 18, 1-13.	3.8	9
49	Multi-objective optimisation of batch distillation processes. Computer Aided Chemical Engineering, 2006, 21, 955-960.	0.5	9
50	Mathematical modelling of intensified extraction for spent nuclear fuel reprocessing. Nuclear Engineering and Design, 2018, 332, 162-172.	1.7	8
51	A Visual Representation of Process Heat Exchange as a Basis for User Interaction and Stochastic Optimization. Chemical Engineering Research and Design, 2001, 79, 765-776.	5.6	7
52	A rewriting grammar for heat exchanger network structure evolution with stream splitting. Engineering Optimization, 2009, 41, 813-831.	2.6	7
53	System Design of Renewable Energy Generation and Storage Alternatives for Large Scale Continuous Processes. Computer Aided Chemical Engineering, 2015, , 2279-2284.	0.5	7
54	An adaptive mesh refinement method for nonlinear dispersive wave equations. Journal of Computational Physics, 1992, 101, 94-103.	3.8	6

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55	A geometric analysis of the Schrödinger equation. Computational and Theoretical Chemistry, 1998, 426, 1-8.	1.5	6
56	"Smart Models"—a framework for adaptive multiscale modelling. Computer Aided Chemical Engineering, 2006, , 457-462.	0.5	6
57	A case study in process engineering tool integration. Computers and Chemical Engineering, 1995, 19, 759-764.	3.8	5
58	épée A support environment for process engineering software. Computers and Chemical Engineering, 1996, 20, 1399-1412.	3.8	5
59	The synthesis of multistep process plant configurations. Computers and Chemical Engineering, 1999, 23, 315-326.	3.8	5
60	Optimal system wide design for bioprocesses. Computers and Chemical Engineering, 1999, 23, S51-S54.	3.8	5
61	Design of fuel-cell micro-cogeneration systems through modeling and optimization. Wiley Interdisciplinary Reviews: Energy and Environment, 2012, 1, 181-193.	4.1	5
62	Constrained model-based design of experiments for the identification of approximated models. IFAC-PapersOnLine, 2018, 51, 515-520.	0.9	5
63	Application of Photo-Electrochemically Generated Hydrogen with Fuel Cell Based Micro-Combined Heat and Power: A Dynamic System Modelling Study. Molecules, 2020, 25, 123.	3.8	5
64	Experimental and CFD scale-up studies for intensified actinide/lanthanide separations. Chemical Engineering and Processing: Process Intensification, 2021, 164, 108355.	3.6	5
65	Discrete Optimization using String Encodings for the Synthesis of Complete Chemical Processes. Nonconvex Optimization and Its Applications, 1996, , 627-651.	0.1	5
66	A case study on synthesis in preliminary design. Computers and Chemical Engineering, 1997, 21, S53-S58.	3.8	4
67	Cluster identification using a Parallel Co-ordinate System for knowledge discovery and nonlinear optimization. Computer Aided Chemical Engineering, 2002, 10, 1003-1008.	0.5	4
68	Interactivity and Automated Process Design. Chemical Engineering and Technology, 2003, 26, 823-827.	1.5	4
69	Mixed-integer optimisation based approach for design and operation of distributed energy systems. , 2014, , .		4
70	Efficient simulation of chromatographic separation processes. Computers and Chemical Engineering, 2018, 110, 69-77.	3.8	4
71	Desalination of shale gas wastewater: Thermal and membrane applications for zero-liquid discharge. , 2018, , 399-431.		4
72	Process synthesis using parallel graph traversal. Computers and Chemical Engineering, 1994, 18, S119-S123.	3.8	3

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73	Development of a Flowsheet Design Framework of Multi-Step PSA Cycles for CO2 Capture. Computer Aided Chemical Engineering, 2009, , 849-854.	0.5	3
74	Multi-Objective Design for the Consequential Life Cycle Assessment of Corn Ethanol Production. Computer Aided Chemical Engineering, 2010, 28, 1309-1314.	0.5	3
75	A geometrically based grid refinement technique for multiphase flows. Computers and Chemical Engineering, 2015, 82, 25-33.	3.8	3
76	Probability Density Functions for Droplet Sizing in Aerosol Transport Modelling. Computer Aided Chemical Engineering, 2017, , 2245-2250.	0.5	3
77	Modelling under Uncertainty for Process Design and Scale-up of an Industrial AACVD. Computer Aided Chemical Engineering, 2018, , 253-258.	0.5	3
78	Process intensification applied to spent nuclear fuel reprocessing: An alternative flowsheet using small channels. Chemical Engineering and Processing: Process Intensification, 2019, 143, 107618.	3.6	3
79	On the Use of Online Reparametrization in Automated Platforms for Kinetic Model Identification. Chemie-Ingenieur-Technik, 2019, 91, 268-276.	0.8	3
80	Nonideal distillation in automated synthesis. Computers and Chemical Engineering, 1995, 19, 57-62.	3.8	2
81	Simulation of a fixed bed system using a geometrically based adaptive grid method. Computers and Chemical Engineering, 1998, 22, S897-S900.	3.8	2
82	Tools Integration for Computer Aided Process Engineering Applications. Computer Aided Chemical Engineering, 2002, 11, 485-513.	0.5	2
83	Enhancing automated process design with cognitive agents, distributed software components and web repositories. Engineering Optimization, 2007, 39, 615-630.	2.6	2
84	Multicriteria Design framework for CO2 capture by multi-step PSA cycles. Computer Aided Chemical Engineering, 2009, 26, 603-608.	0.5	2
85	A model for the multi-objective optimisation of a polymer electrolyte fuel cell micro-combined heat and power system. Computer Aided Chemical Engineering, 2010, , 949-954.	0.5	2
86	Optimisation as a Tool for Gaining Insight: An Application to the Built Environment. Journal of Algorithms and Computational Technology, 2015, 9, 13-26.	0.7	2
87	Energy assessment of different configurations for the ethanol production process from lignocellulosic biomass. Computer Aided Chemical Engineering, 2015, , 2285-2290.	0.5	2
88	Reliable Energy Systems Design for Continuous Processes incorporating Renewables Generation. Computer Aided Chemical Engineering, 2016, 38, 469-474.	0.5	2
89	Residential Microgrid Design Optimisation under Uncertain Î¼CHP Characteristics. Computer Aided Chemical Engineering, 2016, , 1491-1496.	0.5	2
90	On the Impact of Representation and Algorithm Selection for Optimisation in Process Design: Motivating a Meta-Heuristic Framework. Operations Research/ Computer Science Interfaces Series, 2018, , 141-149.	0.3	2

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91	A diagnostic procedure for improving the structure of approximated kinetic models. Computers and Chemical Engineering, 2020, 133, 106659.	3.8	2
92	Design optimization of microfluidic-based solvent extraction systems for radionuclides detection. Nuclear Engineering and Design, 2021, 383, 111432.	1.7	2
93	Statistical diagnosis of process-model mismatch by means of the Lagrange multiplier test. Computer Aided Chemical Engineering, 2019, , 679-684.	0.5	2
94	On the Design and Implementation of a Process Modelling Language for Uncertainty. Computer Aided Chemical Engineering, 2019, 46, 895-900.	0.5	2
95	Modelling of Microfluidic Devices for Analysis of Radionuclides. Computer Aided Chemical Engineering, 2019, 46, 1807-1812.	0.5	2
96	Optimisation based analysis of a dwelling with an air source heat pump. Computer Aided Chemical Engineering, 2012, 30, 312-316.	0.5	2
97	Symmetric multiprocessing algorithm for conceptual process design. Computer Aided Chemical Engineering, 2000, 8, 637-642.	0.5	1
98	Interval analysis for identification and bounding of potential process structures in early design. Computer Aided Chemical Engineering, 2002, , 271-276.	0.5	1
99	Discrete model and visualization interface for water distribution network design. Computer Aided Chemical Engineering, 2003, 14, 119-124.	0.5	1
100	Discrete Programming and Data Analysis for Heat-Integrated Process Synthesis in Early Design. Industrial & Engineering Chemistry Research, 2004, 43, 144-160.	3.7	1
101	A discrete interactive graphical method for heat exchanger network synthesis. Computer Aided Chemical Engineering, 2006, 21, 877-882.	0.5	1
102	SchrÃ¶dinger-Riccati equation: Feasibility study for the He-isoelectronic series. International Journal of Quantum Chemistry, 2006, 106, 458-464.	2.0	1
103	Service-Oriented CAPE: A new direction for software applications. Computer Aided Chemical Engineering, 2008, 25, 611-616.	0.5	1
104	Mathematical Modelling of Feed Pretreatment for Bioethanol Production. Computer Aided Chemical Engineering, 2009, , 1299-1304.	0.5	1
105	MILP Approach for the Design of Residential Microgrids with Energy Interaction Restrictions. Computer Aided Chemical Engineering, 2015, 37, 2357-2362.	0.5	1
106	System Modelling for Hybrid Solar Hydrogen Generation and Solar Heating Configurations for Domestic Application. , 2015, , 123-131.		1
107	Mathematical Modelling of Intensified Extraction for Spent Nuclear Fuel Reprocessing. Computer Aided Chemical Engineering, 2017, , 355-360.	0.5	1
108	Optimal design of a COEX process for spent nuclear fuel reprocessing using small channels. Computer Aided Chemical Engineering, 2018, 44, 2365-2370.	0.5	1

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109	Understanding the Impact of Constraints: A Rank Based Fitness Function for Evolutionary Methods. Springer Optimization and Its Applications, 2016, , 243-254.	0.9	1
110	An adaptive mesh refinement method for nonlinear dispersive wave equations. Journal of Computational Physics, 1992, 99, 352.	3.8	0
111	Analysis of input-output controllability in reactive distillation using the element model. Computer Aided Chemical Engineering, 2000, , 157-162.	0.5	0
112	Concurrent process engineering & the implications for CAPE. Computer Aided Chemical Engineering, 2001, , 955-960.	0.5	0
113	Cluster analysis and visualisation enhanced genetic algorithm. Computer Aided Chemical Engineering, 2003, 15, 642-647.	0.5	0
114	Using design prototypes to build an ontology for automated process design. Computer Aided Chemical Engineering, 2003, , 293-298.	0.5	0
115	Engineer computer interaction for automated process design in COGents. Computer Aided Chemical Engineering, 2003, 14, 299-304.	0.5	0
116	An adaptive interval algorithm to identify the globally optimal process structure. Computer Aided Chemical Engineering, 2003, 15, 576-581.	0.5	0
117	COGents Support for Automation in Process Design. Computer Aided Chemical Engineering, 2004, 18, 1141-1146.	0.5	0
118	Process modelling goals: concepts, structure and development. Computer Aided Chemical Engineering, 2005, 20, 265-270.	0.5	0
119	An interactive exploration environment for complex process design. , 2010, , .		0
120	Model-based design of experiments under structural model uncertainty. Computer Aided Chemical Engineering, 2017, 40, 145-150.	0.5	0
121	Enhancing Automated Process Design with Cognitive Agents, Distributed Software Components and Web Repositories. , 2004, , 63-74.		0
122	A Two Step Hybrid Optimization Procedure for the Design of Optimal Water Distribution Networks. , 0, , 311-332.		0