Matthew Realff

List of Publications by Year in Descending Order

168 papers	**5,022** citations	**35** h-index	**67** g-index
183 ext. papers	**5,981** ext. citations	**6.1** avg, IF	**6.03** L-index

#	Paper	IF	Citations
168	Research needs targeting direct air capture of carbon dioxide: Material & process performance characteristics under realistic environmental conditions. *Korean Journal of Chemical Engineering*, **2022**, 39, 1-19	2.8	7
167	Assessing the physical potential capacity of direct air capture with integrated supply of low-carbon energy sources **2022**, 12, 170-188		1
166	Discrepancy quantification between experimental and simulated data of CO_2 adsorption isotherm using hierarchical Bayesian estimation. *Separation and Purification Technology*, **2022**, 121371	8.3	0
165	Designing the bioproduction of Martian rocket propellant via a biotechnology-enabled in situ resource utilization strategy. *Nature Communications*, **2021**, 12, 6166	17.4	3
164	Direct aromatization of CO_2 via combined CO_2 hydrogenation and zeolite-based acid catalysis. *Journal of CO2 Utilization*, **2021**, 45, 101405	7.6	8
163	Selective Oxidation of Methane to Methanol over Ceria-Zirconia Supported Mono and Bimetallic Transition Metal Oxide Catalysts. *ChemCatChem*, **2021**, 13, 2832-2842	5.2	3
162	Biomolecular Systems Engineering: Unlocking the Potential of Engineered Allostery via the Lactose Repressor Topology. *Annual Review of Biophysics*, **2021**, 50, 303-321	21.1	1
161	Defining Targets for Adsorbent Material Performance to Enable Viable BECCS Processes. *Jacs Au*, **2021**, 1, 795-806		8
160	NMR Reveals Two Bicarbonate Environments in SBA15-Solid-Amine CO_2 Sorbents. *Journal of Physical Chemistry C*, **2021**, 125, 16759-16765	3.8	1
159	New model for S-shaped isotherm data and its application to process modeling using IAST. *Chemical Engineering Journal*, **2021**, 420, 127580	14.7	1
158	Integration of Material and Process Design for Kinetic Adsorption Separation. *Industrial & Engineering Chemistry Research*, **2021**, 60, 2536-2546	3.9	2
157	Thought Experiment on Using Renewable Electricity to Provide Transportation Services. *Energy & Fuels*, **2021**, 35, 13281-13290	4.1	0
156	Analysis of energetics and economics of sub-ambient hybrid post-combustion carbon dioxide capture. *AICHE Journal*, **2021**, 67, e17403	3.6	3
155	Perspective - the need and prospects for negative emission technologies - direct air capture through the lens of current sorption process development.. *Korean Journal of Chemical Engineering*, **2021**, 38, 2375-2380	2.8	1
154	Greenhouse Gas Impact of Algal Bio-Crude Production for a Range of CO_2 Supply Scenarios. *Applied Sciences (Switzerland)*, **2021**, 11, 11931	2.6	0
153	Using Site Heterogeneity in Metal Organic Frameworks with Bimetallic Open Metal Sites for Olefin/Paraffin Separations. *ACS Applied Nano Materials*, **2020**, 3, 5291-5300	5.6	4
152	Similarities in Recalcitrant Structures of Industrial Non-Kraft and Kraft Lignin. *ChemSusChem*, **2020**, 13, 4624-4632	8.3	4

151	Three-stage design of high-resolution microalgae-based biofuel supply chain using geographic information system. *Applied Energy*, **2020**, 265, 114773	10.7	20
150	Real-Time Optimization of Pulp Mill Operations with Wood Moisture Content Variation. *Processes*, **2020**, 8, 651	2.9	0
149	Engineering allosteric communication. *Current Opinion in Structural Biology*, **2020**, 63, 115-122	8.1	5
148	Pretreatment Effects on the Surface Chemistry of Small Oxygenates on Molybdenum Trioxide. *ACS Catalysis*, **2020**, 10, 8187-8200	13.1	7
147	Correction to Systems Design and Economic Analysis of Direct Air Capture of CO_2 through Temperature Vacuum Swing Adsorption Using MIL-101(Cr)-PEI-800 and mmen-Mg2(dobpdc) MOF Adsorbents *Industrial & Engineering Chemistry Research*, **2020**, 59, 503-505	3.9	4
146	Bayesian design of experiments for adsorption isotherm modeling. *Computers and Chemical Engineering*, **2020**, 135, 106774	4	5
145	Solvent Selection for Lignin Value Prior to Pulping. *ChemSusChem*, **2020**, 13, 267-273	8.3	4
144	How Well Do Approximate Models of Adsorption-Based CO_2 Capture Processes Predict Results of Detailed Process Models?. *Industrial & Engineering Chemistry Research*, **2020**, 59, 7097-7108	3.9	35
143	Evolution of Structure and Active Sites during the Synthesis of ZSM-5: From Amorphous to Fully Grown Structure. *Journal of Physical Chemistry C*, **2020**, 124, 2439-2449	3.8	6
142	Hierarchical Bayesian estimation for adsorption isotherm parameter determination. *Chemical Engineering Science*, **2020**, 214, 115435	4.4	11
141	Mechanocatalytic Ammonia Synthesis over TiN in Transient Microenvironments. *ACS Energy Letters*, **2020**, 5, 3362-3367	20.1	9
140	Efficient Evaluation of Vacuum Pressure-swing Cycle Performance using Surrogate-based, Multi-objective Optimization Algorithm. *Computer Aided Chemical Engineering*, **2020**, 1801-1806	0.6	1
139	Continuous Liquid-Phase Upgrading of Dihydroxyacetone to Lactic Acid over Metal Phosphate Catalysts. *ACS Catalysis*, **2020**, 10, 11936-11950	13.1	9
138	Lifecycle greenhouse gas emissions for an ethanol production process based on genetically modified cyanobacteria: CO_2 sourcing options. *Biofuels, Bioproducts and Biorefining*, **2020**, 14, 1324-1334	5.3	3
137	Identification of the Active Sites in the Dehydrogenation of Methanol on Pt/Al2O3 Catalysts. *Journal of Physical Chemistry C*, **2020**, 124, 19015-19023	3.8	6
136	Nickel Speciation and Methane Dry Reforming Performance of Ni/CexZr1-xO2 Prepared by Different Synthesis Methods. *ACS Catalysis*, **2020**, 10, 11235-11252	13.1	25
135	Managing uncertainty in data-driven simulation-based optimization. *Computers and Chemical Engineering*, **2020**, 136, 106519	4	20
134	Hot spot generation, reactivity, and decay in mechanochemical reactors. *Chemical Engineering Journal*, **2020**, 382, 122954	14.7	11

133	Cyclopentadiene Dimerization Kinetics in the Presence of C5 Alkenes and Alkadienes. *Industrial & Engineering Chemistry Research*, **2019**, 58, 22516-22525	3.9	5
132	Prospects and Challenges for Solar Fertilizers. *Joule*, **2019**, 3, 1578-1605	27.8	54
131	The Role of Brønsted and Water-Tolerant Lewis Acid Sites in the Cascade Aqueous-Phase Reaction of Triose to Lactic Acid. *ChemCatChem*, **2019**, 11, 3054-3063	5.2	28
130	Welcome to the Journal of Advanced Manufacturing and Processing. *Journal of Advanced Manufacturing and Processing*, **2019**, 1, e10010	2.7	
129	Techno-economic analysis of 1,4-butanediol production by a single-step bioconversion process. *Biofuels, Bioproducts and Biorefining*, **2019**, 13, 1261-1273	5.3	13
128	A parametric study of the techno-economics of direct CO2 air capture systems using solid adsorbents. *AICHE Journal*, **2019**, 65, e16607	3.6	19
127	Adsorption Process Intensification through Structured Packing: A Modeling Study Using Zeolite 13X and a Mixture of Propylene and Propane in Hollow-Fiber and Packed Beds. *Industrial & Engineering Chemistry Research*, **2019**, 58, 5750-5767	3.9	8
126	Silica-Supported Hindered Aminopolymers for CO2 Capture. *Industrial & Engineering Chemistry Research*, **2019**, 58, 22551-22560	3.9	14
125	The logic of efficiency and other metrics. *Journal of Advanced Manufacturing and Processing*, **2019**, 1,	2.7	1
124	Transformations of FCC catalysts and carbonaceous deposits during repeated reaction-regeneration cycles. *Catalysis Science and Technology*, **2019**, 9, 6977-6992	5.5	8
123	Techno-economic analysis of water precipitation for lignin value prior to pulping. *Chemical Engineering Research and Design*, **2019**, 143, 4-10	5.5	5
122	Thermodynamic Limitations of the Catalyst Design Space for Methanol Production from Methane. *ChemCatChem*, **2019**, 11, 593-600	5.2	11
121	Moving Beyond Adsorption Capacity in Design of Adsorbents for CO2 Capture from Ultradilute Feeds: Kinetics of CO2 Adsorption in Materials with Stepped Isotherms. *Industrial & Engineering Chemistry Research*, **2019**, 58, 366-377	3.9	30
120	Development of Phase-Change-Based Thermally Modulated Fiber Sorbents. *Industrial & Engineering Chemistry Research*, **2019**, 58, 5768-5776	3.9	9
119	Organosilane-Assisted Synthesis of Hierarchical MCM-22 Zeolites for Condensation of Glycerol into Bulky Products. *Crystal Growth and Design*, **2019**, 19, 231-241	3.5	8
118	Critical Comparison of Structured Contactors for Adsorption-Based Gas Separations. *Annual Review of Chemical and Biomolecular Engineering*, **2018**, 9, 129-152	8.9	26
117	Coupling of Methane to Ethane, Ethylene, and Aromatics over Nickel on Ceria‐Zirconia at Low Temperatures. *ChemCatChem*, **2018**, 10, 2700-2708	5.2	11
116	N Solid State NMR Spectroscopic Study of Surface Amine Groups for Carbon Capture: 3-Aminopropylsilyl Grafted to SBA-15 Mesoporous Silica. *Environmental Science & Technology*, **2018**, 52, 1488-1495	10.3	19

115	Control of interfacial acid−metal catalysis with organic monolayers. *Nature Catalysis*, **2018**, 1, 148-155	36.5	49
114	Enhanced Hydrothermal Stability of γ-Al₂O₃ Catalyst Supports with Alkyl Phosphonate Coatings. *Langmuir*, **2018**, 34, 3619-3625	4	26
113	Quenching of reactive intermediates during mechanochemical depolymerization of lignin. *Catalysis Today*, **2018**, 302, 180-189	5.3	31
112	Machine learning: Overview of the recent progresses and implications for the process systems engineering field. *Computers and Chemical Engineering*, **2018**, 114, 111-121	4	157
111	Direct Air Capture of CO 2 in Enclosed Environments: Design under Uncertainty and Techno-Economic Analysis. *Computer Aided Chemical Engineering*, **2018**, 44, 2179-2184	0.6	5
110	Silica-Supported Sterically Hindered Amines for CO₂ Capture. *Langmuir*, **2018**, 34, 12279-12292	4	31
109	The "Missing" Bicarbonate in CO₂ Chemisorption Reactions on Solid Amine Sorbents. *Journal of the American Chemical Society*, **2018**, 140, 8648-8651	16.4	41
108	Spectroscopic Characterization of Adsorbed CO₂ on 3-Aminopropylsilyl-Modified SBA15 Mesoporous Silica. *Environmental Science & Technology*, **2017**, 51, 6553-6559	10.3	28
107	Applying Direct Yellow 11 to a modified Simons' staining assay. *Cellulose*, **2017**, 24, 2367-2373	5.5	9
106	Relationship between Acid−Base Properties and the Activity of ZrO2-Based Catalysts for the Cannizzaro Reaction of Pyruvaldehyde to Lactic Acid. *ChemCatChem*, **2017**, 9, 2675-2683	5.2	30
105	Operational planning and optimal sizing of microgrid considering multi-scale wind uncertainty. *Applied Energy*, **2017**, 195, 616-633	10.7	62
104	Systems Design and Economic Analysis of Direct Air Capture of CO2 through Temperature Vacuum Swing Adsorption Using MIL-101(Cr)-PEI-800 and mmen-Mg2(dobpdc) MOF Adsorbents. *Industrial & Engineering Chemistry Research*, **2017**, 56, 750-764	3.9	71
103	Effect of Humidity on the CO2 Adsorption of Tertiary Amine Grafted SBA-15. *Journal of Physical Chemistry C*, **2017**, 121, 23480-23487	3.8	48
102	Hierarchical Ga-MFI Catalysts for Propane Dehydrogenation. *Chemistry of Materials*, **2017**, 29, 7213-7222	9.6	58
101	Produktion von Methanol und Ethanol aus Methan in einem einzigen Reaktor mit einem Nickeloxid auf Ceroxid-Zirconiumoxid-Katalysator. *Angewandte Chemie*, **2017**, 129, 14064-14069	3.6	3
100	Conversion of Methane into Methanol and Ethanol over Nickel Oxide on Ceria-Zirconia Catalysts in a Single Reactor. *Angewandte Chemie - International Edition*, **2017**, 56, 13876-13881	16.4	38
99	Elucidation of Surface Species through in Situ FTIR Spectroscopy of Carbon Dioxide Adsorption on Amine-Grafted SBA-15. *ChemSusChem*, **2017**, 10, 266-276	8.3	81
98	Differences in the Nature of Active Sites for Methane Dry Reforming and Methane Steam Reforming over Nickel Aluminate Catalysts. *ACS Catalysis*, **2016**, 6, 5873-5886	13.1	94

97	Steric Effect and Evolution of Surface Species in the Hydrodeoxygenation of Bio-Oil Model Compounds over Pt/HBEA. *ACS Catalysis*, **2016**, 6, 1292-1307	13.1	71
96	Uncertainty quantification via bayesian inference using sequential monte carlo methods for CO2 adsorption process. *AICHE Journal*, **2016**, 62, 3352-3368	3.6	13
95	On thermodynamic separation efficiency: Adsorption processes. *AICHE Journal*, **2016**, 62, 3699-3705	3.6	38
94	Effects of Open Metal Site Availability on Adsorption Capacity and Olefin/Paraffin Selectivity in the Metal Organic Framework Cu3(BTC)2. *Industrial & Engineering Chemistry Research*, **2016**, 55, 5043-5053	3.9	16
93	An effective chemical pretreatment method for lignocellulosic biomass with substituted imidazoles. *Biotechnology Progress*, **2015**, 31, 25-34	2.8	8
92	Bayesian estimation of parametric uncertainties, quantification and reduction using optimal design of experiments for CO2 adsorption on amine sorbents. *Computers and Chemical Engineering*, **2015**, 81, 376-388	4	17
91	Optimal Harvest Management Adaptation for a New Biorefinery Investment in a Timberlands Supply Chain Using a Modified Cyclic Scheduling Model. *Computer Aided Chemical Engineering*, **2015**, 36, 521-554	0.6	1
90	Two stage stochastic bilevel programming model of a pre-established timberlands supply chain with biorefinery investment interests. *Computers and Chemical Engineering*, **2015**, 73, 141-153	4	27
89	New approach for optimal electricity planning and dispatching with hourly time-scale air quality and health considerations. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 10884-9	11.5	28
88	Anthropogenic CO2 as a feedstock for the production of algal-based biofuels. *Biofuels, Bioproducts and Biorefining*, **2015**, 9, 72-81	5.3	13
87	Modeling and experimental validation of carbon dioxide sorption on hollow fibers loaded with silica-supported poly(ethylenimine). *Chemical Engineering Journal*, **2015**, 259, 737-751	14.7	26
86	An Extended Constrained Total Least-Squares Method for the Identification of Genetic Networks from Noisy Measurements. *Industrial & Engineering Chemistry Research*, **2015**, 54, 10583-10592	3.9	
85	Optimization and Technoeconomic Analysis of Rapid Temperature Swing Adsorption Process for Carbon Capture from Coal-Fired Power Plant. *Computer Aided Chemical Engineering*, **2015**, 36, 253-278	0.6	3
84	Hydrodeoxygenation of Guaiacol over Ceria-Zirconia Catalysts. *ChemSusChem*, **2015**, 8, 2073-83	8.3	88
83	Understanding DABCO Nanorotor Dynamics in Isostructural Metal-Organic Frameworks. *Journal of Physical Chemistry Letters*, **2015**, 6, 812-6	6.4	30
82	CO2 Sorption Performance of Composite Polymer/Aminosilica Hollow Fiber Sorbents: An Experimental and Modeling Study. *Industrial & Engineering Chemistry Research*, **2015**, 54, 1783-1795	3.9	22
81	Dynamic Modelling and Optimal Design of the Solid-Phase Reactive Chromatographic Separation System for Biomass Saccharification via Acid Hydrolysis. *Computer Aided Chemical Engineering*, **2015**, 37, 929-934	0.6	
80	Protein engineering of cellulases. *Current Opinion in Biotechnology*, **2014**, 29, 139-45	11.4	44

79	Bioreactor-based fuel systems. I: Optimal production capacity considering start-up dynamics. *Computers and Chemical Engineering*, **2014**, 71, 141-153	4	3
78	Role of Lewis and Brønsted Acid Sites in the Dehydration of Glycerol over Niobia. *ACS Catalysis*, **2014**, 4, 3180-3192	13.1	124
77	Effect of preparation methods on the performance of Co/Al2O3 catalysts for dry reforming of methane. *Green Chemistry*, **2014**, 16, 885-896	10	99
76	Solid-Phase Reactive Chromatographic Separation System: Optimization-Based Design and Its Potential Application to Biomass Saccharification via Acid Hydrolysis. *Industrial & Engineering Chemistry Research*, **2014**, 53, 15946-15961	3.9	3
75	Modeling of rapid temperature swing adsorption using hollow fiber sorbents. *Chemical Engineering Science*, **2014**, 113, 62-76	4.4	43
74	Analysis and comparison of single period single level and bilevel programming representations of a pre-existing timberlands supply chain with a new biorefinery facility. *Computers and Chemical Engineering*, **2014**, 68, 242-254	4	15
73	A Real Time Approximate Dynamic Programming Approach: A High Dimensional Supply Chain Application **2014**, 61-88		
72	Bayesian Estimation, Uncertainty Propagation and Design of Experiments for CO2 Adsorption on Amine Sorbents. *Computer Aided Chemical Engineering*, **2014**, 34, 345-350	0.6	2
71	Effect of Amine Surface Coverage on the Co-Adsorption of CO2 and Water: Spectral Deconvolution of Adsorbed Species. *Journal of Physical Chemistry Letters*, **2014**, 5, 4194-200	6.4	139
70	Two Stage Bilevel Programming Approach for Representation of Biorefinery Investment Decision Making in a Pre-Established Timberlands Supply Chain. *Computer Aided Chemical Engineering*, **2014**, 34, 645-650	0.6	1
69	The Design of a Sustainability Assessment Standard Using Life Cycle Information. *Journal of Industrial Ecology*, **2013**, 17, 493-503	7.2	5
68	MILP based value backups in partially observed Markov decision processes (POMDPs) with very large or continuous action and observation spaces. *Computers and Chemical Engineering*, **2013**, 56, 101-113	4	1
67	Design and simulation of an organosolv process for bioethanol production. *Biomass Conversion and Biorefinery*, **2013**, 3, 199-212	2.3	41
66	SO2 -catalyzed steam explosion: the effects of different severity on digestibility, accessibility, and crystallinity of lignocellulosic biomass. *Biotechnology Progress*, **2013**, 29, 909-16	2.8	33
65	Cost and Energy Savings Using an Optimal Design of Reverse Osmosis Membrane Pretreatment for Dilute Bioethanol Purification. *Industrial & Engineering Chemistry Research*, **2013**, 52, 11132-11141	3.9	26
64	Stability of Pt/Al2O3 Catalysts in Lignin and Lignin Model Compound Solutions under Liquid Phase Reforming Reaction Conditions. *ACS Catalysis*, **2013**, 3, 464-473	13.1	68
63	On defect propagation in multi-machine stochastically deteriorating systems with incomplete information. *Journal of Process Control*, **2012**, 22, 1478-1489	3.9	1
62	Preface: Biomass Conversion Over Heterogeneous Catalysts: Contributions from the 2011 AIChE Annual Meeting. *Topics in Catalysis*, **2012**, 55, 117-117	2.3	

61	Stability of Pt/Al2O3 Catalysts in Model Biomass Solutions. *Topics in Catalysis*, **2012**, 55, 162-174	2.3	78
60	Structural Changes of Al2O3-Supported Catalysts in Hot Liquid Water. *ACS Catalysis*, **2011**, 1, 552-561	13.1	205
59	Optimal design and global sensitivity analysis of biomass supply chain networks for biofuels under uncertainty. *Computers and Chemical Engineering*, **2011**, 35, 1738-1751	4	267
58	Design of biomass processing network for biofuel production using an MILP model. *Biomass and Bioenergy*, **2011**, 35, 853-871	5.3	175
57	A mathematical programming tool for LCI-based product design and case study for a carpet product. *Journal of Cleaner Production*, **2011**, 19, 1347-1355	10.3	2
56	Cellulose crystallinity--a key predictor of the enzymatic hydrolysis rate. *FEBS Journal*, **2010**, 277, 1571-82	5.7	399
55	31P-NMR analysis of bio-oils obtained from the pyrolysis of biomass. *Biofuels*, **2010**, 1, 839-845	2	33
54	Life cycle energy and greenhouse gas emissions for an ethanol production process based on blue-green algae. *Environmental Science & Technology*, **2010**, 44, 8670-7	10.3	101
53	Multi-time scale Markov decision process approach to strategic network growth of reverse supply chains?. *Omega*, **2010**, 38, 20-32	7.2	10
52	Strategic capacity decision-making in a stochastic manufacturing environment using real-time approximate dynamic programming. *Naval Research Logistics*, **2010**, 57, 211-224	1.5	7
51	Optimal decision-oriented Bayesian design of experiments. *Journal of Process Control*, **2010**, 20, 1084-1091	3.3	2
50	Point-based standard optimization with life cycle assessment for product design. *Computers and Chemical Engineering*, **2010**, 34, 1356-1364	4	7
49	Modeling cellulase kinetics on lignocellulosic substrates. *Biotechnology Advances*, **2009**, 27, 833-848	17.8	308
48	Acid-catalyzed conversion of sugars and furfurals in an ionic-liquid phase. *ChemSusChem*, **2009**, 2, 665-71	8.3	215
47	Controlled exploration of state space in off-line ADP and its application to stochastic shortest path problems. *Computers and Chemical Engineering*, **2009**, 33, 2111-2122	4	3
46	Quantitative solid state NMR analysis of residues from acid hydrolysis of loblolly pine wood. *Bioresource Technology*, **2009**, 100, 4758-65	11	32
45	Proactive Scheduling Strategy Applied to Decoking Operations of an Industrial Naphtha Cracking Furnace System. *Industrial & Engineering Chemistry Research*, **2009**, 48, 3024-3032	3.9	19
44	Centralized versus decentralized decision-making for recycled material flows. *Environmental Science & Technology*, **2008**, 42, 1172-7	10.3	10

43	Scenario relaxation algorithm for finite scenario-based minmax regret and minmax relative regret robust optimization. *Computers and Operations Research*, **2008**, 35, 2093-2102	4.6	31
42	Decentralized decision-making and protocol design for recycled material flows. *International Journal of Production Economics*, **2008**, 116, 325-337	9.3	20
41	Identifying interacting residues using Boolean Learning and Support Vector Machines: case study on mRFP and DsRed proteins. *Biotechnology Journal*, **2008**, 3, 63-73	5.6	
40	REVERSE PRODUCTION SYSTEMS **2007**, 155-177		1
39	Modeling obsolete computer stock under regional data constraints: An Atlanta case study. *Resources, Conservation and Recycling*, **2007**, 51, 847-869	11.9	19
38	A Q-Learning-based method applied to stochastic resource constrained project scheduling with new project arrivals. *International Journal of Robust and Nonlinear Control*, **2007**, 17, 1214-1231	3.6	11
37	Assessing performance and uncertainty in developing carpet reverse logistics systems. *Computers and Operations Research*, **2007**, 34, 443-463	4.6	109
36	Modeling and inferential control of the batch acetylation of cellulose. *AICHE Journal*, **2006**, 52, 2149-2160	3.6	8
35	Approximate dynamic programming: Application to process supply chain management. *AICHE Journal*, **2006**, 52, 2473-2485	3.6	12
34	Development of Optimal Decoking Scheduling Strategies for an Industrial Naphtha Cracking Furnace System. *Industrial & Engineering Chemistry Research*, **2006**, 45, 5738-5747	3.9	29
33	A real time adaptive dynamic programming approach for planning and scheduling. *Computer Aided Chemical Engineering*, **2006**, 21, 1179-1184	0.6	2
32	Pooling for improved screening of combinatorial libraries for directed evolution. *Biotechnology Progress*, **2006**, 22, 961-7	2.8	29
31	Identifying the interacting positions of a protein using Boolean learning and support vector machines. *Computational Biology and Chemistry*, **2006**, 30, 268-79	3.6	3
30	Simulation modeling of pooling for combinatorial protein engineering. *Journal of Biomolecular Screening*, **2005**, 10, 856-64		10
29	Design and Optimization of Drum-type Electrostatic Separators for Plastics Recycling. *Industrial & Engineering Chemistry Research*, **2005**, 44, 3503-3509	3.9	9
28	A unified probabilistic approach for modeling trajectory-based separations. *AICHE Journal*, **2005**, 51, 2507-2520	3.6	3
27	Support vector machines for learning to identify the critical positions of a protein. *Journal of Theoretical Biology*, **2005**, 234, 351-61	2.3	12
26	E-waste. *Materials Today*, **2004**, 7, 40-45	21.8	7

25	Sample average approximation methods for stochastic MINLPs. *Computers and Chemical Engineering*, **2004**, 28, 333-346	4	38
24	An algorithmic framework for improving heuristic solutions. *Computers and Chemical Engineering*, **2004**, 28, 1285-1296	4	10
23	An algorithmic framework for improving heuristic solutions. *Computers and Chemical Engineering*, **2004**, 28, 1297-1307	4	14
22	Dynamic programming in a heuristically confined state space: a stochastic resource-constrained project scheduling application. *Computers and Chemical Engineering*, **2004**, 28, 1039-1058	4	62
21	Robust reverse production system design for carpet recycling. *IIE Transactions*, **2004**, 36, 767-776		109
20	Simulation based approach for improving heuristics in stochastic resource-constrained project scheduling problem. *Computer Aided Chemical Engineering*, **2003**, 15, 439-444	0.6	1
19	Design and optimization of free-fall electrostatic separators for plastics recycling. *AICHE Journal*, **2003**, 49, 3138-3149	3.6	43
18	EcoWorx, Green Engineering principles in practice. *Environmental Science & Technology*, **2003**, 37, 5269-77	10.3	13
17	A Framework for Geographically Sensitive and Efficient Recycling Networks. *Journal of Environmental Planning and Management*, **2003**, 46, 147-165	2.8	7
16	Combining a Geographical Information System and Process Engineering to Design an Agricultural-Industrial Ecosystem. *Journal of Industrial Ecology*, **2001**, 5, 13-31	7.2	11
15	Connections as a Focus for Model-Building Learning in Engineering. *Interactive Learning Environments*, **2001**, 9, 101-142	3.1	
14	Strategic design of reverse production systems. *Computers and Chemical Engineering*, **2000**, 24, 991-996	4	47
13	Computer supported collaborative learning for curriculum integration. *Computers and Chemical Engineering*, **2000**, 24, 1473-1479	4	3
12	Geographic and process information for chemical plant layout problems. *AICHE Journal*, **1999**, 45, 2161-2174	3.6	26
11	Propagation of Interval Values in Simple Processing Networks. *INFORMS Journal on Computing*, **1999**, 11, 420-431	2.4	
10	Operation of pipeless batch plants I. MILP schedules. *Computers and Chemical Engineering*, **1998**, 22, 841-855	4	19
9	Analysis of waste vitrification product-process systems. *Computers and Chemical Engineering*, **1998**, 22, 789-800	4	5
8	Operation of pipeless batch plants II. Vessel dispatch rules. *Computers and Chemical Engineering*, **1998**, 22, 857-866	4	11

List of Publications

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7	On the Application of Explanation-Based Learning to Acquire Control Knowledge for Branch and Bound Algorithms. *INFORMS Journal on Computing*, **1998**, 10, 56-71	2.4	2
6	Design of standardized, modular, chemical processes. *Computers and Chemical Engineering*, **1996**, 20, S435-S441	4	
5	Intelligence in Numerical Computing: Improving Batch Scheduling Algorithms through Explanation-Based Learning. *Advances in Chemical Engineering*, **1995**, 22, 549-610	0.6	
4	Heat Transfer Enhancement in Fin Channels Using Aeroelastically Fluttering Reeds. *Journal of Advanced Manufacturing and Processing*,e10110	2.7	0
3	A Real Time Approximate Dynamic Programming Approach: A High Dimensional Supply Chain Application61-88		
2	Production of active pharmaceutical ingredients (APIs) from lignin-derived phenol and catechol. *Green Chemistry*,	10	4
1	Global evaluation of economics of microalgae-based biofuel supply chain using GIS-based framework. *Korean Journal of Chemical Engineering*,1	2.8	0