Muhammad Karim

List of Publications by Year
in descending order

82 papers	2,365 citations	236925 25 h-index	214800 47 g-index
82 all docs	82 docs citations	82 times ranked	2777 citing authors

#	Article	IF	Citations
1	Soluble and insoluble solids contributions to high-solids enzymatic hydrolysis of lignocellulose. Bioresource Technology, 2008, 99, 8940-8948.	9.6	280
2	Model-Based Fed-Batch for High-Solids Enzymatic Cellulose Hydrolysis. Applied Biochemistry and Biotechnology, 2009, 152, 88-107.	2.9	196
3	Alternative power sources for remote sensors: A review. Journal of Power Sources, 2014, 245, 129-143.	7.8	175
4	Preparation of PDMS membrane using water as solvent for pervaporation separation of butanolâ€"water mixture. Green Chemistry, 2013, 15, 2180.	9.0	132
5	Growth kinetics of microalgae in microfluidic static droplet arrays. Biotechnology and Bioengineering, 2012, 109, 2987-2996.	3.3	84
6	A New Method for the Identification of Hammerstein Model**This paper was not presented at any IFAC meeting. This paper was recommended for publication in revised form by Associate Editor B.W. Bequette under the direction of Editor Yaman Arkun.. Automatica, 1997, 33, 1871-1875.	5.0	79
7	Effect of Sulfuric and Phosphoric Acid Pretreatments on Enzymatic Hydrolysis of Corn Stover. Applied Biochemistry and Biotechnology, 2003, 105, 115-126.	2.9	79
8	A PDMS membrane with high pervaporation performance for the separation of furfural and its potential in industrial application. Green Chemistry, 2014, 16, 1262-1273.	9.0	79
9	Evaluation of Ion Exchange Resins for Removal of Inhibitory Compounds from Corn Stover Hydrolyzate for Xylitol Fermentation. Biotechnology Progress, 2003, 19, 1837-1841.	2.6	73
10	Effect of operating conditions on solid substrate fermentation. Biotechnology and Bioengineering, 1993, 42, 149-158.	3.3	70
11	Effect of Shear Stress on Intrinsic CHO Culture State and Glycosylation of Recombinant Tissue-Type Plasminogen Activator Protein. Biotechnology Progress, 2008, 19, 1199-1209.	2.6	68
12	A whole cell biocatalyst for cellulosic ethanol production from dilute acid-pretreated corn stover hydrolyzates. Applied Microbiology and Biotechnology, 2011, 91, 529-542.	3.6	68
13	Model-predictive pH control using real-time NARX approach. AICHE Journal, 1994, 40, 269-282.	3.6	61
14	Global and local neural network models in biotechnology: Application to different cultivation processes. Journal of Bioscience and Bioengineering, 1997, 83, 1-11.	0.9	59
15	Comprehensive methodology for detection and diagnosis of oscillatory control loops. Control Engineering Practice, 2009, 17, 939-956.	5.5	55
16	Modeling Intrinsic Kinetics of Enzymatic Cellulose Hydrolysis. Biotechnology Progress, 2008, 23, 626-637.	2.6	51
17	Evaporative temperature and moisture control in a rocking reactor for solid substrate fermentation. Biotechnology Letters, 1991, 5, 19-24.	0.5	36
18	Improved acetone-butanol fermentation analysis using subambient HPLC column temperature. Enzyme and Microbial Technology, 1990, 12, 24-27.	3.2	35

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19	Tubular bioreactor models that include Onsagerâ€"Curie scalar cross-phenomena to describe stress-dependent rates of cell proliferation. Biophysical Chemistry, 2008, 135, 41-50.	2.8	32
20	Probabilistic neural networks using Bayesian decision strategies and a modified Gompertz model for growth phase classification in the batch culture of Bacillus subtilis. Biochemical Engineering Journal, 2001, 7, 41-48.	3.6	31
21	Data-Based Modeling and Analysis of Bioprocesses: Some Real Experiences. Biotechnology Progress, 2003, 19, 1591-1605.	2.6	29
22	Multi-Scale Modeling of Heterogeneities in Mammalian Cell Culture Processes. Industrial & Engineering Chemistry Research, 2010, 49, 7990-8006.	3.7	29
23	Control of starvation-induced apoptosis in Chinese hamster ovary cell cultures. Biotechnology and Bioengineering, 2002, 78, 645-657.	3.3	28
24	Real-time design of an adaptive nonlinear predictive controller. International Journal of Control, 1994, 59, 863-889.	1.9	27
25	Quantifying the metabolic capabilities of engineered Zymomonas mobilis using linear programming analysis. Microbial Cell Factories, 2007, 6, 8.	4.0	27
26	A novel method for furfural recovery via gas stripping assisted vapor permeation by a polydimethylsiloxane membrane. Scientific Reports, 2015, 5, 9428.	3.3	26
27	Root Cause Analysis of Key Process Variable Deviation for Rare Events in the Chemical Process Industry. Industrial & Engineering Chemistry Research, 2020, 59, 10987-10999.	3.7	25
28	Modeling and Advanced Control of Recombinant Zymomonas mobilis Fed-Batch Fermentation. Biotechnology Progress, 2002, 18, 572-579.	2.6	24
29	Economic viability of consolidated bioprocessing utilizing multiple biomass substrates for commercial-scale cellulosic bioethanol production. Biomass and Bioenergy, 2017, 103, 35-46.	5.7	22
30	Hammerstein model identification by multilayer feedforward neural networks. International Journal of Systems Science, 1997, 28, 49-54.	5.5	21
31	Variable Site-Occupancy Classification of N-Linked Glycosylation Using Artificial Neural Networks. Biotechnology Progress, 2005, 21, 1653-1662.	2.6	19
32	Alternative model structure with simplistic noise model to identify linear time invariant systems subjected to non-stationary disturbances. Journal of Process Control, 2009, 19, 964-977.	3.3	18
33	Response surface optimization ofLactobacillus plantarum batch growth. Biotechnology Letters, 1989, 11, 817-820.	2.2	17
34	Adaptive pole placement control algorithm for DO-control in Î²-lactamase production. , 1998, 60, 1-9.		16
35	Identification and Control of Dissolved Oxygen in Hybridoma Cell Culture in a Shear Sensitive Environment. Biotechnology Progress, 2001, 17, 634-642.	2.6	16
36	Optimization of fed-batch parameters and harvest time of CHO cell cultures for a glycosylated product with multiple mechanisms of inactivation. Biotechnology and Bioengineering, 2007, 98, 378-390.	3.3	16

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37	Neural-Network-Based Identification of Tissue-Type Plasminogen Activator Protein Production and Glycosylation in CHO Cell Culture under Shear Environment. Biotechnology Progress, 2003, 19, 1828-1836.	2.6	15
38	Development of modified HCH-1 kinetic model for long-term enzymatic cellulose hydrolysis and comparison with literature models. Biotechnology for Biofuels, 2019, 12, 34.	6.2	14
39	Biosolubilization of lignite. Applied Biochemistry and Biotechnology, 1989, 20-21, 731-742.	2.9	13
40	Prediction and classification of different phases in a fermentation using neural networks. Biotechnology Letters, 1998, 12, 301-304.	0.5	13
41	Flocculation enhanced microfiltration of Escherichia coli lysate. Biochemical Engineering Journal, 2008, 40, 512-519.	3.6	13
42	Experimental optimization of a real time fed-batch fermentation process using Markov decision process. , 1997, 55, 317-327.		12
43	Prediction of N-linked glycan branching patterns using artificial neural networks. Mathematical Biosciences, 2008, 211, 89-104.	1.9	12
44	Dynamics of cello-oligosaccharides on a cellulose crystal surface. Cellulose, 2012, 19, 1791-1806.	4.9	12
45	Modelling of batch kinetics of aerobic carotenoid production using Saccharomyces cerevisiae. Biochemical Engineering Journal, 2016, 114, 226-236.	3.6	12
46	Potential of mean force for separation of the repeating units in cellulose and hemicellulose. Carbohydrate Research, 2011, 346, 867-871.	2.3	11
47	Saccharification and Fermentation of Waste Sweet Potato for Bioethanol Production. Journal of Food Process Engineering, 2013, 36, 739-747.	2.9	10
48	Separating isopropanol from its diluted solutions via a process of integrating gas stripping and vapor permeation. RSC Advances, 2015, 5, 24031-24037.	3.6	9
49	Economic improvement of continuous pharmaceutical production via the optimal control of a multifeed bioreactor. Biotechnology Progress, 2017, 33, 902-912.	2.6	9
50	Effect of headspace gas composition on carboxylates production in open-culture fermentation of corn stover. Biomass and Bioenergy, 2019, 126, 57-61.	5.7	9
51	Effect of Oxygen Limitation on Î²-Lactamase Production. Biotechnology Progress, 1996, 12, 786-792.	2.6	8
52	Design of an Unknown Input Observer for Leak Detection under Process Disturbances. Industrial & Engineering Chemistry Research, 2017, 56, 989-998.	3.7	7
53	Application of Dynamic Programming for Fermentative Ethanol Production by Zymomonas mobilis. , 1990, , .		7
54	Use of an Extended Kalman Filter and development of an automated system for xylose fermentation by a recombinantEscherichia coli. Journal of Industrial Microbiology, 1994, 13, 83-89.	0.9	6

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55	Monitoring of chemical processes using improved multiscale KPCA. , 2017, , .		6
56	Mass balance and thermodynamic description of solid state fermentation of lignocellulosics byPleurotus ostreatus for animal feed production. Journal of Industrial Microbiology, 1995, 15, 25-31.	0.9	5
57	Development of a Culture Sub-population Induction Model: Signaling Pathways Synergy and Taxanes Production by Taxus canadensis. Biotechnology Progress, 2006, 22, 1671-1682.	2.6	5
58	Computationally Efficient Identification of Global ARX Parameters With Guaranteed Stability. IEEE Transactions on Automatic Control, 2011, 56, 1406-1411.	5.7	5
59	Multi-Model MPC for Nonlinear Systems. Computer Aided Chemical Engineering, 2011, 29, 622-627.	0.5	5
60	Effect of dataset size on modeling and monitoring of chemical processes. Chemical Engineering Science, 2020, 227, 115928.	3.8	5
61	Comparison of ethanol production from xylose by a recombinant Escherichia coli in batch, fedbatch and continuous fermentations.. Journal of General and Applied Microbiology, 1994, 40, 463-467.	0.7	5
62	Data acquisition and control of a continuous fermentation unit. Journal of Industrial Microbiology, 1987, 2, 305-317.	0.9	4
63	Preparation of fungal starter culture in liquid fluidized bed reactor. Biotechnology Letters, 1987, 1, 175.	0.5	4
64	Estimation of Unmeasured States in a Bioreactor under Unknown Disturbances. Industrial & Engineering Chemistry Research, 2019, 58, 2235-2245.	3.7	4
65	A decreasing feeding profile for the optimization of ethanol production in a recombinant Escherichia coli fed-batch fermentation. Biotechnology Letters, 1996, 18, 1055-1060.	2.2	3
66	A Modified Extended Recursive Least-Squares Method for Closed-Loop Identification of FIR Models. Industrial & Engineering Chemistry Research, 2009, 48, 6327-6338.	3.7	3
67	Detection of Multiple Leaks in a Natural Gas Pipeline Using Observer and Mixed-Integer Partial Differential Equation-Constrained Optimization. Industrial & Engineering Chemistry Research, 2017, 56, 11839-11846.	3.7	3
68	Development of a Culture Sub-population Induction Model: Signaling Pathways Synergy and Taxanes Production byTaxuscanadensis. Biotechnology Progress, 2006, 22, 1671-1682.	2.6	3
69	ON THE DESIGN OF ROBUST CONTROL SYSTEMS FOR DISTILLATION COLUMNS. Chemical Engineering Communications, 1988, 68, 81-98.	2.6	2
70	Kinetic studies in the biosolubilization of lignite. Resources, Conservation and Recycling, 1990, 3, 97-109.	10.8	2
71	Optimization of Bioethanol Ethanol Production in Fed-batch Fermentation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 816-821.	0.4	2
72	Kinetic modeling of countercurrent saccharification. Biotechnology for Biofuels, 2019, 12, 179.	6.2	2

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73	Fault detection of nonlinear systems using an improved KPCA method. , 2017, , .		1
74	Separation and recovery of intracellular beta-carotene using a process synthesis framework. Computer Aided Chemical Engineering, 2017, 40, 2851-2856.	0.5	1
75	An application of multivariable adaptive control to chemical processes. , 1981, , .		0
76	Growth-Phase Classification Using Backpropagation and Probabilistic Neural Networks. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1999, 32, 7568-7572.	0.4	0
77	Neural Network Based Identification of r-TPA Production and Glycosylation in CHO Cells. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 79-84.	0.4	0
78	Neural Network-Based Prediction of Variable Site-Occupancy of N-Linked Glycosylation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 309-314.	0.4	0
79	PREDICTION OF GLYCOSYLATION SITE-OCCUPANCY USING ARTIFICIAL NEURAL NETWORKS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 725-730.	0.4	0
80	Heterogeneous reaction kinetics of epoxide-functionalized regenerated cellulose membrane and aliphatic amine. Thermochimica Acta, 2012, 543, 18-23.	2.7	0
81	On-Line Identification, Model Structure Reduction, and Control Using NARX Models. , 1992, , .		0
82	Modeling and sensitivity study of critical parameters in oil shale retorting process. , 1983, , .		0