Juergen Hahn

List of Publications by Year
in descending order

138 papers	3,522 citations	147801 31 h-index	161849 54 g-index
150 all docs	150 docs citations	150 times ranked	3392 citing authors

#	Article	IF	Citations
1	Differences in fecal microbial metabolites and microbiota of children with autism spectrum disorders. Anaerobe, 2018, 49, 121-131.	2.1	249
2	Experimental and computational optimization of an Escherichia coli co-culture for the efficient production of flavonoids. Metabolic Engineering, 2016, 35, 55-63.	7.0	210
3	Automatic control in microelectronics manufacturing: Practices, challenges, and possibilities. Automatica, 2000, 36, 1567-1603.	5.0	185
4	An improved method for nonlinear model reduction using balancing of empirical gramians. Computers and Chemical Engineering, 2002, 26, 1379-1397.	3.8	183
5	Advances and selected recent developments in state and parameter estimation. Computers and Chemical Engineering, 2013, 51, 111-123.	3.8	135
6	Parameter Set Selection via Clustering of Parameters into Pairwise Indistinguishable Groups of Parameters. Industrial & Engineering Chemistry Research, 2009, 48, 6000-6009.	3.7	95
7	Determining Optimal Sensor Locations for State and Parameter Estimation for Stable Nonlinear Systems. Industrial & Engineering Chemistry Research, 2005, 44, 5645-5659.	3.7	93
8	Control analysis of an extractive dividing-wall column used for ethanol dehydration. Chemical Engineering and Processing: Process Intensification, 2014, 82, 88-100.	3.6	93
9	Design of an energy-efficient side-stream extractive distillation system. Computers and Chemical Engineering, 2017, 102, 17-25.	3.8	93
10	Classification and adaptive behavior prediction of children with autism spectrum disorder based upon multivariate data analysis of markers of oxidative stress and DNA methylation. PLoS Computational Biology, 2017, 13, e1005385.	3.2	90
11	Computation of arrival cost for moving horizon estimation via unscented Kalman filtering. Journal of Process Control, 2009, 19, 358-363.	3.3	80
12	Investigation of IL-6 and IL-10 signalling via mathematical modelling. IET Systems Biology, 2011, 5, 15-26.	1.5	76
13	Quadratic Autoencoder (Q-AE) for Low-Dose CT Denoising. IEEE Transactions on Medical Imaging, 2020, 39, 2035-2050.	8.9	72
14	Modeling regulatory mechanisms in IL-6 signal transduction in hepatocytes. Biotechnology and Bioengineering, 2006, 95, 850-862.	3.3	67
15	Distinct Fecal and Plasma Metabolites in Children with Autism Spectrum Disorders and Their Modulation after Microbiota Transfer Therapy. MSphere, 2020, 5, .	2.9	67
16	Controllability and observability covariance matrices for the analysis and order reduction of stable nonlinear systems. Journal of Process Control, 2003, 13, 115-127.	3.3	60
17	Parameter set selection for estimation of nonlinear dynamic systems. AICHE Journal, 2007, 53, 2858-2870.	3.6	59
18	Sensor Location for Stable Nonlinear Dynamic Systems: Â Multiple Sensor Case. Industrial & Engineering Chemistry Research, 2006, 45, 3615-3623.	3.7	51

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19	Balancing Approach to Minimal Realization and Model Reduction of Stable Nonlinear Systems. Industrial & Engineering Chemistry Research, 2002, 41, 2204-2212.	3.7	49
20	A Gramian Based Approach to Nonlinearity Quantification and Model Classification. Industrial & Engineering Chemistry Research, 2001, 40, 5724-5731.	3.7	45
21	Intravenous immunoglobulin for the treatment of autoimmune encephalopathy in children with autism. Translational Psychiatry, 2018, 8, 148.	4.8	45
22	Clustering of coâ€occurring conditions in autism spectrum disorder during early childhood: A retrospective analysis of medical claims data. Autism Research, 2019, 12, 1272-1285.	3.8	42
23	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.	3.6	41
24	Genetic/quadratic search algorithm for plant economic optimizations using a process simulator. Computers and Chemical Engineering, 2005, 30, 285-294.	3.8	38
25	Multivariate techniques enable a biochemical classification of children with autism spectrum disorder versus typicallyâ€developing peers: A comparison and validation study. Bioengineering and Translational Medicine, 2018, 3, 156-165.	7.1	37
26	Introduction of a nonlinearity measure for principal component models. Computers and Chemical Engineering, 2005, 29, 2355-2362.	3.8	36
27	Integrating parameter selection with experimental design under uncertainty for nonlinear dynamic systems. AICHE Journal, 2008, 54, 2310-2320.	3.6	34
28	Entity linking for biomedical literature. BMC Medical Informatics and Decision Making, 2015, 15, S4.	3.0	34
29	Mathematical Modeling of Pro- and Anti-Inflammatory Signaling in Macrophages. Processes, 2015, 3, 1-18.	2.8	34
30	Fault detection and classification in chemical processes based on neural networks with feature extraction. ISA Transactions, 2003, 42, 651-664.	5.7	33
31	A Methodology for Fault Detection, Isolation, and Identification for Nonlinear Processes with Parametric Uncertainties. Industrial & Engineering Chemistry Research, 2004, 43, 6774-6786.	3.7	32
32	Parameter reduction for stable dynamical systems based on Hankel singular values and sensitivity analysis. Chemical Engineering Science, 2006, 61, 5393-5403.	3.8	31
33	Parameter sensitivity analysis of IL-6 signalling pathways. IET Systems Biology, 2007, 1, 342-352.	1.5	31
34	Improving prediction capabilities of complex dynamic models via parameter selection and estimation. Chemical Engineering Science, 2009, 64, 4178-4185.	3.8	31
35	Gastrointestinal Symptoms and Oral Antibiotic Use in Children with Autism Spectrum Disorder: Retrospective Analysis of a Privately Insured U.S. Population. Journal of Autism and Developmental Disorders, 2019, 49, 647-659.	2.7	31
36	Adaptive IMC control for drug infusion for biological systems. Control Engineering Practice, 2002, 10, 45-56.	5.5	30

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37	Sensor location for nonlinear dynamic systems via observability analysis and MAX-DET optimization. Computers and Chemical Engineering, 2013, 48, 105-112.	3.8	30
38	Significant Association of Urinary Toxic Metals and Autism-Related Symptomsâ€"A Nonlinear Statistical Analysis with Cross Validation. PLoS ONE, 2017, 12, e0169526.	2.5	30
39	Process monitoring and parameter estimation via unscented Kalman filtering. Journal of Loss Prevention in the Process Industries, 2009, 22, 703-709.	3.3	29
40	Reduction of stable differentialâ€"algebraic equation systems via projections and system identification. Journal of Process Control, 2005, 15, 639-650.	3.3	28
41	Sensor fault diagnosis for nonlinear processes with parametric uncertaintiesâ˜†. Journal of Hazardous Materials, 2006, 130, 1-8.	12.4	26
42	A method for robustness analysis of controlled nonlinear systems. Chemical Engineering Science, 2004, 59, 4325-4338.	3.8	24
43	State estimation for high-dimensional chemical processes. Computers and Chemical Engineering, 2005, 29, 2326-2334.	3.8	24
44	Model predictive control of reactive distillation for benzene hydrogenation. Control Engineering Practice, 2016, 52, 103-113.	5.5	23
45	Integrated modeling and experimental approach for determining transcription factor profiles from fluorescent reporter data. BMC Systems Biology, 2008, 2, 64.	3.0	21
46	Modeling and dynamic optimization of fuel-grade ethanol fermentation using fed-batch process. Control Engineering Practice, 2014, 22, 231-241.	5.5	21
47	Continuous Glucose Monitoring Enables the Detection of Losses in Infusion Set Actuation (LISAs). Sensors, 2017, 17, 161.	3.8	21
48	Real-Time Detection of Infusion Site Failures in a Closed-Loop Artificial Pancreas. Journal of Diabetes Science and Technology, 2018, 12, 599-607.	2.2	21
49	Multivariate Analysis of Fecal Metabolites from Children with Autism Spectrum Disorder and Gastrointestinal Symptoms before and after Microbiota Transfer Therapy. Journal of Personalized Medicine, 2020, 10, 152.	2.5	21
50	Reduced temporal sampling effect on accuracy of time-domain fluorescence lifetime FÃ¶rster resonance energy transfer. Journal of Biomedical Optics, 2014, 19, 086023.	2.6	20
51	Fuzzy modeling of signal transduction networks. Chemical Engineering Science, 2009, 64, 2044-2056.	3.8	19
52	Model simplification procedure for signal transduction pathway models: An application to IL-6 signaling. Chemical Engineering Science, 2010, 65, 1964-1975.	3.8	19
53	Mathematical modeling of the methionine cycle and transsulfuration pathway in individuals with autism spectrum disorder. Journal of Theoretical Biology, 2017, 416, 28-37.	1.7	19
54	Comparison of Three Clinical Trial Treatments for Autism Spectrum Disorder Through Multivariate Analysis of Changes in Metabolic Profiles and Adaptive Behavior. Frontiers in Cellular Neuroscience, 2018, 12, 503.	3.7	19

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55	Maternal metabolic profile predicts high or low risk of an autism pregnancy outcome. Research in Autism Spectrum Disorders, 2018, 56, 72-82.	1.5	18
56	Towards a Multivariate Biomarker-Based Diagnosis of Autism Spectrum Disorder: Review and Discussion of Recent Advancements. Seminars in Pediatric Neurology, 2020, 34, 100803.	2.0	17
57	On the use of empirical gramians for controllability and observability analysis. , 0, , .		16
58	Process monitoring based on classification tree and discriminant analysis. Reliability Engineering and System Safety, 2006, 91, 546-555.	8.9	16
59	Generalization of a parameter set selection procedure based on orthogonal projections and the <i>D</i>â€‌optimality criterion. AICHE Journal, 2012, 58, 2085-2096.	3.6	16
60	Necessary condition for applying experimental design criteria to global sensitivity analysis results. Computers and Chemical Engineering, 2013, 48, 280-292.	3.8	16
61	Cross-validatory framework for optimal parameter estimation of KPCA and KPLS models. Chemometrics and Intelligent Laboratory Systems, 2017, 167, 196-207.	3.5	16
62	Optimal Experimental Design for Parameter Estimation of an IL-6 Signaling Model. Processes, 2017, 5, 49.	2.8	16
63	Effect of process nonlinearity on linear quadratic regulator performance. Journal of Process Control, 2005, 15, 113-124.	3.3	15
64	On the use of bifurcation analysis for robust controller tuning for nonlinear systems. Journal of Process Control, 2008, 18, 408-420.	3.3	15
65	State-preserving nonlinear model reduction procedure. Chemical Engineering Science, 2011, 66, 3907-3913.	3.8	15
66	Investigating plasma amino acids for differentiating individuals with autism spectrum disorder and typically developing peers. Research in Autism Spectrum Disorders, 2018, 50, 60-72.	1.5	15
67	Quantitative Optimal Experimental Design Using Global Sensitivity Analysis via Quasi-Linearization. Industrial & Engineering Chemistry Research, 2010, 49, 7782-7794.	3.7	14
68	Dynamics and control of benzene hydrogenation via reactive distillation. Journal of Process Control, 2014, 24, 113-124.	3.3	14
69	On the Use of Multivariate Methods for Analysis of Data from Biological Networks. Processes, 2017, 5, 36.	2.8	14
70	Altered metabolism of mothers of young children with Autism Spectrum Disorder: a case control study. BMC Pediatrics, 2020, 20, 557.	1.7	14
71	A kinematic model coupling stress fiber dynamics with JNK activation in response to matrix stretching. Journal of Theoretical Biology, 2010, 264, 593-603.	1.7	13
72	Analysis of Multi-Loop Control Structures of Dividing-Wall Distillation Columns Using a Fundamental Model. Processes, 2014, 2, 180-199.	2.8	13

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73	Empirical modeling of T cell activation predicts interplay of host cytokines and bacterial indole. Biotechnology and Bioengineering, 2017, 114, 2660-2667.	3.3	13
74	Model reduction in the presence of uncertainty in model parameters. Journal of Process Control, 2006, 16, 645-649.	3.3	12
75	Fault detection approach for systems involving soft sensors. Journal of Loss Prevention in the Process Industries, 2013, 26, 443-452.	3.3	12
76	*Drosophila* Ncd reveals an evolutionarily conserved powerstroke mechanism for homodimeric and heterodimeric kinesin-14s. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6359-6364.	7.1	12
77	Entity Linking for Biomedical Literature. , 2014, , .		11
78	Parameter set selection for dynamic systems under uncertainty via dynamic optimization and hierarchical clustering. AICHE Journal, 2014, 60, 181-192.	3.6	11
79	Multivariate Analysis of Plasma Metabolites in Children with Autism Spectrum Disorder and Gastrointestinal Symptoms Before and After Microbiota Transfer Therapy. Processes, 2019, 7, 806.	2.8	11
80	Sensor Network Design via Observability Analysis and Principal Component Analysis. Industrial & Engineering Chemistry Research, 2007, 46, 8026-8032.	3.7	10
81	Urinary essential elements of young children with autism spectrum disorder and their mothers. Research in Autism Spectrum Disorders, 2020, 72, 101518.	1.5	10
82	Regularization Techniques to Overcome Overparameterization of Complex Biochemical Reaction Networks. IEEE Life Sciences Letters, 2016, 2, 31-34.	1.2	9
83	Erythrocyte fatty acid profiles in children are not predictive of autism spectrum disorder status: a case control study. Biomarker Research, 2018, 6, 12.	6.8	9
84	Optimization of Membrane Separation Processes for Protein Fractionation. Industrial & Engineering Chemistry Research, 2014, 53, 5103-5109.	3.7	8
85	Multivariate statistical analysis applied to an IL6 signal transduction model in hepatocytes. Statistics in Medicine, 2009, 28, 2401-2434.	1.6	6
86	Relative impact of form-induced stress vs. uniaxial alignment on multipotent stem cell myogenesis. Acta Biomaterialia, 2012, 8, 3974-3981.	8.3	6
87	Kinesin-2 heterodimerization alters entry into a processive run along the microtubule but not stepping within the run. Journal of Biological Chemistry, 2018, 293, 13389-13400.	3.4	6
88	Nonlinear balanced model residualization via neural networks. AICHE Journal, 2002, 48, 1353-1357.	3.6	5
89	EFFECT OF FINITE-DIMENSIONAL APPROXIMATIONS ON OBSERVABILITY ANALYSIS OF DISTRIBUTED PARAMETER MODELS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 197-202.	0.4	5
90	Using the Tet-On system to develop a procedure for extracting transcription factor activation dynamics. Molecular BioSystems, 2010, 6, 1883.	2.9	5

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91	Regularization of inverse problems to determine transcription factor profiles from fluorescent reporter systems. AICHE Journal, 2012, 58, 3751-3762.	3.6	5
92	Dividing-Wall Column Design: Analysis of Methodologies Tailored to Process Simulators. Processes, 2021, 9, 1189.	2.8	4
93	Drug dosage adjustment via run-to-run control. , 2002, , .		3
94	Global Sensitivity Analysis Procedure Accounting for Effect of Available Experimental Data. Industrial & Engineering Chemistry Research, 2011, 50, 1294-1304.	3.7	3
95	Determining transcription factor profiles from fluorescent reporter systems involving regularization of inverse problems. , 2012, , .		3
96	Parameter Set Selection for Signal Transduction Pathway Models including Uncertainties. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 815-820.	0.4	3
97	Classification of autism spectrum disorder from blood metabolites: Robustness to the presence of co-occurring conditions. Research in Autism Spectrum Disorders, 2020, 77, 101644.	1.5	3
98	Pregnant Mothers' Medical Claims and Associated Risk of Their Children being Diagnosed with Autism Spectrum Disorder. Journal of Personalized Medicine, 2021, 11, 950.	2.5	3
99	Temporal Data Set Reduction Based on D-Optimality for Quantitative FLIM-FRET Imaging. PLoS ONE, 2015, 10, e0144421.	2.5	3
100	APPLICATION OF MODEL REDUCTION FOR MODEL PREDICTIVE CONTROL. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2002, 35, 393-398.	0.4	2
101	A parametric approach to robust state and parameter estimation for a certain class of nonlinear systems. , 0, , .		2
102	Generalisation of a procedure for computing transcription factor profiles. IET Systems Biology, 2010, 4, 108-118.	1.5	2
103	Computing transcription factor distribution profiles from green fluorescent protein reporter data. Chemical Engineering Science, 2012, 68, 340-354.	3.8	2
104	Experimental design of systems involving multiple fluorescent protein reporters. Chemical Engineering Science, 2013, 101, 191-198.	3.8	2
105	Mathematical Modeling and Analysis of Crosstalk between MAPK Pathway and Smad-Dependent TGF-$\hat{I}^2$ Signal Transduction. Processes, 2014, 2, 570-595.	2.8	2
106	KIF3A accelerates KIF3C within the kinesin-2 heterodimer to generate symmetrical phosphate release rates for each processive step. Journal of Biological Chemistry, 2021, 296, 100020.	3.4	2
107	Regularized error-in-variable estimation for big data modeling and process analytics. Control Engineering Practice, 2022, 121, 105060.	5.5	2
108	Quantitative Assessment of Balance for Accurate Prediction of Return to Sport From Sport-Related Concussion. Sports Health, 2022, 14, 875-884.	2.7	2

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109	Multivariate Analysis of Metabolomic and Nutritional Profiles among Children with Autism Spectrum Disorder. Journal of Personalized Medicine, 2022, 12, 923.	2.5	2
110	Selection of Parameter Subsets and Design of Experiments for Estimation of Nonlinear Dynamic Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 5545-5550.	0.4	1
111	Fuzzy Modeling of Signal Transduction Networks. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 15867-15872.	0.4	1
112	Selection of Temporal Gates for Bi-Exponential Fluorescence Lifetime Imaging. , 2013, , .		1
113	Reconstruction of transcription factor profiles from fluorescent protein reporter systems via dynamic optimization and <scp>T</scp>ikhonov regularization. AICHE Journal, 2014, 60, 3754-3761.	3.6	1
114	Dynamic optimal experimental design yields marginal improvement over steady‐state results for computational maximisation of regulatory T‐cell induction in ex vivo culture. IET Systems Biology, 2018, 12, 241-246.	1.5	1
115	Biomarker Identification of Complex Diseases/Disorders: Methodological Parallels to Parameter Estimation. Industrial & Engineering Chemistry Research, 2020, 59, 2366-2377.	3.7	1
116	Modeling inter-kingdom regulation of inflammatory signaling in human intestinal epithelial cells. Computers and Chemical Engineering, 2020, 140, 106954.	3.8	1
117	On the use of partial least squares (PLS) and balancing for nonlinear model reduction. , 0, , .		0
118	Analysis of IL6 Signal Transduction Model using Reduced Rank Regression. Control Applications (CCA), Proceedings of the IEEE International Conference on, 2007, , .	0.0	0
119	Solution of inverse problems for obtaining protein concentrations from fluorescent microscopy images. , 2009, , .		0
120	Derivation of simplified signal transduction pathway models: Application to IL-6 signaling. , 2010, , .		0
121	HIV Epidemic Model with Heterogeneous Infected Class. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 14159-14164.	0.4	0
122	Effect of loading frequency on trans-endplate nutrition across the intervertebral disc: A force-controlled unconfined compression experiment. , 2014, , .		0
123	Estimation of transcription factor profiles from fluorescent protein reporter systems. , 2014, , .		0
124	Special Issue on "Modeling and Analysis of Signal Transduction Networks" in the Journal Processes. Processes, 2015, 3, 540-540.	2.8	0
125	Optimal experimental design using partial least squares regression. , 2015, , .		0
126	In silico identification of potential transcriptional regulators associated with human MAPK signaling. , 2015, , .		0

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127	Neural networks elucidate T cell priming conditions for adoptive transfer. , 2015, , .		0
128	Sensitivity analysis-based time gate selection procedure for biexponential fluorescence imaging. , 2015, , .		0
129	Announcing the 2019 Processes Travel Awards for Post-Doctoral Fellows and Ph.D. Students. Processes, 2019, 7, 19.	2.8	0
130	Input Trajectory Design for the Enhancement of State Estimation through a Set-Theoretic Approach to Observability. Industrial & Engineering Chemistry Research, 2020, 59, 13631-13641.	3.7	0
131	Cardiovascular Disease Risk Improves COVID-19 Patient Outcome Prediction. Lecture Notes in Computer Science, 2021, , 467-476.	1.3	0
132	A Kinematic Model Coupling Cytoskeletal Dynamics With JNK Activation in Response to Matrix Stretching. , 2009, , .		0
133	Global Sensitivity Analysis. , 2013, , 841-842.		0
134	Optimal Experiment Design, Signal Transduction Pathways. , 2013, , 1588-1593.		0
135	Quasilinearization. , 2013, , 1807-1808.		0
136	Optimal Experiment Design. , 2013, , 1572-1573.		0
137	Local Sensitivity Analysis. , 2013, , 1141-1141.		0
138	Computing optimal operating condition profiles for fed-batch fermentation of fuel-grade ethanol. , 2013, , .		0