Kyle E Niemeyer

List of Publications by Year
in descending order

57 papers	1,508 citations	516710 16 h-index	377865 34 g-index
70 all docs	70 docs citations	70 times ranked	1749 citing authors

#	Article	IF	Citations
1	Skeletal mechanism generation for surrogate fuels using directed relation graph with error propagation and sensitivity analysis. Combustion and Flame, 2010, 157, 1760-1770.	5.2	281
2	Software citation principles. PeerJ Computer Science, 0, 2, e86.	4.5	150
3	A multi-disciplinary perspective on emergent and future innovations in peer review. F1000Research, 2017, 6, 1151.	1.6	134
4	On the importance of graph search algorithms for DRGEP-based mechanism reduction methods. Combustion and Flame, 2011, 158, 1439-1443.	5.2	88
5	Recent progress and challenges in exploiting graphics processors in computational fluid dynamics. Journal of Supercomputing, 2014, 67, 528-564.	3.6	74
6	A multi-disciplinary perspective on emergent and future innovations in peer review. F1000Research, 2017, 6, 1151.	1.6	62
7	Mechanism reduction for multicomponent surrogates: A case study using toluene reference fuels. Combustion and Flame, 2014, 161, 2752-2764.	5.2	59
8	Accelerating moderately stiff chemical kinetics in reactive-flow simulations using GPUs. Journal of Computational Physics, 2014, 256, 854-871.	3.8	55
9	pyJac: Analytical Jacobian generator for chemical kinetics. Computer Physics Communications, 2017, 215, 188-203.	7.5	55
10	The community atmospheric chemistry box model CAABA/MECCA-4.0. Geoscientific Model Development, 2019, 12, 1365-1385.	3.6	54
11	Predicting fuel research octane number using Fourier-transform infrared absorption spectra of neat hydrocarbons. Fuel, 2016, 183, 359-365.	6.4	46
12	Journal of Open Source Software (JOSS): design and first-year review. PeerJ Computer Science, 2018, 4, e147.	4.5	42
13	Reduced Chemistry for a Gasoline Surrogate Valid at Engine-Relevant Conditions. Energy & Fuels, 2015, 29, 1172-1185.	5.1	31
14	Threeâ€dimensional surface texture visualization of bone tissue through epifluorescenceâ€based serial block face imaging. Journal of Microscopy, 2009, 236, 52-59.	1.8	26
15	An automated target species selection method for dynamic adaptive chemistry simulations. Combustion and Flame, 2015, 162, 1358-1374.	5.2	19
16	A systematic method for selecting molecular descriptors as features when training models for predicting physiochemical properties. Fuel, 2022, 321, 123836.	6.4	19
17	ChemKED: A Humanâ€and Machineâ€Readable Data Standard for Chemical Kinetics Experiments. International Journal of Chemical Kinetics, 2018, 50, 135-148.	1.6	17
18	Investigation of the LTC fuel performance index for oxygenated reference fuel blends. Fuel, 2015, 155, 14-24.	6.4	16

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19	An investigation of GPU-based stiff chemical kinetics integration methods. Combustion and Flame, 2017, 179, 312-324.	5.2	15
20	Report on the Third Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE3). Journal of Open Research Software, 2016, 4, 37.	5.9	15
21	Counterflow ignition of n-butanol at atmospheric and elevated pressures. Combustion and Flame, 2015, 162, 3596-3611.	5.2	14
22	Accelerating finite-rate chemical kinetics with coprocessors: Comparing vectorization methods on GPUs, MICs, and CPUs. Computer Physics Communications, 2018, 226, 18-29.	7.5	14
23	A multi-disciplinary perspective on emergent and future innovations in peer review. F1000Research, 0, 6, 1151.	1.6	14
24	Effects of fuel content and density on the smoldering characteristics of cellulose and hemicellulose. Proceedings of the Combustion Institute, 2019, 37, 4107-4116.	3.9	13
25	Reduced Chemistry for Butanol Isomers at Engine-Relevant Conditions. Energy & Fuels, 2017, 31, 867-881.	5.1	12
26	FACE Gasoline Surrogates Formulated by an Enhanced Multivariate Optimization Framework. Energy & Fuels, 2018, 32, 7916-7932.	5.1	12
27	The Challenge and Promise of Software Citation for Credit, Identification, Discovery, and Reuse. Journal of Data and Information Quality, 2016, 7, 1-5.	2.1	11
28	pyMARS: automatically reducing chemical kinetic models in Python. Journal of Open Source Software, 2019, 4, 1543.	4.6	11
29	A Novel Fuel Performance Index for Low-Temperature Combustion Engines Based on Operating Envelopes in Light-Duty Driving Cycle Simulations. Journal of Engineering for Gas Turbines and Power, 2015, 137, .	1.1	10
30	Effects of Langmuir Turbulence on Upper Ocean Carbonate Chemistry. Journal of Advances in Modeling Earth Systems, 2018, 10, 3030-3048.	3.8	9
31	Computational study of the effects of density, fuel content, and moisture content on smoldering propagation of cellulose and hemicellulose mixtures. Proceedings of the Combustion Institute, 2019, 37, 4091-4098.	3.9	9
32	Fourth Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE4). Journal of Open Research Software, 2018, 6, 10.	5.9	9
33	Development of efficient and accurate skeletal mechanisms for hydrocarbon fuels and kerosene surrogate. Acta Mechanica Sinica/Lixue Xuebao, 2015, 31, 732-740.	3.4	6
34	Using SIMD and SIMT vectorization to evaluate sparse chemical kinetic Jacobian matrices and thermochemical source terms. Combustion and Flame, 2018, 198, 186-204.	5.2	6
35	Assessing the impact of multicomponent diffusion in direct numerical simulations of premixed, high-Karlovitz, turbulent flames. Combustion and Flame, 2021, 223, 216-229.	5.2	6
36	The principles of tomorrow's university. F1000Research, 2018, 7, 1926.	1.6	6

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37	Skeletal Mechanism Generation of Surrogate Fuels Using Directed Relation Graph with Error Propagation and Sensitivity Analysis. , 2009, , .		5
38	DRGEP-based mechanism reduction strategies: graph search algorithms and skeletal primary reference fuel mechanisms. , 2011, , .		5
39	Assessing impacts of discrepancies in model parameters on autoignition model performance: A case study using butanol. Combustion and Flame, 2018, 190, 284-292.	5.2	5
40	Accelerating solutions of one-dimensional unsteady PDEs with GPU-based swept timeâ€“space decomposition. Journal of Computational Physics, 2018, 357, 338-352.	3.8	5
41	Reduced Gas-Phase Kinetic Models for Burning of Douglas Fir. Frontiers in Mechanical Engineering, 2019, 5, .	1.8	5
42	A fast, low-memory, and stable algorithm for implementing multicomponent transport in direct numerical simulations. Journal of Computational Physics, 2020, 406, 109185.	3.8	5
43	Predicting fuel low-temperature combustion performance using Fourier-transform infrared absorption spectra of neat hydrocarbons. Fuel, 2019, 242, 343-344.	6.4	3
44	The case for openness in engineering research. F1000Research, 2018, 7, 501.	1.6	3
45	Assessing diffusion model impacts on enstrophy and flame structure in turbulent lean premixed flames. Combustion Theory and Modelling, 2022, 26, 712-727.	1.9	3
46	Effects of oil and water contamination on natural gas engine combustion processes. Journal of Natural Gas Science and Engineering, 2017, 41, 30-39.	4.4	2
47	GPU-Based Parallel Integration of Large Numbers of Independent ODE Systems. , 2014, , 159-182.		2
48	Smouldering combustion in cellulose and hemicellulose mixtures: Examining the roles of density, fuel composition, oxygen concentration, and moisture content. Combustion Theory and Modelling, 2022, 26, 831-855.	1.9	2
49	Skeletal Mechanism Generation of Surrogate Jet Fuels for Aeropropulsion Modeling. , 2010, , .		1
50	Analysis of an Approach for Detecting Arc Positions During Vacuum Arc Remelting Based on Magnetic Flux Density Measurements. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2018, 140, .	2.2	1
51	A Project-Based Course on Software Development for (Engineering) Research. Lecture Notes in Computer Science, 2019, , 401-407.	1.3	1
52	Applying the swept rule for solving explicit partial differential equations on heterogeneous computing systems. Journal of Supercomputing, 2021, 77, 1976-1997.	3.6	1
53	BFM17 v1.0: a reduced biogeochemical flux model for upper-ocean biophysical simulations. Geoscientific Model Development, 2021, 14, 2419-2442.	3.6	1
54	Applying the Swept Rule for Solving Two-Dimensional Partial Differential Equations on Heterogeneous Architectures. Mathematical and Computational Applications, 2021, 26, 52.	1.3	1

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55	The case for openness in engineering research. F1000Research, 2018, 7, 501.	1.6	1
56	Accelerating reactive-flow simulations using vectorized chemistry integration. Computer Physics Communications, 2022, 278, 108409.	7.5	1
57	Improved Chemical Kinetic Model Reduction in pyMARS for Liquid Propellants. , 2021, , .		0