Alison S Tomlin

List of Publications by Citations

111 papers	3,137 citations	33 h-index	52 g-index
115 ext. papers	3,428 ext. citations	4.2 avg, IF	5.49 L-index

#	Paper	IF	Citations
111	GUI-HDMR - A software tool for global sensitivity analysis of complex models. *Environmental Modelling and Software*, **2009**, 24, 775-785	5.2	174
110	On the error of the quasi-steady-state approximation. *The Journal of Physical Chemistry*, **1993**, 97, 163-172		144
109	Chapter 4 Mathematical tools for the construction, investigation and reduction of combustion mechanisms. *Comprehensive Chemical Kinetics*, **1997**, 293-437	0.7	142
108	Uncertainty driven theoretical kinetics studies for CH3OH ignition: HO2 + CH3OH and O2 + CH3OH. *Proceedings of the Combustion Institute*, **2011**, 33, 351-357	5.9	134
107	Mechanism reduction for the oscillatory oxidation of hydrogen: Sensitivity and quasi-steady-state analyses. *Combustion and Flame*, **1992**, 91, 107-130	5.3	114
106	A global sensitivity study of sulfur chemistry in a premixed methane flame model using HDMR. *International Journal of Chemical Kinetics*, **2008**, 40, 742-753	1.4	96
105	Introduction to the DAPPLE Air Pollution Project. *Science of the Total Environment*, **2004**, 332, 139-53	10.2	92
104	Analysis of Kinetic Reaction Mechanisms **2014**,		91
103	The role of sensitivity and uncertainty analysis in combustion modelling. *Proceedings of the Combustion Institute*, **2013**, 34, 159-176	5.9	85
102	Dispersion Experiments in Central London: The 2007 DAPPLE project. *Bulletin of the American Meteorological Society*, **2009**, 90, 955-970	6.1	82
101	An overview of the potential environmental impacts of large-scale microalgae cultivation. *Biofuels*, **2014**, 5, 331-349	2	79
100	Improved near surface wind speed predictions using Gaussian process regression combined with numerical weather predictions and observed meteorological data. *Renewable Energy*, **2018**, 126, 1043-1054	8.1	77
99	Theoretical validation of chemical kinetic mechanisms: combustion of methanol. *Journal of Physical Chemistry A*, **2010**, 114, 8286-301	2.8	61
98	Improvement of the modeling of the low-temperature oxidation of n-butane: study of the primary reactions. *Journal of Physical Chemistry A*, **2012**, 116, 6142-58	2.8	59
97	Estimating Aerodynamic Parameters of Urban-Like Surfaces with Heterogeneous Building Heights. *Boundary-Layer Meteorology*, **2011**, 141, 443-465	3.4	57
96	Uncertainty propagation in the derivation of phenomenological rate coefficients from theory: A case study of n-propyl radical oxidation. *Proceedings of the Combustion Institute*, **2013**, 34, 177-185	5.9	56
95	Global sensitivity analysis of a 3D street canyon model-Part I: The development of high dimensional model representations. *Atmospheric Environment*, **2008**, 42, 1857-1873	5.3	51

94	An investigation of important gas-phase reactions of nitrogenous species from the simulation of experimental measurements in combustion systems. *Combustion and Flame*, **2001**, 124, 573-589	5.3	51
93	Reduced Mechanisms for Propane Pyrolysis. *Industrial & Engineering Chemistry Research*, **1995**, 34, 3749-3760	3.9	46
92	A global sensitivity study of cyclohexane oxidation under low temperature fuel-rich conditions using HDMR methods. *Combustion Theory and Modelling*, **2009**, 13, 589-605	1.5	45
91	Assessing the potential of urban wind energy in a major UK city using an analytical model. *Renewable Energy*, **2013**, 60, 701-710	8.1	42
90	Global sensitivity analysis of chemical-kinetic reaction mechanisms: construction and deconstruction of the probability density function. *Journal of Physical Chemistry A*, **2011**, 115, 1556-78	2.8	41
89	A general analysis of approximate nonlinear lumping in chemical kinetics. I. Unconstrained lumping. *Journal of Chemical Physics*, **1994**, 101, 1172-1187	3.9	41
88	Modelling of roof geometries from low-resolution LiDAR data for city-scale solar energy applications using a neighbouring buildings method. *Applied Energy*, **2015**, 148, 93-104	10.7	40
87	The use of global uncertainty methods for the evaluation of combustion mechanisms. *Reliability Engineering and System Safety*, **2006**, 91, 1219-1231	6.3	40
86	A general analysis of approximate nonlinear lumping in chemical kinetics. II. Constrained lumping. *Journal of Chemical Physics*, **1994**, 101, 1188-1201	3.9	38
85	Experimental and modelling study of sulfur and nitrogen doped premixed methane flames at low pressure. *Faraday Discussions*, **2001**, 337-52; discussion 353-70	3.6	37
84	Evaluation of Combustion Mechanisms Using Global Uncertainty and Sensitivity Analyses: A Case Study for Low-Temperature Dimethyl Ether Oxidation. *International Journal of Chemical Kinetics*, **2014**, 46, 662-682	1.4	35
83	A field study of factors influencing the concentrations of a traffic-related pollutant in the vicinity of a complex urban junction. *Atmospheric Environment*, **2009**, 43, 5027-5037	5.3	35
82	Mechanism reduction techniques applied to tropospheric chemistry. *Atmospheric Environment*, **1998**, 32, 1059-1073	5.3	35
81	Systematic reduction of complex tropospheric chemical mechanisms, Part I: sensitivity and time-scale analyses. *Atmospheric Chemistry and Physics*, **2004**, 4, 2025-2056	6.8	35
80	The use of algebraic sets in the approximation of inertial manifolds and lumping in chemical kinetic systems. *Physica D: Nonlinear Phenomena*, **1995**, 83, 421-449	3.3	35
79	In-Street Wind Direction Variability in the Vicinity of a Busy Intersection in Central London. *Boundary-Layer Meteorology*, **2010**, 136, 489-513	3.4	33
78	Determination of approximate lumping schemes by a singular perturbation method. *Journal of Chemical Physics*, **1993**, 99, 3562-3574	3.9	33
77	Methodologies for city-scale assessment of renewable energy generation potential to inform strategic energy infrastructure investment. *Cities*, **2016**, 54, 45-56	5.6	32

76	Observations of urban airborne particle number concentrations during rush-hour conditions: analysis of the number based size distributions and modal parameters. *Journal of Environmental Monitoring*, **2006**, 8, 1203-18		32
75	Methodology for the assessment of PV capacity over a city region using low-resolution LiDAR data and application to the City of Leeds (UK). *Applied Energy*, **2014**, 124, 28-34	10.7	31
74	Urban wind: Characterisation of useful gust and energy capture. *Renewable Energy*, **2015**, 81, 162-172	8.1	31
73	Factors influencing particle number concentrations, size distributions and modal parameters at a roof-level and roadside site in Leicester, UK. *Science of the Total Environment*, **2007**, 386, 65-82	10.2	31
72	The application of the QSSA via reaction lumping for the reduction of complex hydrocarbon oxidation mechanisms. *Proceedings of the Combustion Institute*, **2009**, 32, 543-551	5.9	29
71	Genotoxicity of size-fractionated samples of urban particulate matter. *Environmental and Molecular Mutagenesis*, **2005**, 45, 380-7	3.2	28
70	Simulation of the dispersion of nuclear contamination using an adaptive Eulerian grid model. *Journal of Environmental Radioactivity*, **2004**, 75, 59-82	2.4	27
69	The predictability of above roof wind resource in the urban roughness sublayer. *Wind Energy*, **2012**, 15, 225-243	3.4	26
68	Data efficient measure-correlate-predict approaches to wind resource assessment for small-scale wind energy. *Renewable Energy*, **2014**, 63, 162-171	8.1	25
67	The influence of n -butanol blending on the ignition delay times of gasoline and its surrogate at high pressures. *Fuel*, **2017**, 187, 211-219	7.1	25
66	Determining predictive uncertainties and global sensitivities for large parameter systems: A case study for n-butane oxidation. *Proceedings of the Combustion Institute*, **2015**, 35, 607-616	5.9	25
65	Low-dimensional manifolds and reduced chemical models for tropospheric chemistry simulations. *Atmospheric Environment*, **2000**, 34, 2425-2436	5.3	24
64	Aerodynamic Parameters of a UK City Derived from Morphological Data. *Boundary-Layer Meteorology*, **2013**, 146, 447-468	3.4	23
63	Evaluation of models for the low temperature combustion of alkanes through interpretation of pressure-temperature ignition diagrams. *Physical Chemistry Chemical Physics*, **2006**, 8, 3197-210	3.6	23
62	The spatial variability in concentrations of a traffic-related pollutant in two street canyons in York, UKPart II: The influence of traffic characteristics. *Atmospheric Environment*, **2005**, 39, 3163-3176	5.3	22
61	Evaluation of a semi-empirical model for predicting the wind energy resource relevant to small-scale wind turbines. *Renewable Energy*, **2013**, 50, 280-288	8.1	21
60	Mapping the wind resource over UK cities. *Renewable Energy*, **2013**, 55, 202-211	8.1	20
59	Global Uncertainty Propagation and Sensitivity Analysis in the CH3OCH2 + O2 System: Combining Experiment and Theory To Constrain Key Rate Coefficients in DME Combustion. *Journal of Physical Chemistry A*, **2015**, 119, 7430-8	2.8	19

58	Short-range urban dispersion experiments using fixed and moving sources. *Atmospheric Science Letters*, **2009**, 10, 59-65	2.4	19
57	Urban tracer dispersion experiment in London (DAPPLE) 2003: field study and comparison with empirical prediction. *Atmospheric Science Letters*, **2010**, 11, 241-248	2.4	19
56	Low-dimensional manifolds in tropospheric chemical systems. *Faraday Discussions*, **2001**, 125-46; discussion 197-213	3.6	18
55	Modelling complex oscillations for the H2+ O2 reaction in an open system. *Journal of the Chemical Society, Faraday Transactions*, **1991**, 87, 2539		18
54	Long-term wind resource assessment for small and medium-scale turbines using operational forecast data and measure□correlate□predict. *Renewable Energy*, **2015**, 81, 760-769	8.1	16
53	Suppression of nucleation mode particles by biomass burning in an urban environment: a case study. *Journal of Environmental Monitoring*, **2008**, 10, 979-88		16
52	Experimental and modelling study of the impacts of n-butanol blending on the auto-ignition behaviour of gasoline and its surrogate at low temperatures. *Proceedings of the Combustion Institute*, **2019**, 37, 501-509	5.9	16
51	Modelling ozone fluxes over Hungary. *Atmospheric Environment*, **2004**, 38, 6211-6222	5.3	15
50	Comparison between the bivariate Weibull probability approach and linear regression for assessment of the long-term wind energy resource using MCP. *Renewable Energy*, **2014**, 68, 529-539	8.1	14
49	Multi-scale Atmospheric Dispersion Modelling by Use of Adaptive Gridding Techniques. *Environmental Monitoring and Assessment*, **1998**, 52, 225-238	3.1	14
48	Quadratic autocatalysis in a non-isothermal CSTR. *Chemical Engineering Science*, **1989**, 44, 1129-1137	4.4	14
47	Time-Scale Splitting-Based Mechanism Reduction. *Green Energy and Technology*, **2013**, 467-484	0.6	13
46	Global sensitivity analysis of a 3D street canyon model□Part II: Application and physical insight using sensitivity analysis. *Atmospheric Environment*, **2008**, 42, 1874-1891	5.3	11
45	3-D Multi-scale air pollution modelling using adaptive unstructured meshes. *Environmental Modelling and Software*, **2000**, 15, 681-692	5.2	11
44	Low-cost wind resource assessment for small-scale turbine installations using site pre-screening and short-term wind measurements. *IET Renewable Power Generation*, **2014**, 8, 349-358	2.9	10
43	Modelling photochemical air pollutant formation in Hungary using an adaptive grid technique. *International Journal of Environment and Pollution*, **2009**, 36, 44	0.7	10
42	Atmospheric lifetime as a probe of radical chemistry in the boundary layer. *Atmospheric Environment*, **2003**, 37, 2193-2205	5.3	10
41	Low temperature oxidation of n-butanol: Key uncertainties and constraints in kinetics. *Fuel*, **2017**, 207, 776-789	7.1	8

40	The Use of Global Sensitivity Methods for the Analysis, Evaluation and Improvement of Complex Modelling Systems. *Lecture Notes in Computational Science and Engineering*, **2011**, 9-36	0.3	8
39	The effects of parametric uncertainties in simulations of a reactive plume using a Lagrangian stochastic model. *Atmospheric Environment*, **2009**, 43, 5978-5988	5.3	8
38	Investigation and Improvement of Reaction Mechanisms Using Sensitivity Analysis and Optimization. *Green Energy and Technology*, **2013**, 411-445	0.6	8
37	The influence of background wind direction on the roadside turbulent velocity field within a complex urban street. *Quarterly Journal of the Royal Meteorological Society*, **2008**, 134, 1371-1384	6.4	7
36	The application of repro-modelling to a tropospheric chemical model. *Environmental Modelling and Software*, **2000**, 15, 611-618	5.2	7
35	Spatial dynamics of steady flames 1. Phase space structure and the dynamics of individual trajectories. *Journal of Physical Chemistry A*, **2008**, 112, 7768-83	2.8	6
34	3D adaptive unstructured meshes for air pollution modelling. *Management of Environmental Quality* , **1999**, 10, 267-275		6
33	Development of oscillations in closed systems. *Journal of the Chemical Society, Faraday Transactions* , **1990**, 86, 3365		6
32	Experimental Study on the Influence of n-Butanol Blending on the Combustion, Autoignition, and Knock Properties of Gasoline and Its Surrogate in a Spark-Ignition Engine. *Energy & Fuels*, **2018**, 32, 10052-10064	4.1	5
31	Effect of the soil wetness state on the stomatal ozone fluxes over Hungary. *International Journal of Environment and Pollution*, **2009**, 36, 180	0.7	5
30	Spatial dynamics of steady flames 2. Low-dimensional manifolds and the role of transport processes. *Journal of Physical Chemistry A*, **2008**, 112, 7784-805	2.8	5
29	Air Quality and Climate Impacts of Biomass Use as an Energy Source: A Review. *Energy & Fuels*, **2021**, 35, 14213-14240	4.1	5
28	The Simulation of Photochemical Smog Episodes in Hungary and Central Europe Using Adaptive Gridding Models. *Lecture Notes in Computer Science*, **2001**, 67-76	0.9	5
27	Mechanism Reduction to Skeletal Form and Species Lumping. *Green Energy and Technology*, **2013**, 447-466	0.6	5
26	Reduction of Reaction Mechanisms **2014**, 183-312		4
25	Influence of Iso-Butanol Blending with a Reference Gasoline and Its Surrogate on Spark-Ignition Engine Performance. *Energy & Fuels*, **2021**, 35, 19665-19688	4.1	4
24	Auto-ignition and detonation of n-butanol and toluene reference fuel blends (TRF). *Combustion and Flame*, **2021**, 229, 111378	5.3	4
23	An experimental and kinetic modeling study of the ignition delay and heat release characteristics of a five component gasoline surrogate and its blends with iso-butanol within a rapid compression machine. *International Journal of Chemical Kinetics*, **2021**, 53, 787-808	1.4	4

22	Investigation of the effect of correlated uncertain rate parameters via the calculation of global and local sensitivity indices. *Journal of Mathematical Chemistry*, **2018**, 56, 864-889	2.1	4
21	Chemical Kinetic Modeling Study on the Influence of n-Butanol Blending on the Combustion, Autoignition, and Knock Properties of Gasoline and Its Surrogate in a Spark-Ignition Engine. *Energy & Fuels*, **2018**, 32, 10065-10077	4.1	3
20	Evaluation of the Effect of Fuel Properties on the Fuel Spray and Jet Characteristics in a HGV DI Diesel Engine Operated by Used Cooking Oils. *Applied Mechanics and Materials*, **2014**, 694, 3-12	0.3	3
19	From feedback to chaos in chemical systems. *Analytical Proceedings*, **1993**, 30, 307		3
18	A method for mapping the turbulence intensity and excess energy available to building mounted wind turbines over a UK City. *Wind Energy*, **2016**, 19, 1423-1438	3.4	3
17	The treatment of uncertainties in reactive pollution dispersion models at urban scales. *Faraday Discussions*, **2016**, 189, 567-87	3.6	2
16	Emissions from a HGV Using Used Cooking Oil as a Fuel under Real World Driving Conditions **2015**,		2
15	The Use of 3-D Adaptive Unstructured Meshes in Air Pollution Modelling **1999**, 339-348		2
14	Evolution of particle interactions between accidentally released aerosol particles generated from powdered engineered nanomaterials into a simulated workplace atmosphere. *Journal of Aerosol Science*, **2019**, 129, 98-115	4.3	2
13	Urban case studies: general discussion. *Faraday Discussions*, **2016**, 189, 473-514	3.6	1
12	Sensitivity and Uncertainty Analyses **2014**, 61-144		1
11	The Estimation of Intrinsic Low Dimensional Manifold Dimension in Atmospheric Chemical Reaction Systems **2002**, 245-263		1
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9	A polynomial repro-model applied to propane cracking. *Computer Aided Chemical Engineering*, **2005**, 20, 373-378	0.6	0
8	Evacuation characteristics of released airborne TiO nanomaterial particles under different ventilation rates in a confined environment. *Journal of Environmental Management*, **2019**, 233, 417-426	7.9	0
7	Reaction Kinetics Basics **2014**, 5-37		
6	Timescale Analysis **2014**, 145-182		
5	High temporal resolution measurements of roadside particle size distributions and their implications for exposure. *Journal of Physics: Conference Series*, **2009**, 151, 012025	0.3	

4	Reduction of a chemical kinetic scheme for carbon monoxide-hydrogen oxidation. *Computer Aided Chemical Engineering*, **2003**, 14, 581-586	0.6
3	Resolution of Pollutant Concentrations Using a Fully 3D Adaptive Method. *The IMA Volumes in Mathematics and Its Applications*, **2002**, 61-79	0.5
2	Timescales of mixing and of chemistry: general discussion. *Faraday Discussions*, **2016**, 189, 253-76	3.6
1	Numerical modelling strategies for the urban atmosphere: general discussion. *Faraday Discussions*, **2016**, 189, 635-60	3.6