

# Stelios Rigopoulos

## List of Publications by Year in descending order

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52  
papers

1,411  
citations

279701

23  
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345118

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53  
all docs

53  
docs citations

53  
times ranked

814  
citing authors

#	ARTICLE	IF	CITATIONS
1	Effects of the electric field on soot formation in combustion: A coupled charged particle PBE-CFD framework. <i>Combustion and Flame</i> , 2022, 239, 111796.	2.8	10
2	Modelling of laminar diffusion flames with biodiesel blends and soot formation. <i>Fuel</i> , 2022, 317, 122897.	3.4	5
3	Analysis of turbulent coagulation in a jet with discretised population balance and DNS. <i>Journal of Fluid Mechanics</i> , 2022, 937, .	1.4	6
4	Analysis of wall mass transfer in turbulent pipe flow combining extended proper orthogonal decomposition and Fukagata-Iwamoto-Kasagi identity. <i>Physical Review Fluids</i> , 2022, 7, .	1.0	3
5	Modelling of soot formation and aggregation in turbulent flows with the LES-PBE-PDF approach and a conservative sectional method. <i>Combustion and Flame</i> , 2022, 242, 112152.	2.8	10
6	On the interaction of turbulence with nucleation and growth in reaction crystallisation. <i>Journal of Fluid Mechanics</i> , 2022, 944, .	1.4	8
7	Experimental and numerical study on soot formation in laminar diffusion flames of biodiesels and methyl esters. <i>Proceedings of the Combustion Institute</i> , 2021, 38, 1335-1344.	2.4	10
8	Experimental and kinetic modeling study on sooting tendencies of alkylbenzene isomers. <i>Fuel</i> , 2021, 283, 118873.	3.4	12
9	Evolution of MoO <sub>3</sub> nanobelts and nanoplatelets formation with flame synthesis. <i>Proceedings of the Combustion Institute</i> , 2021, 38, 1289-1297.	2.4	1
10	Modeling of turbulent flames with the large eddy simulationâ€“probability density function (LESâ€“PDF) approach, stochastic fields, and artificial neural networks. <i>Physics of Fluids</i> , 2021, 33, .	1.6	25
11	Reconstruction of largeâ€“scale flow structures in a stirred tank from limited sensor data. <i>AIChE Journal</i> , 2021, 67, e17348.	1.8	15
12	Modelling of soot coalescence and aggregation with a two-population balance equation model and a conservative finite volume method. <i>Combustion and Flame</i> , 2021, 229, 111382.	2.8	18
13	Machine learning tabulation of thermochemistry in turbulent combustion: An approach based on hybrid flamelet/random data and multiple multilayer perceptrons. <i>Combustion and Flame</i> , 2021, 231, 111493.	2.8	30
14	Measurement and simulation of sooting characteristics by an ATJ-SKA biojet fuel and blends with Jet A-1 fuel in laminar non-premixed flames. <i>Combustion and Flame</i> , 2021, 233, 111582.	2.8	11
15	A methodology for coupling DNS and discretised population balance for modelling turbulent precipitation. <i>International Journal of Heat and Fluid Flow</i> , 2020, 86, 108689.	1.1	6
16	Population balance modelling and laser diagnostic validation of soot particle evolution in laminar ethylene diffusion flames. <i>Combustion and Flame</i> , 2020, 221, 384-400.	2.8	15
17	Algorithmic Aspects of the LES-PBE-PDF Method for Modeling Soot Particle Size Distributions in Turbulent Flames. <i>Combustion Science and Technology</i> , 2019, 191, 766-796.	1.2	10
18	Modelling of Soot Aerosol Dynamics in Turbulent Flow. <i>Flow, Turbulence and Combustion</i> , 2019, 103, 565-604.	1.4	39

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19	A conservative method for numerical solution of the population balance equation, and application to soot formation. <i>Combustion and Flame</i> , 2019, 205, 506-521.	2.8	34
20	An LES-PBE-PDF approach for predicting the soot particle size distribution in turbulent flames. <i>Combustion and Flame</i> , 2018, 189, 62-76.	2.8	44
21	Reduction of a detailed chemical mechanism for a kerosene surrogate via RCCE-CSP. <i>Combustion and Flame</i> , 2018, 194, 85-106.	2.8	27
22	An explicit adaptive grid approach for the numerical solution of the population balance equation. <i>Chemical Engineering Science</i> , 2017, 168, 250-270.	1.9	29
23	An LES-PBE-PDF approach for modeling particle formation in turbulent reacting flows. <i>Physics of Fluids</i> , 2017, 29, .	1.6	26
24	Tabulation of combustion chemistry via Artificial Neural Networks (ANNs): Methodology and application to LES-PDF simulation of Sydney flame L. <i>Combustion and Flame</i> , 2017, 185, 245-260.	2.8	107
25	Modelling of soot formation in laminar diffusion flames using a comprehensive CFD-PBE model with detailed gas-phase chemistry. <i>Combustion Theory and Modelling</i> , 2017, 21, 35-48.	1.0	17
26	A methodology for derivation of RCCE-reduced mechanisms via CSP. <i>Combustion and Flame</i> , 2017, 183, 126-143.	2.8	25
27	A methodology for the integration of stiff chemical kinetics on GPUs. <i>Combustion and Flame</i> , 2015, 162, 1375-1394.	2.8	17
28	Rate-Controlled Constrained Equilibrium (RCCE) simulations of turbulent partially premixed flames (Sandia D/E/F) and comparison with detailed chemistry. <i>Combustion and Flame</i> , 2015, 162, 2256-2271.	2.8	34
29	Modelling of Soot Formation in a Laminar Coflow Non-premixed Flame with a Detailed CFD-Population Balance Model. <i>Procedia Engineering</i> , 2015, 102, 1274-1283.	1.2	3
30	A chemistry tabulation approach via Rate-Controlled Constrained Equilibrium (RCCE) and Artificial Neural Networks (ANNs), with application to turbulent non-premixed CH <sub>4</sub> /H <sub>2</sub> /N <sub>2</sub> flames. <i>Proceedings of the Combustion Institute</i> , 2013, 34, 1465-1473.	2.4	77
31	Differential Diffusion Modelling in LES with RCCE-Reduced Chemistry. <i>Flow, Turbulence and Combustion</i> , 2012, 89, 311-328.	1.4	25
32	Large Eddy Simulation of a Turbulent Lifted Flame using Conditional Moment Closure and Rate-Controlled Constrained Equilibrium. <i>Flow, Turbulence and Combustion</i> , 2011, 87, 407-423.	1.4	18
33	On adaptively reduced chemistry in large eddy simulations. <i>Proceedings of the Combustion Institute</i> , 2011, 33, 1339-1346.	2.4	21
34	Modeling of aerosol formation in a turbulent jet with the transported population balance equation-probability density function approach. <i>Physics of Fluids</i> , 2011, 23, .	1.6	27
35	Modeling of turbulent precipitation: A transported population balance PDF method. <i>AIChE Journal</i> , 2010, 56, 878-892.	1.8	13
36	Population balance modelling of polydispersed particles in reactive flows. <i>Progress in Energy and Combustion Science</i> , 2010, 36, 412-443.	15.8	126

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37	A LOIâ€™RCCE methodology for reducing chemical kinetics, with application to laminar premixed flames. Proceedings of the Combustion Institute, 2009, 32, 569-576.	2.4	32
38	A study of turbulence-chemistry interaction in reactive precipitation via a Population Balance - transported PDF method. , 2009, , .		6
39	Reduced chemistry for hydrogen and methanol premixed flames via RCCE. Combustion Theory and Modelling, 2007, 11, 755-780.	1.0	38
40	PDF method for population balance in turbulent reactive flow. Chemical Engineering Science, 2007, 62, 6865-6878.	1.9	47
41	The Rate-Controlled Constrained Equilibrium (RCCE) Method for Reducing Chemical Kinetics in Systems with Time-Scale Separation. International Journal for Multiscale Computational Engineering, 2007, 5, 11-18.	0.8	11
42	Reduced Flame Kinetics Via Rate-Controlled Constrained Equilibrium. Lecture Notes in Computer Science, 2006, , 18-25.	1.0	1
43	Reduction of comprehensive chemistry via constraint potentials. Proceedings of the Combustion Institute, 2005, 30, 1325-1331.	2.4	22
44	Rate-controlled constrained equilibrium: Formulation and application to nonpremixed laminar flames. Combustion and Flame, 2005, 142, 223-234.	2.8	65
45	Crystallization and precipitation engineering. Computers and Chemical Engineering, 2005, 29, 1159-1166.	2.0	30
46	Crystallization and precipitation engineering. Computer Aided Chemical Engineering, 2004, 18, 75-86.	0.3	1
47	Finite-element scheme for solution of the dynamic population balance equation. AIChE Journal, 2003, 49, 1127-1139.	1.8	102
48	A hybrid CFDâ€™reaction engineering framework for multiphase reactor modelling: basic concept and application to bubble column reactors. Chemical Engineering Science, 2003, 58, 3077-3089.	1.9	71
49	Modeling of Semibatch Agglomerative Gasâ€™Liquid Precipitation of CaCO <sub>3</sub> in a Bubble Column Reactor. Industrial & Engineering Chemistry Research, 2003, 42, 6567-6575.	1.8	32
50	Systematic development of optimal activated sludge process designs. Computers and Chemical Engineering, 2002, 26, 585-597.	2.0	25
51	Development of novel process designs for simultaneous oxidation and denitrification of wastewaters. Computer Aided Chemical Engineering, 2001, 9, 493-498.	0.3	0
52	Dynamic modelling of a bubble column for particle formation via a gasâ€™liquid reaction. Chemical Engineering Science, 2001, 56, 6177-6184.	1.9	24