Jason I Gerhard

List of Publications by Year
in descending order

118 papers	5,296 citations	81900 39 h-index	98798 67 g-index
120 all docs	120 docs citations	120 times ranked	4201 citing authors

#	Article	IF	Citations
1	Fire dynamics inside a large and openâ€plan compartment with exposed timber ceiling and columns: <scp>CodeRed</scp> #01. Fire and Materials, 2023, 47, 542-568.	2.0	11
2	Smouldering and its transition to flaming combustion of polyurethane foam: An experimental study. Fuel, 2022, 309, 122249.	6.4	9
3	Phosphorus recovery and reuse potential from smouldered sewage sludge ash. Waste Management, 2022, 137, 241-252.	7.4	21
4	Understanding, controlling and optimising the cooling of waste thermal treatment beds including STARx Hottpads. Waste Management and Research, 2022, 40, 1390-1401.	3.9	4
5	Multiphase modelling of water evaporation and condensation in an air-heated porous medium. Applied Thermal Engineering, 2022, 212, 118516.	6.0	7
6	Exploring PCDD/Fs and potentially toxic elements in sewage sludge during smouldering treatment. Journal of Environmental Management, 2022, 317, 115384.	7.8	6
7	Thermal Response of Timber Slabs Exposed to Travelling Fires and Traditional Design Fires. Fire Technology, 2021, 57, 393-414.	3.0	14
8	Time-lapse electrical resistivity tomography mapping of DNAPL remediation at a STAR field site. Journal of Applied Geophysics, 2021, 184, 104244.	2.1	9
9	Ignition and Burning of Fibreboard Exposed to Transient Irradiation. Fire Technology, 2021, 57, 1095-1113.	3.0	6
10	The influence of porous media heterogeneity on smouldering remediation. Journal of Contaminant Hydrology, 2021, 237, 103756.	3.3	15
11	Heat losses in a smouldering system: The key role of non-uniform air flux. Combustion and Flame, 2021, 227, 309-321.	5.2	25
12	Understanding pressure changes in smouldering thermal porous media reactors. Chemical Engineering Journal, 2021, 412, 128642.	12.7	23
13	Heat losses in applied smouldering systems: Sensitivity analysis via analytical modelling. International Journal of Heat and Mass Transfer, 2021, 172, 121150.	4.8	17
14	USEPA LEAF methods for characterizing phosphorus and potentially toxic elements in raw and thermally treated sewage sludge. Chemosphere, 2021, 275, 130081.	8.2	4
15	Electrokinetically-enhanced emplacement of lactate in a chlorinated solvent contaminated clay site to promote bioremediation. Water Research, 2021, 201, 117305.	11.3	16
16	Geoelectrical monitoring of dense non-aqueous phase liquid (DNAPL) remediation: Numerical, experimental, and field studies. , 2021, , .		0
17	The improved energy efficiency of applied smouldering systems with increasing scale. International Journal of Heat and Mass Transfer, 2021, 177, 121548.	4.8	21
18	Scaling up self-sustained smouldering of sewage sludge for waste-to-energy. Waste Management, 2021, 135, 298-308.	7.4	24

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19	Smouldering wildfires in peatlands, forests and the arctic: Challenges and perspectives. Current Opinion in Environmental Science and Health, 2021, 24, 100296.	4.1	29
20	Mapping and Monitoring of DNAPL Source Zones With Combined Direct Current Resistivity and Induced Polarization: A Fieldâ€Scale Numerical Investigation. Water Resources Research, 2021, 57, e2021WR031366.	4.2	15
21	Analysis of the Thermomechanical Response of Structural Cables Subject to Fire. Fire Technology, 2020, 56, 515-543.	3.0	21
22	Haze emissions from smouldering peat: The roles of inorganic content and bulk density. Fire Safety Journal, 2020, 113, 102940.	3.1	8
23	Thermal and oxidative decomposition of bitumen at the Microscale: Kinetic inverse modelling. Fuel, 2020, 264, 116704.	6.4	22
24	Wettability Effects on Primary Drainage Mechanisms and NAPL Distribution: A Poreâ€Scale Study. Water Resources Research, 2020, 56, e2019WR025381.	4.2	10
25	Flame extension and the near field under the ceiling for travelling fires inside large compartments. Fire and Materials, 2020, 44, 423-436.	2.0	14
26	Reduced chemical kinetics for microscale pyrolysis of softwood and hardwood. Bioresource Technology, 2020, 301, 122619.	9.6	19
27	Acceptance Criteria for Unbonded Post-Tensioned Concrete Exposed to Travelling and Traditional Design Fires. Fire Technology, 2020, 56, 1229-1252.	3.0	2
28	Experimental and numerical investigation of weak, self-sustained conditions in engineered smouldering combustion. Combustion and Flame, 2020, 222, 27-35.	5.2	22
29	Processes defining smouldering combustion: Integrated review and synthesis. Progress in Energy and Combustion Science, 2020, 81, 100869.	31.2	86
30	Experimental Study of Self-heating Ignition of Lithium-Ion Batteries During Storage: Effect of the Number of Cells. Fire Technology, 2020, 56, 2649-2669.	3.0	33
31	Remediation of PFAS-Contaminated Soil and Granular Activated Carbon by Smoldering Combustion. Environmental Science & Technology, 2020, 54, 12631-12640.	10.0	87
32	Star: a uniquely sustainable inÂsitu and ex situ remediation process. , 2020, , 221-246.		8
33	Numerical Study of Self-Heating Ignition of a Box of Lithium-Ion Batteries During Storage. Fire Technology, 2020, 56, 2603-2621.	3.0	14
34	Field test of electrokinetically-delivered thermally activated persulfate for remediation of chlorinated solvents in clay. Water Research, 2020, 183, 116061.	11.3	49
35	STARx Hottpad for smoldering treatment of waste oil sludge: Proof of concept and sensitivity to key design parameters. Waste Management and Research, 2020, 38, 554-566.	3.9	22
36	The role of local thermal non-equilibrium in modelling smouldering combustion of organic liquids. Proceedings of the Combustion Institute, 2019, 37, 3109-3117.	3.9	25

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37	Probabilistic Study of the Resistance of a Simply-Supported Reinforced Concrete Slab According to Eurocode Parametric Fire. Fire Technology, 2019, 55, 1377-1404.	3.0	15
38	Review of the Transition From Smouldering to Flaming Combustion in Wildfires. Frontiers in Mechanical Engineering, 2019, 5, .	1.8	61
39	Delineating and explaining the limits of self-sustained smouldering combustion. Combustion and Flame, 2019, 201, 78-92.	5.2	45
40	Simulation of fingering behavior in smoldering combustion using a cellular automaton. Physical Review E, 2019, 99, 023314.	2.1	3
41	Determining the conditions that lead to self-sustained smouldering combustion by means of numerical modelling. Proceedings of the Combustion Institute, 2019, 37, 4043-4051.	3.9	24
42	Computer simulation of sunlight concentration due to faÃ§ade shape: application to the 2013 Death Ray at Fenchurch Street, London. Journal of Building Performance Simulation, 2019, 12, 378-387.	2.0	4
43	Using fire to remediate contaminated soils. , 2018, , 601-625.		1
44	Flammability hazards of typical fuels used in wind turbine nacelle. Fire and Materials, 2018, 42, 770-781.	2.0	8
45	Factors Affecting the Make-Up Air and Their Influence on the Dynamics of Atrium Fires. Fire Technology, 2018, 54, 1067-1091.	3.0	10
46	Electrokinetic-enhanced permanganate delivery and remediation of contaminated low permeability porous media. Water Research, 2017, 113, 215-222.	11.3	68
47	Continuous, self-sustaining smouldering destruction of simulated faeces. Fuel, 2017, 190, 58-66.	6.4	43
48	Organic liquid mobility induced by smoldering remediation. Journal of Hazardous Materials, 2017, 325, 101-112.	12.4	37
49	Downward spread of smouldering peat fire: the role of moisture, density and oxygen supply. International Journal of Wildland Fire, 2017, 26, 907.	2.4	93
50	Low Permeability Zone Remediation via Oxidant Delivered by Electrokinetics and Activated by Electrical Resistance Heating: Proof of Concept. Environmental Science & Technology, 2017, 51, 13295-13303.	10.0	52
51	Determination of the interfacial heat transfer coefficient between forced air and sand at Reynoldâ€™s numbers relevant to smouldering combustion. International Journal of Heat and Mass Transfer, 2017, 114, 90-104.	4.8	39
52	Selfâ€potential for monitoring soil remediation by smouldering: a proof of concept. Near Surface Geophysics, 2017, 15, 475-485.	1.2	1
53	Past and Present Post-Fire Environments. Science of the Total Environment, 2016, 573, 1275-1277.	8.0	25
54	Quantified Pore-Scale Nanoparticle Transport in Porous Media and the Implications for Colloid Filtration Theory. Langmuir, 2016, 32, 7841-7853.	3.5	11

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55	Propagation probability and spread rates of self-sustained smouldering fires under controlled moisture content and bulk density conditions. International Journal of Wildland Fire, 2016, 25, 456.	2.4	55
56	Thermochemical conversion of biomass in smouldering combustion across scales: The roles of heterogeneous kinetics, oxygen and transport phenomena. Bioresource Technology, 2016, 207, 409-421.	9.6	72
57	Effects of spatial heterogeneity in moisture content on the horizontal spread of peat fires. Science of the Total Environment, 2016, 572, 1422-1430.	8.0	38
58	Interactions of Earth's atmospheric oxygen and fuel moisture in smouldering wildfires. Science of the Total Environment, 2016, 572, 1440-1446.	8.0	36
59	Probabilistic risk assessment of contaminant transport in groundwater and vapour intrusion following remediation of a contaminant source. Stochastic Environmental Research and Risk Assessment, 2016, 30, 1017-1031.	4.0	5
60	Experimental study on the burning behaviour of Pinus halepensis needles using smallâ€scale fire calorimetry of live, aged and dead samples. Fire and Materials, 2016, 40, 385-395.	2.0	35
61	Application of self-sustaining smouldering combustion for the destruction of wastewater biosolids. Waste Management, 2016, 50, 201-212.	7.4	74
62	Smoldering Combustion. , 2016, , 581-603.		62
63	The impact of immobile zones on the transport and retention of nanoparticles in porous media. Water Resources Research, 2015, 51, 8973-8994.	4.2	33
64	Smoldering Remediation of Coal-Tar-Contaminated Soil: Pilot Field Tests of STAR. Environmental Science & Technology, 2015, 49, 14334-14342.	10.0	61
65	Predicting colloid transport through saturated porous media: A critical review. Water Resources Research, 2015, 51, 6804-6845.	4.2	209
66	Computational study of critical moisture and depth of burn in peat fires. International Journal of Wildland Fire, 2015, 24, 798.	2.4	61
67	Smouldering combustion as a treatment technology for faeces: Exploring the parameter space. Fuel, 2015, 147, 108-116.	6.4	77
68	Breakthrough in the understanding of flaming wildfires. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9795-9796.	7.1	1
69	Numerical investigation of downward smoldering combustion in an organic soil column. International Journal of Heat and Mass Transfer, 2015, 84, 253-261.	4.8	20
70	Self-sustaining smouldering combustion of coal tar for the remediation of contaminated sand: Two-dimensional experiments and computational simulations. Fuel, 2015, 150, 288-297.	6.4	29
71	Global vulnerability of peatlands to fire and carbon loss. Nature Geoscience, 2015, 8, 11-14.	12.9	547
72	Remediation of trichloroethylene-contaminated soils by star technology using vegetable oil smoldering. Journal of Hazardous Materials, 2015, 285, 346-355.	12.4	42

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73	Improved time-lapse electrical resistivity tomography monitoring of dense non-aqueous phase liquids with surface-to-horizontal borehole arrays. Journal of Applied Geophysics, 2015, 112, 1-13.	2.1	54
74	Computational smoldering combustion: Predicting the roles of moisture and inert contents in peat wildfires. Proceedings of the Combustion Institute, 2015, 35, 2673-2681.	3.9	98
75	A three-dimensional numerical model for linking community-wide vapour risks. Journal of Contaminant Hydrology, 2014, 156, 38-51.	3.3	4
76	Smouldering combustion of peat in wildfires: Inverse modelling of the drying and the thermal and oxidative decomposition kinetics. Combustion and Flame, 2014, 161, 1633-1644.	5.2	129
77	Even Greater than the Sum of Its Parts. Fire Technology, 2014, 50, 1-1.	3.0	8
78	Radiant Ignition of Polyurethane Foam: The Effect of Sample Size. Fire Technology, 2014, 50, 673-691.	3.0	40
79	Evaluating four-dimensional time-lapse electrical resistivity tomography for monitoring DNAPL source zone remediation. Journal of Contaminant Hydrology, 2014, 162-163, 27-46.	3.3	45
80	Method for Obtaining Silver Nanoparticle Concentrations within a Porous Medium via Synchrotron X-ray Computed Microtomography. Environmental Science & Technology, 2014, 48, 1114-1122.	10.0	15
81	Pyrolysis of Medium-Density Fiberboard: Optimized Search for Kinetics Scheme and Parameters via a Genetic Algorithm Driven by Kissingerâ€™s Method. Energy & Fuels, 2014, 28, 6130-6139.	5.1	165
82	Volumetric scale-up of smouldering remediation of contaminated materials. Journal of Hazardous Materials, 2014, 268, 51-60.	12.4	57
83	Modeling Source Zone Remediation. , 2014, , 113-144.		0
84	Study of the competing chemical reactions in the initiation and spread of smouldering combustion in peat. Proceedings of the Combustion Institute, 2013, 34, 2547-2553.	3.9	90
85	9/11 World Trade Center Attacks: Lessons in Fire Safety Engineering After the Collapse of the Towers. Fire Technology, 2013, 49, 583-585.	3.0	4
86	Wettability contrasts between fresh and weathered diesel fuels. Journal of Contaminant Hydrology, 2013, 144, 46-57.	3.3	18
87	Editorial: Knowing is Not Enough, We Must Apply. Fire Technology, 2013, 49, 3-3.	3.0	0
88	A new coupled model for simulating the mapping of dense nonaqueous phase liquids using electrical resistivity tomography. Geophysics, 2013, 78, EN1-EN15.	2.6	23
89	Comparative Study To Evaluate the Drying Kinetics of Boreal Peats from Micro to Macro Scales. Energy & Fuels, 2012, 26, 349-356.	5.1	12
90	Analysis of acidity production during enhanced reductive dechlorination using a simplified reactive transport model. Advances in Water Resources, 2012, 43, 14-27.	3.8	16

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91	Hydraulic Displacement of Dense Nonaqueous Phase Liquids for Source Zone Stabilization. Ground Water, 2012, 50, 765-774.	1.3	13
92	A novel method for simulating smoldering propagation and its application to STAR (Self-sustaining) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	4.5	16
93	Self-Sustaining Smoldering Combustion for NAPL Remediation: Laboratory Evaluation of Process Sensitivity to Key Parameters. Environmental Science & Technology, 2011, 45, 2980-2986.	10.0	72
94	Development of the Thermal Decomposition Mechanism of Polyether Polyurethane Foam Using Both Condensed and Gas-Phase Release Data. Combustion Science and Technology, 2011, 183, 627-644.	2.3	30
95	Impact of surfactant-induced wettability alterations on DNAPL invasion in quartz and iron oxide-coated sand systems. Journal of Contaminant Hydrology, 2011, 119, 1-12.	3.3	23
96	Modeling the effectiveness of U(VI) biomineralization in dual-porosity porous media. Journal of Hydrology, 2011, 402, 14-24.	5.4	5
97	A Novel Multiscale Methodology for Simulating Tunnel Ventilation Flows During Fires. Fire Technology, 2011, 47, 221-253.	3.0	38
98	Guest Editorial: Wildfires, Fire Science and Fire Safety Engineering. Fire Technology, 2011, 47, 293-294.	3.0	0
99	Burning and Water Suppression of Smoldering Coal Fires in Small-Scale Laboratory Experiments. , 2011, , 317-326.		14
100	Sensor Assisted Fire Fighting. Fire Technology, 2010, 46, 719-741.	3.0	58
101	Biological reduction of chlorinated solvents: Batch-scale geochemical modeling. Advances in Water Resources, 2010, 33, 969-986.	3.8	36
102	Increased fire activity at the Triassic/Jurassic boundary in Greenland due to climate-driven floral change. Nature Geoscience, 2010, 3, 426-429.	12.9	156
103	Measurement and prediction of the relationship between capillary pressure, saturation, and interfacial area in a NAPLâ€waterâ€glass bead system. Water Resources Research, 2010, 46, .	4.2	114
104	Influence of wettability variations on dynamic effects in capillary pressure. Water Resources Research, 2010, 46, .	4.2	41
105	Self-Sustaining Smoldering Combustion: A Novel Remediation Process for Non-Aqueous-Phase Liquids in Porous Media. Environmental Science & Technology, 2009, 43, 5871-5877.	10.0	89
106	pH control for enhanced reductive bioremediation of chlorinated solvent source zones. Science of the Total Environment, 2009, 407, 4560-4573.	8.0	72
107	Small-scale forward smouldering experiments for remediation of coal tar in inert media. Proceedings of the Combustion Institute, 2009, 32, 1957-1964.	3.9	95
108	DNAPL mapping by ground penetrating radar examined via numerical simulation. Journal of Applied Geophysics, 2009, 69, 140-149.	2.1	78

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109	The influence of precipitate formation on the chemical oxidation of TCE DNAPL with potassium permanganate. Advances in Water Resources, 2008, 31, 324-338.	3.8	38
110	Parameter and process significance in mechanistic modeling of cellulose hydrolysis. Bioresource Technology, 2008, 99, 5738-5748.	9.6	13
111	The severity of smouldering peat fires and damage to the forest soil. Catena, 2008, 74, 304-309.	5.0	262
112	Field scale impacts of spatially correlated relative permeability in heterogeneous multiphase systems. Advances in Water Resources, 2007, 30, 1144-1159.	3.8	12
113	Computational model of forward and opposed smoldering combustion in microgravity. Proceedings of the Combustion Institute, 2007, 31, 2677-2684.	3.9	59
114	Time Scales of DNAPL Migration in Sandy Aquifers Examined via Numerical Simulation. Ground Water, 2007, 45, 147-157.	1.3	65
115	Multidimensional validation of a numerical model for simulating a DNAPL release in heterogeneous porous media. Journal of Contaminant Hydrology, 2007, 92, 109-128.	3.3	25
116	Application of genetic algorithms and thermogravimetry to determine the kinetics of polyurethane foam in smoldering combustion. Combustion and Flame, 2006, 146, 95-108.	5.2	200
117	Modeling of one-dimensional smoldering of polyurethane in microgravity conditions. Proceedings of the Combustion Institute, 2005, 30, 2327-2334.	3.9	27
118	Variability of point source infiltration rates for two-phase flow in heterogeneous porous media. Water Resources Research, 1995, 31, 2971-2980.	4.2	66