Paul S Fennell

List of Publications by Year
in descending order

135 papers	16,538 citations	41339 49 h-index	15265 126 g-index
138 all docs	138 docs citations	138 times ranked	14325 citing authors

#	Article	IF	Citations
1	Combining phytoremediation and biorefinery: Metal extraction from lead contaminated Miscanthus during pretreatment using the ionoSolv process. Industrial Crops and Products, 2022, 176, 114259.	5.2	7
2	Potassium carbonate-based ternary transition temperature mixture (deep eutectic analogues) for CO2 absorption: Characterizations and DFT analysis. Frontiers of Environmental Science and Engineering, 2022, 16, 1.	6.0	5
3	Techno-economic assessment for a pumped thermal energy storage integrated with open cycle gas turbine and chemical looping technology. Energy Conversion and Management, 2022, 255, 115332.	9.2	12
4	A Comparative Study of Different Sorbents in the Context of Direct Air Capture (DAC): Evaluation of Key Performance Indicators and Comparisons. Applied Sciences (Switzerland), 2022, 12, 2618.	2.5	20
5	Cement and steel â€" nine steps to net zero. Nature, 2022, 603, 574-577.	27.8	70
6	Modeling and Evaluation of Ash-Forming Element Fate and Occurrence in Woody Biomass Combustion in an Entrained-Flow Burner. ACS Omega, 2022, 7, 16306-16322.	3.5	2
7	Simulation of direct separation technology for carbon capture and storage in the cement industry. Chemical Engineering Journal, 2022, 449, 137721.	12.7	7
8	Reclamation of nutrients, carbon, and metals from compromised surface waters fated to the Salton Sea: Biomass production and ecosystem services using an attached periphytic algae flow-way. Algal Research, 2022, 66, 102757.	4.6	1
9	Co-precipitated Cu-Mn mixed metal oxides as oxygen carriers for chemical looping processes. Chemical Engineering Journal, 2021, 407, 127093.	12.7	16
10	Rhododendron and Japanese Knotweed: invasive species as innovative crops for second generation biofuels for the ionoSolv process. RSC Advances, 2021, 11, 18395-18403.	3.6	13
11	Demetallization of Sewage Sludge Using Low-Cost Ionic Liquids. Environmental Science & Technology, 2021, 55, 5291-5300.	10.0	15
12	Decarbonizing cement production. Joule, 2021, 5, 1305-1311.	24.0	85
13	Process intensification of the ionoSolv pretreatment: effects of biomass loading, particle size and scale-up from 10ÂmL to 1ÂL. Scientific Reports, 2021, 11, 15383.	3.3	15
14	A Review of Recent Research on Catalytic Biomass Pyrolysis and Low-Pressure Hydropyrolysis. Energy & Fuels, 2021, 35, 18333-18369.	5.1	17
15	Simulation of a 100-MW solar-powered thermo-chemical air separation system combined with an oxy-fuel power plant for bio-energy with carbon capture and storage (BECCS). Mitigation and Adaptation Strategies for Global Change, 2020, 25, 539-557.	2.1	5
16	High CO2 absorption in new amine based-transition-temperature mixtures (deep eutectic analogues) and reporting thermal stability, viscosity and surface tension: Response surface methodology (RSM). Journal of Molecular Liquids, 2020, 316, 113863.	4.9	14
17	Enhancement of CaOâ€based sorbent for CO₂ capture through doping with seawater. , 2020, 10, 878-883.		6
18	Towards an environmentally and economically sustainable biorefinery: heavy metal contaminated waste wood as a low-cost feedstock in a low-cost ionic liquid process. Green Chemistry, 2020, 22, 5032-5041.	9.0	24

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19	Assessing the economic viability of wetland remediation of wastewater, and the potential for parallel biomass valorisation. Environmental Science: Water Research and Technology, 2020, 6, 2103-2121.	2.4	4
20	Process Integration of Chemical Looping Water Splitting with a Sintering Plant for Iron Making. Industrial & Engineering Chemistry Research, 2020, 59, 7021-7032.	3.7	4
21	Fractionation by Sequential Antisolvent Precipitation of Grass, Softwood, and Hardwood Lignins Isolated Using Low-Cost Ionic Liquids and Water. ACS Sustainable Chemistry and Engineering, 2020, 8, 3751-3761.	6.7	34
22	Pressurized In Situ CO2 Capture from Biomass Combustion via the Calcium Looping Process in a Spout-Fluidized-Bed Reactor. Industrial & Engineering Chemistry Research, 2020, 59, 8571-8580.	3.7	2
23	Technologies and policies to decarbonize global industry: Review and assessment of mitigation drivers through 2070. Applied Energy, 2020, 266, 114848.	10.1	427
24	Design and techno-economic analysis of a fluidized bed-based CaO/Ca(OH)2 thermochemical energy combined storage/discharge plant with concentrated solar power. AIP Conference Proceedings, 2020, , .	0.4	2
25	Development and techno-economic analyses of a novel hydrogen production process via chemical looping. International Journal of Hydrogen Energy, 2019, 44, 21251-21263.	7.1	36
26	Iron-based chemical-looping technology for decarbonising iron and steel production. International Journal of Greenhouse Gas Control, 2019, 91, 102766.	4.6	15
27	Comparative Energy Analysis of Renewable Electricity and Carbon Capture and Storage. Joule, 2019, 3, 1406-1408.	24.0	4
28	Quantitative glucose release from softwood after pretreatment with low-cost ionic liquids. Green Chemistry, 2019, 21, 692-703.	9.0	111
29	Kinetics Modeling, Development, and Comparison for the Reaction of Calcium Oxide with Steam. Energy & Fuels, 2019, 33, 5505-5517.	5.1	5
30	Efficient Fractionation of Lignin- and Ash-Rich Agricultural Residues Following Treatment With a Low-Cost Protic Ionic Liquid. Frontiers in Chemistry, 2019, 7, 246.	3.6	35
31	Pressurised chemical-looping combustion of an iron-based oxygen carrier: Reduction kinetic measurements and modelling. Fuel Processing Technology, 2018, 171, 205-214.	7.2	15
32	Simple pyrolysis experiments for the preliminary assessment of biomass feedstocks and low-cost tar cracking catalysts for downdraft gasification applications. Biomass and Bioenergy, 2018, 108, 398-414.	5.7	21
33	Carbon capture and storage (CCS): the way forward. Energy and Environmental Science, 2018, 11, 1062-1176.	30.8	2,378
34	Pressurized calcium looping in the presence of steam in a spout-fluidized-bed reactor with DFT analysis. Fuel Processing Technology, 2018, 169, 24-41.	7.2	32
35	Impact of Flue Gas Compounds on Microalgae and Mechanisms for Carbon Assimilation and Utilization. ChemSusChem, 2018, 11, 334-355.	6.8	92
36	The feasibility of char and bio-oil production from pyrolysis of pit latrine sludge. Environmental Science: Water Research and Technology, 2018, 4, 253-264.	2.4	10

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37	Pretreatment of South African sugarcane bagasse using a low-cost protic ionic liquid: a comparison of whole, depithed, fibrous and pith bagasse fractions. Biotechnology for Biofuels, 2018, 11, 247.	6.2	64
38	Net-zero emissions energy systems. Science, 2018, 360, .	12.6	1,165
39	Pilot testing of enhanced sorbents for calcium looping with cement production. Applied Energy, 2018, 225, 392-401.	10.1	48
40	Enhanced hydrogen production from thermochemical processes. Energy and Environmental Science, 2018, 11, 2647-2672.	30.8	111
41	Hydrogen Production by Sorption Enhanced Steam Reforming (SESR) of Biomass in a Fluidised-Bed Reactor Using Combined Multifunctional Particles. Materials, 2018, 11, 859.	2.9	18
42	CO 2 capture and storage (CCS) cost reduction via infrastructure right-sizing. Chemical Engineering Research and Design, 2017, 119, 130-139.	5.6	34
43	Screening and techno-economic assessment of biomass-based power generation with CCS technologies to meet 2050 CO2 targets. Applied Energy, 2017, 190, 481-489.	10.1	126
44	Optimisation and evaluation of flexible operation strategies for coal- and gas-CCS power stations with a multi-period design approach. International Journal of Greenhouse Gas Control, 2017, 59, 24-39.	4.6	36
45	A Techno-economic analysis and systematic review of carbon capture and storage (CCS) applied to the iron and steel, cement, oil refining and pulp and paper industries, as well as other high purity sources. International Journal of Greenhouse Gas Control, 2017, 61, 71-84.	4.6	351
46	Evaluation of cooling requirements of post-combustion CO 2 capture applied to coal-fired power plants. Chemical Engineering Research and Design, 2017, 122, 1-10.	5.6	13
47	Progress in biofuel production from gasification. Progress in Energy and Combustion Science, 2017, 61, 189-248.	31.2	483
48	An economically viable ionic liquid for the fractionation of lignocellulosic biomass. Green Chemistry, 2017, 19, 3078-3102.	9.0	296
49	Biomass-based chemical looping technologies: the good, the bad and the future. Energy and Environmental Science, 2017, 10, 1885-1910.	30.8	382
50	Density and Viscosity of Partially Carbonated Aqueous Solutions Containing a Tertiary Alkanolamine and Piperazine at Temperatures between 298.15 and 353.15 K. Journal of Chemical & Engineering Data, 2017, 62, 2075-2083.	1.9	11
51	The role of CO2 capture and utilization in mitigating climate change. Nature Climate Change, 2017, 7, 243-249.	18.8	725
52	A Techno-economic Analysis and Systematic Review of Carbon Capture and Storage (CCS) Applied to the Iron and Steel, Cement, Oil Refining and Pulp and Paper Industries. Energy Procedia, 2017, 114, 6297-6302.	1.8	16
53	Two-Phase Fluidized Bed Model for Pressurized Carbonation Kinetics of Calcium Oxide. Energy & Fuels, 2017, 31, 11181-11193.	5.1	14
54	LEILAC: Low Cost CO2 Capture for the Cement and Lime Industries. Energy Procedia, 2017, 114, 6166-6170.	1.8	52

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55	Flexible Operation Strategies for Coal- and gas-CCS Power Stations under the UK and USA Markets. Energy Procedia, 2017, 114, 6543-6551.	1.8	4
56	Simultaneous design of separation sequences and whole process energy integration. Chemical Engineering Research and Design, 2017, 125, 166-180.	5.6	10
57	A parametric study of CO 2 capture from gas-fired power plants using monoethanolamine (MEA). International Journal of Greenhouse Gas Control, 2017, 63, 321-328.	4.6	58
58	Phase evolution, characterisation, and performance of cement prepared in an oxy-fuel atmosphere. Faraday Discussions, 2016, 192, 113-124.	3.2	15
59	Investigations into the effects of volatile biomass tar on the performance of Fe-based CLC oxygen carrier materials. Environmental Research Letters, 2016, 11, 115001.	5.2	20
60	Production and applications of electric-arc-furnace slag as solid waste in environmental technologies: a review. Environmental Technology Reviews, 2016, 5, 1-11.	4.3	29
61	Degradation study of a novel polymorphic sorbent under realistic post-combustion conditions. Fuel, 2016, 186, 708-713.	6.4	22
62	Modelling â€“ from molecules to mega-scale: general discussion. Faraday Discussions, 2016, 192, 493-509.	3.2	0
63	Spouted bed reactor for kinetic measurements of reduction of Fe2O3 in a CO2/CO atmosphere Part I: Atmospheric pressure measurements and equipment commissioning. Chemical Engineering Research and Design, 2016, 114, 307-320.	5.6	21
64	Decarbonising the cement sector: A bottom-up model for optimising carbon capture application in the UK. Journal of Cleaner Production, 2016, 139, 1351-1361.	9.3	48
65	CCS â€“ A technology for now: general discussion. Faraday Discussions, 2016, 192, 125-151.	3.2	5
66	CCS â€“ A technology for the future: general discussion. Faraday Discussions, 2016, 192, 303-335.	3.2	4
67	End use and disposal of CO₂ â€“ storage or utilisation?: general discussion. Faraday Discussions, 2016, 192, 561-579.	3.2	10
68	Additive effects of steam addition and HBr doping for CaO-based sorbents for CO 2 capture. Chemical Engineering and Processing: Process Intensification, 2016, 103, 21-26.	3.6	34
69	An overview of advances in biomass gasification. Energy and Environmental Science, 2016, 9, 2939-2977.	30.8	844
70	Carbon Capture in the Cement Industry: Technologies, Progress, and Retrofitting. Environmental Science & Technology, 2016, 50, 368-377.	10.0	107
71	A shrinking core model for steam hydration of CaO-based sorbents cycled for CO2 capture. Chemical Engineering Journal, 2016, 291, 298-305.	12.7	56
72	CO2 capture by calcium aluminate pellets in a small fluidized bed. Fuel Processing Technology, 2016, 142, 100-106.	7.2	33

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73	Inhibiting the interaction between FeO and Al₂O₃ during chemical looping production of hydrogen. RSC Advances, 2015, 5, 1759-1771.	3.6	72
74	Statistical analysis of the carbonation rate of concrete. Cement and Concrete Research, 2015, 72, 98-107.	11.0	55
75	Energy and exergy analysis of chemical looping combustion technology and comparison with pre-combustion and oxy-fuel combustion technologies for CO2 capture. Journal of Environmental Chemical Engineering, 2015, 3, 2104-2114.	6.7	96
76	Solubility of CO2 in aqueous amine solutions: A study to select solvents for carbon capture from natural-gas power plant. , 2015, , 1-10.		0
77	Density and Viscosity of Partially Carbonated Aqueous Tertiary Alkanolamine Solutions at Temperatures between (298.15 and 353.15) K. Journal of Chemical & Engineering Data, 2015, 60, 2392-2399.	1.9	47
78	On steam hydration of CaO-based sorbent cycled for CO2 capture. Fuel, 2015, 150, 269-277.	6.4	68
79	A systematic investigation of the performance of copper-, cobalt-, iron-, manganese- and nickel-based oxygen carriers for chemical looping combustion technology through simulation models. Chemical Engineering Science, 2015, 130, 79-91.	3.8	36
80	OxyCAP UK: Oxyfuel Combustion - academic Programme for the UK. Energy Procedia, 2014, 63, 504-510.	1.8	1
81	Carbon capture and storage update. Energy and Environmental Science, 2014, 7, 130-189.	30.8	1,765
82	A novel calcium looping absorbent incorporated with polymorphic spacers for hydrogen production and CO₂capture. Energy and Environmental Science, 2014, 7, 3291-3295.	30.8	108
83	Tar Formation and Destruction in a Fixed Bed Reactor Simulating Downdraft Gasification: Effect of Reaction Conditions on Tar Cracking Products. Energy & Fuels, 2014, 28, 1970-1982.	5.1	34
84	A review of the technologies, economics and policy instruments for decarbonising energy-intensive manufacturing industries. Renewable and Sustainable Energy Reviews, 2014, 30, 616-640.	16.4	185
85	Comparison of the structural motifs and packing arrangements of six novel derivatives and one polymorph of 2-(1-phenyl-1H-1,2,3-triazol-4-yl)pyridine. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2014, 70, 379-389.	1.1	10
86	Comparative Assessment of Gasification Based Coal Power Plants with Various CO₂ Capture Technologies Producing Electricity and Hydrogen. Energy & Fuels, 2014, 28, 1028-1040.	5.1	36
87	Solubility of carbon dioxide in aqueous blends of 2-amino-2-methyl-1-propanol and piperazine. Chemical Engineering Science, 2013, 101, 851-864.	3.8	47
88	Integrating Calcium Looping CO2 Capture with the Manufacture of Cement. Energy Procedia, 2013, 37, 7078-7090.	1.8	19
89	Steam-Enhanced Calcium Looping Cycles with Calcium Aluminate Pellets Doped with Bromides. Industrial & Engineering Chemistry Research, 2013, 52, 7677-7683.	3.7	52
90	Improvement of Limestone-Based CO₂ Sorbents for Ca Looping by HBr and Other Mineral Acids. Industrial & Engineering Chemistry Research, 2013, 52, 1426-1433.	3.7	52

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91	Influence of High-Temperature Steam on the Reactivity of CaO Sorbent for CO₂ Capture. Environmental Science & Technology, 2012, 46, 1262-1269.	10.0	199
92	Effects of Different Dopants and Doping Procedures on the Reactivity of CaO-based Sorbents for CO₂ Capture. Energy & Fuels, 2012, 26, 6584-6594.	5.1	54
93	Solubility of carbon dioxide in aqueous solution of monoethanolamine or 2-amino-2-methyl-1-propanol: Experimental measurements and modelling. International Journal of Greenhouse Gas Control, 2012, 6, 37-47.	4.6	88
94	CCS from industrial sources. Sustainable Technologies Systems & Policies, 2012, 2012, .	0.0	9
95	Investigation into potential synergy between power generation, cement manufacture and CO2 abatement using the calcium looping cycle. Energy and Environmental Science, 2011, 4, 2050.	30.8	108
96	Reactivation of CaO-Based Sorbents for CO₂ Capture: Mechanism for the Carbonation of Ca(OH)₂. Industrial & Engineering Chemistry Research, 2011, 50, 10329-10334.	3.7	49
97	Latter Stages of the Reduction of NO to N₂ on Particles of Fe while Simultaneously Oxidizing Fe to Its Oxides. Energy & Fuels, 2011, 25, 1510-1520.	5.1	13
98	The calcium looping cycle for CO2 capture from power generation, cement manufacture and hydrogen production. Chemical Engineering Research and Design, 2011, 89, 836-855.	5.6	310
99	Reactivation of a CaO-based sorbent for CO2 capture from stationary sources. Proceedings of the Combustion Institute, 2011, 33, 2673-2681.	3.9	37
100	Combustion of polymer pellets in a bubbling fluidised bed. Combustion and Flame, 2011, 158, 1638-1645.	5.2	14
101	Calcium looping for CO2 capture: sorbent enhancement through doping. Energy Procedia, 2011, 4, 402-409.	1.8	48
102	Synthetic CaO-based sorbent for CO2 capture. Energy Procedia, 2011, 4, 830-838.	1.8	52
103	Carbon Capture Technology: Status and Future Prospects. , 2011, , .		0
104	Comparison of the behaviour of manufactured and other airborne nanoparticles and the consequences for prioritising research and regulation activities. Journal of Nanoparticle Research, 2010, 12, 1523-1530.	1.9	58
105	The calcium looping cycle for large-scale CO2 capture. Progress in Energy and Combustion Science, 2010, 36, 260-279.	31.2	856
106	An overview of CO2 capture technologies. Energy and Environmental Science, 2010, 3, 1645.	30.8	1,376
107	Synthetic CaO-Based Sorbent for CO₂ Capture from Large-Point Sources. Energy & Fuels, 2010, 24, 4598-4604.	5.1	103
108	Tar Formation and Destruction in a Fixed-Bed Reactor Simulating Downdraft Gasification: Equipment Development and Characterization of Tar-Cracking Products. Energy & Fuels, 2010, 24, 4560-4570.	5.1	45

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109	Co-firing of Single, Binary, and Ternary Fuel Blends: Comparing Synergies within Trace Element Partitioning Arrived at by Thermodynamic Equilibrium Modeling and Experimental Measurements. Energy & Fuels, 2010, 24, 2918-2923.	5.1	14
110	Morphological Changes of Limestone Sorbent Particles during Carbonation/Calcination Looping Cycles in a Thermogravimetric Analyzer (TGA) and Reactivation with Steam. Energy & Fuels, 2010, 24, 2768-2776.	5.1	59
111	Mechanism of Particle Breakage during Reactivation of CaO-Based Sorbents for CO₂ Capture. Energy & Fuels, 2010, 24, 4605-4616.	5.1	67
112	Street Versus Rooftop Level Concentrations of Fine Particles in a Cambridge Street Canyon. Boundary-Layer Meteorology, 2009, 131, 3-18.	2.3	52
113	Influence of calcination conditions on carrying capacity of CaO-based sorbent in CO2 looping cycles. Fuel, 2009, 88, 1893-1900.	6.4	170
114	The order with respect to oxygen and the activation energy for the burning of an anthracitic char in O2 in a fluidised bed, as measured using a rapid analyser for CO and CO2. Proceedings of the Combustion Institute, 2009, 32, 2051-2058.	3.9	35
115	On the driftâ€flux analysis of flotation and foam fractionation processes. Canadian Journal of Chemical Engineering, 2008, 86, 635-642.	1.7	13
116	Pseudo-simultaneous measurements for the vertical variation of coarse, fine and ultrafine particles in an urban street canyon. Atmospheric Environment, 2008, 42, 4304-4319.	4.1	100
117	Treatment of losses of ultrafine aerosol particles in long sampling tubes during ambient measurements. Atmospheric Environment, 2008, 42, 8819-8826.	4.1	85
118	Measurements of particles in the 5â€“1000Ânm range close to road level in an urban street canyon. Science of the Total Environment, 2008, 390, 437-447.	8.0	93
119	Effect of wind direction and speed on the dispersion of nucleation and accumulation mode particles in an urban street canyon. Science of the Total Environment, 2008, 402, 82-94.	8.0	126
120	The Zero Emission Carbon Concept (ZECA): Extents of Reaction with Different Coals in Steam/Hydrogen, Tar Formation and Residual Char Reactivity. Energy & Fuels, 2008, 22, 2504-2511.	5.1	15
121	Comparison of Different Natural Sorbents for Removing CO₂ from Combustion Gases, as Studied in a Bench-Scale Fluidized Bed. Energy & Fuels, 2008, 22, 3852-3857.	5.1	43
122	Regeneration of sintered limestone sorbents for the sequestration of CO₂ from combustion and other systems. Journal of the Energy Institute, 2007, 80, 116-119.	5.3	113
123	The Effects of Repeated Cycles of Calcination and Carbonation on a Variety of Different Limestones, as Measured in a Hot Fluidized Bed of Sand. Energy & Fuels, 2007, 21, 2072-2081.	5.1	247
124	Rise velocities of bubbles and slugs in gas-fluidised beds: Ultra-fast magnetic resonance imaging. Chemical Engineering Science, 2007, 62, 82-93.	3.8	32
125	Oscillations in gas-fluidized beds: Ultra-fast magnetic resonance imaging and pressure sensor measurements. Powder Technology, 2007, 177, 87-98.	4.2	35
126	The measurement of the rate of burning of different coal chars in an electrically heated fluidised bed of sand. Chemical Engineering Science, 2007, 62, 608-618.	3.8	41

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127	The sampling of nanoparticles of MgO formed when doping an oxygen-rich flame with magnesium: The measurement of the concentrations and size-distributions of these nanoparticles. Combustion and Flame, 2007, 151, 560-572.	5.2	11
128	The size distributions of nanoparticles of the oxides of Mg, Ba and Al in flames: Their measurement and dependence on the concentrations of free radicals in the flame. Proceedings of the Combustion Institute, 2007, 31, 1939-1945.	3.9	6
129	The nature of the flow just above the perforated plate distributor of a gas-fluidised bed, as imaged using magnetic resonance. Chemical Engineering Science, 2006, 61, 6002-6015.	3.8	72
130	Production of nanoparticles of MgO, BAO, and A12O3 in a premixed flame and its relation to the flame structure. Combustion, Explosion and Shock Waves, 2006, 42, 642-648.	0.8	2
131	Real-Time Measurement of Bubbling Phenomena in a Three-Dimensional Gas-Fluidized Bed Using Ultrafast Magnetic Resonance Imaging. Physical Review Letters, 2006, 96, 154504.	7.8	74
132	The rate of gasification by CO2 of chars from waste. Proceedings of the Combustion Institute, 2005, 30, 2151-2159.	3.9	47
133	A study of the mixing of solids in gas-fluidized beds, using ultra-fast MRI. Chemical Engineering Science, 2005, 60, 2085-2088.	3.8	38
134	The kinetics of the reduction of NO to N2 by reaction with particles of Fe. Proceedings of the Combustion Institute, 2002, 29, 2179-2185.	3.9	17
135	Techno-economics of Biomass-based Power Generation with CCS Technologies for Deployment in 2050. , 0, , 93-113.		1