

Fabio Montagnaro

List of Publications by Year in descending order

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117
papers

3,807
citations

109264

35
h-index

161767

54
g-index

117
all docs

117
docs citations

117
times ranked

3019
citing authors

#	ARTICLE	IF	CITATIONS
1	Coal fly ash as raw material for the manufacture of geopolymer-based products. Waste Management, 2008, 28, 416-423.	3.7	266
2	Soluble salt removal from MSWI fly ash and its stabilization for safer disposal and recovery as road basement material. Waste Management, 2012, 32, 1179-1185.	3.7	149
3	Manufacture of artificial aggregate using MSWI bottom ash. Waste Management, 2011, 31, 281-288.	3.7	133
4	Flue gas desulfurization gypsum and coal fly ash as basic components of prefabricated building materials. Waste Management, 2013, 33, 628-633.	3.7	102
5	Mechanical Performances of Weathered Coal Fly Ash Based Geopolymer Bricks. Procedia Engineering, 2011, 21, 745-752.	1.2	86
6	Simultaneous adsorption of chlorophenol and heavy metal ions on organophilic bentonite. Applied Clay Science, 2006, 31, 126-133.	2.6	84
7	Attrition of Limestone by Impact Loading in Fluidized Beds. Energy & Fuels, 2007, 21, 2566-2572.	2.5	84
8	Synergic effect of Zn and Cu oxides dispersed on activated carbon during reactive adsorption of H ₂ S at room temperature. Microporous and Mesoporous Materials, 2018, 257, 135-146.	2.2	78
9	An experimental characterization of Calcium Looping integrated with concentrated solar power. Chemical Engineering Journal, 2018, 331, 794-802.	6.6	65
10	Carbon-supported ionic liquids as innovative adsorbents for CO ₂ separation from synthetic flue-gas. Journal of Colloid and Interface Science, 2015, 448, 41-50.	5.0	62
11	Analysis of char-slag interaction and near-wall particle segregation in entrained-flow gasification of coal. Combustion and Flame, 2010, 157, 874-883.	2.8	61
12	Heat transfer in directly irradiated fluidized beds. Solar Energy, 2016, 129, 85-100.	2.9	60
13	A New Generation of Surface Active Carbon Textiles As Reactive Adsorbents of Indoor Formaldehyde. ACS Applied Materials & Interfaces, 2018, 10, 8066-8076.	4.0	60
14	Fluidized bed calcium looping: The effect of SO ₂ on sorbent attrition and CO ₂ capture capacity. Chemical Engineering Journal, 2012, 207-208, 445-449.	6.6	58
15	A model of integrated calcium looping for CO ₂ capture and concentrated solar power. Solar Energy, 2015, 120, 208-220.	2.9	57
16	Fluidized bed calcium looping cycles for CO ₂ capture under oxy-firing calcination conditions: Part 1. Assessment of six limestones. Chemical Engineering Journal, 2013, 231, 537-543.	6.6	54
17	Post-combustion CO ₂ adsorption on activated carbons with different textural properties. Microporous and Mesoporous Materials, 2015, 209, 157-164.	2.2	54
18	Further studies of the hydration of MgO-hydromagnesite blends. Cement and Concrete Research, 2019, 126, 105912.	4.6	54

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19	Spent limestone sorbent from calcium looping cycle as a raw material for the cement industry. <i>Fuel</i> , 2014, 118, 202-205.	3.4	51
20	The influence of temperature on limestone sulfation and attrition under fluidized bed combustion conditions. <i>Experimental Thermal and Fluid Science</i> , 2010, 34, 352-358.	1.5	50
21	Cadmium adsorption by coal combustion ashes-based sorbents—Relationship between sorbent properties and adsorption capacity. <i>Journal of Hazardous Materials</i> , 2011, 187, 371-378.	6.5	49
22	Techno-economic analysis of sorption-enhanced steam methane reforming in a fixed bed reactor network integrated with fuel cell. <i>Journal of Power Sources</i> , 2017, 364, 41-51.	4.0	49
23	Reactivation by water hydration of the CO ₂ capture capacity of a calcium looping sorbent. <i>Fuel</i> , 2014, 127, 109-115.	3.4	48
24	Char—Wall Interaction and Properties of Slag Waste in Entrained-Flow Gasification of Coal. <i>Energy & Fuels</i> , 2011, 25, 3671-3677.	2.5	47
25	Adsorption of chlorophenol, chloroaniline and methylene blue on fuel oil fly ash. <i>Journal of Hazardous Materials</i> , 2008, 157, 599-604.	6.5	46
26	Modelling of sorption-enhanced steam methane reforming in a fixed bed reactor network integrated with fuel cell. <i>Applied Energy</i> , 2018, 210, 1-15.	5.1	46
27	Attrition of Limestone During Fluidized Bed Calcium Looping Cycles for CO ₂ Capture. <i>Combustion Science and Technology</i> , 2012, 184, 929-941.	1.2	45
28	Post-combustion CO ₂ capture: On the potentiality of amino acid ionic liquid as modifying agent of mesoporous solids. <i>Fuel</i> , 2018, 218, 155-161.	3.4	44
29	Liquid—Solid Mass Transfer in Adsorption Systems—An Overlooked Resistance?. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 22007-22016.	1.8	44
30	Directly irradiated fluidized bed reactor for thermochemical energy storage and solar fuels production. <i>Powder Technology</i> , 2020, 366, 460-469.	2.1	42
31	Fluidized Beds for Concentrated Solar Thermal Technologies—A Review. <i>Frontiers in Energy Research</i> , 2021, 9, .	1.2	42
32	Arsenate removal from synthetic wastewater by adsorption onto fly ash. <i>Desalination</i> , 2010, 263, 58-63.	4.0	40
33	Reuse of coal combustion ashes as dyes and heavy metal adsorbents: Effect of sieving and demineralization on waste properties and adsorption capacity. <i>Chemical Engineering Journal</i> , 2009, 150, 174-180.	6.6	38
34	Enhancement of Sulfur Uptake by Hydration of Spent Limestone for Fluidized-Bed Combustion Application. <i>Industrial & Engineering Chemistry Research</i> , 2001, 40, 2495-2501.	1.8	37
35	Sustainable management of water potabilization sludge by means of geopolymers production. <i>Journal of Cleaner Production</i> , 2019, 229, 1-9.	4.6	37
36	Calcium Looping Spent Sorbent as a Limestone Replacement in the Manufacture of Portland and Calcium Sulfoaluminate Cements. <i>Environmental Science & Technology</i> , 2015, 49, 6865-6871.	4.6	36

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37	Improving the performance of calcium looping for solar thermochemical energy storage and CO ₂ capture. <i>Fuel</i> , 2021, 298, 120791.	3.4	36
38	Reactivation by Steam Hydration of Sorbents for Fluidized-Bed Calcium Looping. <i>Energy & Fuels</i> , 2015, 29, 4436-4446.	2.5	35
39	Solar-driven production of lime for ordinary Portland cement formulation. <i>Solar Energy</i> , 2018, 173, 759-768.	2.9	35
40	Sewage Sludge Gasification in a Fluidized Bed: Experimental Investigation and Modeling. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 5034-5047.	1.8	35
41	Hydration-induced reactivation of spent sorbents for fluidized bed calcium looping (double looping). <i>Fuel Processing Technology</i> , 2014, 120, 71-78.	3.7	34
42	Fractal-like Vermeulen Kinetic Equation for the Description of Diffusion-Controlled Adsorption Dynamics. <i>Journal of Physical Chemistry C</i> , 2015, 119, 8781-8785.	1.5	34
43	Sulphation of limestones in a fluidized bed combustor: The relationship between particle attrition and microstructure. <i>Canadian Journal of Chemical Engineering</i> , 2008, 86, 347-355.	0.9	33
44	Mechanochemistry of ibuprofen pharmaceutical. <i>Chemosphere</i> , 2012, 88, 548-553.	4.2	33
45	Highly efficient iron(III) molecular catalysts for solketal production. <i>Fuel Processing Technology</i> , 2017, 167, 670-673.	3.7	33
46	Modelling of a concentrated solar power "photovoltaics hybrid plant for carbon dioxide capture and utilization via calcium looping and methanation. <i>Energy Conversion and Management</i> , 2021, 230, 113792.	4.4	32
47	An assessment of water and steam reactivation of a fluidized bed spent sorbent for enhanced SO ₂ capture. <i>Powder Technology</i> , 2008, 180, 129-134.	2.1	31
48	Performance of Natural Sorbents during Calcium Looping Cycles: A Comparison between Fluidized Bed and Thermo-Gravimetric Tests. <i>Energy & Fuels</i> , 2013, 27, 6048-6054.	2.5	31
49	Fluidized bed calcium looping cycles for CO ₂ capture under oxy-firing calcination conditions: Part 2. Assessment of dolomite vs. limestone. <i>Chemical Engineering Journal</i> , 2013, 231, 544-549.	6.6	31
50	Utilization of Coal Combustion Ashes for the Synthesis of Ordinary and Special Cements. <i>Combustion Science and Technology</i> , 2010, 182, 588-599.	1.2	30
51	Highlighting the Role of Activated Carbon Particle Size on CO ₂ Capture from Model Flue Gas. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 12183-12191.	1.8	30
52	The influence of sorbent properties and reaction temperature on sorbent attrition, sulfur uptake, and particle sulfation pattern during fluidized-bed desulfurization. <i>Combustion Science and Technology</i> , 2002, 174, 151-169.	1.2	29
53	Effect of steam on the performance of Ca-based sorbents in calcium looping processes. <i>Powder Technology</i> , 2017, 316, 578-584.	2.1	29
54	Butanol Production from Leftover Beverages and Sport Drinks. <i>Bioenergy Research</i> , 2015, 8, 369-379.	2.2	28

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55	Role of Ettringite in the Reuse of Hydrated Fly Ash from Fluidized-Bed Combustion as a Sulfur Sorbent: A Hydration Study. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 4054-4059.	1.8	27
56	Low-CO ₂ Cements from Fluidized Bed Process Wastes and Other Industrial By-Products. <i>Combustion Science and Technology</i> , 2016, 188, 492-503.	1.2	27
57	<i>110th Anniversary:</i> Calcium Looping Coupled with Concentrated Solar Power for Carbon Capture and Thermochemical Energy Storage. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 21262-21272.	1.8	27
58	Steam hydrationâ€“reactivation of FBC ashes for enhanced in situ desulphurization. <i>Fuel</i> , 2009, 88, 1092-1098.	3.4	26
59	Steam- and carbon dioxide-gasification of coal combustion ash for liquid phase cadmium removal by adsorption. <i>Chemical Engineering Journal</i> , 2012, 207-208, 66-71.	6.6	26
60	Multiphase flow patterns in entrained-flow slagging gasifiers: Physical modelling of particleâ€“wall impact at near-ambient conditions. <i>Fuel Processing Technology</i> , 2016, 141, 106-116.	3.7	25
61	Assessment of ettringite from hydrated FBC residues as a sorbent for fluidized bed desulphurizationâ€“†. <i>Fuel</i> , 2003, 82, 2299-2307.	3.4	24
62	Reuse of Fly Ash from a Fluidized Bed Combustor for Sulfur Uptake:â€“% The Role of Ettringite in Hydration-Induced Reactivation. <i>Energy & Fuels</i> , 2005, 19, 1822-1827.	2.5	24
63	Directly irradiated fluidized bed reactors for thermochemical processing and energy storage: Application to calcium looping. <i>AIP Conference Proceedings</i> , 2017, , .	0.3	24
64	Feasibility of CaO/CuO/NiO sorption-enhanced steam methane reforming integrated with solid-oxide fuel cell for near-zero-CO ₂ emissions cogeneration system. <i>Applied Energy</i> , 2018, 230, 241-256.	5.1	24
65	The combined effect of H ₂ O and SO ₂ on CO ₂ uptake and sorbent attrition during fluidised bed calcium looping. <i>Proceedings of the Combustion Institute</i> , 2019, 37, 4379-4387.	2.4	23
66	Reactivation by Water Hydration of Spent Sorbent for Fluidized-Bed Combustion Application:â€“% Influence of Hydration Time. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 5692-5701.	1.8	22
67	The effect of steam on CO ₂ uptake and sorbent attrition in fluidised bed calcium looping: The influence of process conditions and sorbent properties. <i>Separation and Purification Technology</i> , 2017, 189, 101-107.	3.9	22
68	A Population Balance Model on Sorbent in CFB Combustors: The Influence of Particle Attrition. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 9704-9711.	1.8	21
69	Impact of the charge density on the behaviour of polycarboxylate ethers as cement dispersants. <i>Construction and Building Materials</i> , 2018, 180, 477-490.	3.2	21
70	Deeper insights into fractal concepts applied to liquid-phase adsorption dynamics. <i>Fuel Processing Technology</i> , 2014, 128, 412-416.	3.7	19
71	Selective-exhaust gas recirculation for CO ₂ capture using membrane technology. <i>Journal of Membrane Science</i> , 2018, 549, 649-659.	4.1	19
72	Modelling oxy-pyrolysis of sewage sludge in a rotary kiln reactor. <i>Fuel</i> , 2018, 231, 468-478.	3.4	19

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73	Effect of exposure to SO ₂ and H ₂ O during the carbonation stage of fluidised bed calcium looping on the performance of sorbents of different nature. <i>Chemical Engineering Journal</i> , 2019, 377, 120626.	6.6	19
74	Solar-Driven Torrefaction of a Lignin-Rich Biomass Residue in a Directly Irradiated Fluidized Bed Reactor. <i>Combustion Science and Technology</i> , 2019, 191, 1609-1627.	1.2	18
75	Wall effects in entrained particle-laden flows: The role of particle stickiness on solid segregation and build-up of wall deposits. <i>Powder Technology</i> , 2014, 266, 282-291.	2.1	17
76	Clay sediment geopolymerization by means of alkali metal aluminate activation. <i>RSC Advances</i> , 2015, 5, 107662-107669.	1.7	17
77	A single particle model of lime sulphation with a fractal formulation of product layer diffusion. <i>Chemical Engineering Science</i> , 2016, 156, 115-120.	1.9	17
78	Cyclic Oxygen Release Characteristics of Bifunctional Copper Oxide/Calcium Oxide Composites. <i>Energy Technology</i> , 2016, 4, 1171-1178.	1.8	17
79	Impact experiments of char and ash particles relevant to entrained-flow coal gasifiers. <i>Fuel</i> , 2017, 202, 665-674.	3.4	17
80	Characterization of Geopolymer Materials Containing MSWI Fly Ash and Coal Fly Ash. <i>Advances in Science and Technology</i> , 0, , .	0.2	16
81	Gasification of coal combustion ash for its reuse as adsorbent. <i>Fuel</i> , 2013, 106, 147-151.	3.4	16
82	Steam reactivation of a spent sorbent for enhanced SO ₂ capture in FBC. <i>AIChE Journal</i> , 2006, 52, 4090-4098.	1.8	15
83	Entrained-flow gasification of coal under slagging conditions: Relevance of fuel-wall interaction and char segregation to the properties of solid wastes. <i>Fuel</i> , 2013, 114, 44-55.	3.4	15
84	Modelling entrained-flow slagging gasification of solid fuels with near-wall particle segregation. <i>Chemical Engineering Journal</i> , 2019, 377, 119962.	6.6	15
85	Char/ash deposition and near-wall segregation in slagging entrained-flow gasification of solid fuels: from experiments to closure equations. <i>Fuel</i> , 2020, 264, 116864.	3.4	15
86	A preliminary investigation on the use of organic ionic liquids as green solvents for acylation and oxidation reactions. <i>Journal of Cleaner Production</i> , 2007, 15, 1797-1805.	4.6	14
87	Investigation of Char-Slag Interaction Regimes in Entrained-Flow Gasifiers: Linking Experiments with Numerical Simulations. <i>Combustion Science and Technology</i> , 2012, 184, 871-887.	1.2	14
88	Assessment of Sorbent Reactivation by Water Hydration for Fluidized Bed Combustion Application. <i>Journal of Energy Resources Technology</i> , Transactions of the ASME, 2006, 128, 90-98.	1.4	13
89	A lab-scale cold flow model reactor to investigate near-wall particle segregation relevant to entrained-flow slagging coal gasifiers. <i>Fuel</i> , 2014, 117, 1267-1273.	3.4	13
90	Liquid-solid adsorption processes interpreted by fractal-like kinetic models. <i>Environmental Chemistry Letters</i> , 2019, 17, 1067-1075.	8.3	13

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91	Hydration products of FBC wastes as SO ₂ sorbents: comparison between ettringite and calcium hydroxide. <i>Fuel Processing Technology</i> , 2008, 89, 47-54.	3.7	12
92	Study of the hydrothermal treatments of residues from fluidized bed combustors for the manufacture of ettringite-based building elements. <i>Fuel Processing Technology</i> , 2014, 126, 188-191.	3.7	12
93	Experimental characterization of particle-wall interaction relevant to entrained-flow gasification of biomass. <i>Fuel</i> , 2017, 209, 674-684.	3.4	12
94	Impact fragmentation of limestone-based sorbents for calcium looping: The effect of steam and sulphur dioxide. <i>Fuel Processing Technology</i> , 2020, 208, 106499.	3.7	12
95	Looping cycles for low carbon technologies: A survey of recent research activities in Naples. <i>Fuel</i> , 2020, 268, 117371.	3.4	12
96	Particle-wall interaction in entrained-flow slagging coal gasifiers: Granular flow simulation and experiments in a cold flow model reactor. <i>International Journal of Multiphase Flow</i> , 2017, 91, 142-154.	1.6	11
97	Modelling CO ₂ adsorption dynamics onto amine-functionalised sorbents: A fractal-like kinetic perspective. <i>Chemical Engineering Science</i> , 2018, 192, 603-612.	1.9	10
98	The influence of reactivation by hydration of spent SO ₂ sorbents on their impact fragmentation in fluidized bed combustors. <i>Chemical Engineering Journal</i> , 2010, 162, 1067-1074.	6.6	9
99	Effect of Mechanochemical Processing on Adsorptive Properties of Blast Furnace Slag. <i>Journal of Environmental Engineering, ASCE</i> , 2013, 139, 1446-1453.	0.7	9
100	The extent of sorbent attrition and degradation of ethanol-treated CaO sorbents for CO ₂ capture within a fluidised bed reactor. <i>Fuel Processing Technology</i> , 2018, 171, 198-204.	3.7	9
101	TG, FT-IR and NMR characterization of n-C ₁₆ H ₃₄ contaminated alumina and silica after mechanochemical treatment. <i>Chemosphere</i> , 2008, 70, 1068-1076.	4.2	8
102	Reuse of Coal Combustion Ash as Sorbent: The Effect of Gasification Treatments. <i>Combustion Science and Technology</i> , 2012, 184, 956-965.	1.2	8
103	Performance of limestone-based sorbent for sorption-enhanced gasification in dual interconnected fluidized bed reactors. <i>AIChE Journal</i> , 2023, 69, e17588.	1.8	8
104	Experimental and Modeling Studies of Sr ²⁺ and Cs ⁺ Sorption on Cryogels and Comparison to Commercial Adsorbents. <i>Industrial & Engineering Chemistry Research</i> , 2022, 61, 8204-8219.	1.8	8
105	Enhancement of selectivity toward ettringite during hydrothermal processes on fluidized bed combustion wastes for the manufacture of preformed building components. <i>RSC Advances</i> , 2015, 5, 101887-101893.	1.7	5
106	A Fractal-Based Correlation for Time-Dependent Surface Diffusivity in Porous Adsorbents. <i>Processes</i> , 2020, 8, 689.	1.3	4
107	Dolomite-based binders manufactured using concentrated solar energy in a fluidised bed reactor. <i>Solar Energy</i> , 2022, 232, 471-482.	2.9	4
108	Salt Hydrates for Thermochemical Storage of Solar Energy: Modeling the Case Study of Calcium Oxalate Monohydrate Dehydration/Rehydration under Suspension Reactor Conditions. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 11357-11372.	1.8	3

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109	Advantages in the Use of Membrane Contactors for the Study of Gas-Liquid and Gas-Liquid-Solid Reactions. <i>Industrial & Engineering Chemistry Research</i> , 2005, 44, 9451-9460.	1.8	2
110	Limestone calcination-carbonation in a fluidized bed reactor/receiver for thermochemical energy storage applications. <i>AIP Conference Proceedings</i> , 2019, , .	0.3	2
111	Steam Reactivation of FB Spent Sorbent for Enhanced SO ₂ Capture: The Relationship Between Microstructural Properties and Sulphur Uptake. , 2005, , .		2
112	Performance of Ca-Based Sorbents for Calcium Looping Processes: Role of Steam. <i>Advanced Science Letters</i> , 2017, 23, 5920-5922.	0.2	2
113	Fractal-like random pore model applied to CO ₂ capture by CaO sorbent. <i>Chemical Engineering Science</i> , 2022, 254, 117649.	1.9	2
114	Assessment of Sorbent Reactivation by Water Hydration for Fluidized Bed Combustion Application. , 2003, , 429.		1
115	Confocal microscopy and imaging profilometry: A new tool aimed to evaluate aesthetic procedures. <i>Journal of Cosmetic and Laser Therapy</i> , 2017, 19, 59-63.	0.3	1
116	Fractal-Like Kinetic Models for Fluid-Solid Adsorption. <i>Environmental Chemistry for A Sustainable World</i> , 2018, , 135-161.	0.3	1
117	On the performance of continuous stirred tank reactor and plug flow reactor for chemical reactions characterised by non-elementary kinetics. <i>Reaction Kinetics, Mechanisms and Catalysis</i> , 2018, 125, 449-469.	0.8	0