Jan Baeyens

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/580572/publications.pdf

Version: 2024-02-01

139 papers	10,985 citations	57719 44 h-index	30894 102 g-index
141 all docs	141 docs citations	141 times ranked	10393 citing authors

#	Article	IF	Citations
1	Reviewing Fundamental CO₂ Adsorption Characteristics of Zeolite and Activated Carbon by In-situ Measurements With Radioactively Labelled CO₂. Separation and Purification Reviews, 2022, 51, 318-329.	2.8	8
2	Sustainable Solar Drying of Brewerâ€™s Spent Grains: A Comparison with Conventional Electric Convective Drying. Processes, 2022, 10, 339.	1.3	22
3	Fluidized Bed Technology: Challenges and Perspectives. IOP Conference Series: Earth and Environmental Science, 2022, 952, 012010.	0.2	2
4	Hydrogen-enriched natural gas in a decarbonization perspective. Fuel, 2022, 318, 123680.	3.4	26
5	Next-CSP concept with particle receiver applied to a 150 MWe solar tower. AIP Conference Proceedings, 2022, , .	0.3	1
6	Adsorption of acid fuchsine dye from wastewater by Mg-ferrite particles. Journal of Environmental Management, 2022, 317, 115427.	3.8	17
7	Water Splitting by MnOx/Na2CO3 Reversible Redox Reactions. Sustainability, 2022, 14, 7597.	1.6	5
8	The steam-assisted calcination of limestone and dolomite for energy savings and to foster solar calcination processes. Journal of Cleaner Production, 2022, 363, 132640.	4.6	6
9	11CO2 positron emission imaging reveals the in-situ gas concentration profile as function of time and position in opaque gas-solid contacting systems. Chemical Engineering Journal, 2021, 404, 126507.	6.6	10
10	Recent progress in genetically modified microalgae for enhanced carbon dioxide sequestration. Biomass and Bioenergy, 2021, 145, 105927.	2.9	116
11	Technical and economic assessment of thermal energy storage in concentrated solar power plants within a spot electricity market. Renewable and Sustainable Energy Reviews, 2021, 139, 110583.	8.2	43
12	Post-combustion carbon capture. Renewable and Sustainable Energy Reviews, 2021, 138, 110490.	8.2	219
13	Reviewing the thermo-chemical recycling of waste polyurethane foam. Journal of Environmental Management, 2021, 278, 111527.	3.8	82
14	Non-plasmonic Ni nanoparticles catalyzed visible light selective hydrogenolysis of aryl ethers in lignin under mild conditions. Green Chemistry, 2021, 23, 7780-7789.	4.6	16
15	Advances in rigid porous high temperature filters. Renewable and Sustainable Energy Reviews, 2021, 139, 110713.	8.2	28
16	Thermo-chemical water splitting: Selection of priority reversible redox reactions by multi-attribute decision making. Renewable Energy, 2021, 170, 800-810.	4.3	29
17	The Direct Reduction of Iron Ore with Hydrogen. Sustainability, 2021, 13, 8866.	1.6	40
18	The conversion of linoleic acid into hydroxytetrahydrofuran-structured bio-lubricant. Journal of Environmental Management, 2021, 291, 112692.	3.8	7

#	Article	IF	Citations
19	The Need to Accurately Define and Measure the Properties of Particles. Standards, 2021, 1, 19-38.	0.6	10
20	Dense upflow fluidized bed (DUFB) solar receivers of high aspect ratio: Different fluidization modes through inserting bubble rupture promoters. Chemical Engineering Journal, 2021, 418, 129376.	6.6	31
21	Modification of wheat straw to improve the caproate production in a cell immobilized system. Bioresource Technology, 2021, 342, 125984.	4.8	6
22	Experiments support simulations by the NEPTUNE_CFD code in an Upflow Bubbling Fluidized Bed reactor. Chemical Engineering Journal, 2020, 385, 123568.	6.6	13
23	Highly Efficient Production of 5-Hydroxymethylfurfural from Fructose via a Bromine-Functionalized Porous Catalyst under Mild Conditions. Industrial & Engineering Chemistry Research, 2020, 59, 14569-14577.	1.8	10
24	Hydrogen Production: State of Technology. IOP Conference Series: Earth and Environmental Science, 2020, 544, 012011.	0.2	26
25	The â€œScreening Indexâ€•to Select Building-Scale Heating Systems. IOP Conference Series: Earth and Environmental Science, 2020, 586, 012004.	0.2	5
26	A Particle-Driven, Ultrafast-Cured Strategy for Tuning the Network Cavity Size of Membranes with Outstanding Pervaporation Performance. ACS Applied Materials & Interfaces, 2020, 12, 31887-31895.	4.0	27
27	Reviewing the potential of bio-hydrogen production by fermentation. Renewable and Sustainable Energy Reviews, 2020, 131, 110023.	8.2	159
28	The chemical CO2 capture by carbonation-decarbonation cycles. Journal of Environmental Management, 2020, 260, 110054.	3.8	31
29	High temperature Mn2O3/Mn3O4 and Co3O4/CoO systems for thermo-chemical energy storage. Journal of Environmental Management, 2020, 267, 110582.	3.8	21
30	Particles in a circulation loop for solar energy capture and storage. Particuology, 2019, 43, 149-156.	2.0	50
31	The Ultrafast and Continuous Fabrication of a Polydimethylsiloxane Membrane by Ultravioletâ€Induced Polymerization. Angewandte Chemie - International Edition, 2019, 58, 17175-17179.	7.2	76
32	Scale-up considerations of the UBFB solar receiver. AIP Conference Proceedings, 2019, , .	0.3	6
33	The fluidized bed air heat exchanger in a hybrid Brayton-cycle solar power plant. AIP Conference Proceedings, 2019, , .	0.3	4
34	Solar thermal treatment of non-metallic minerals: The potential application of the SOLPART technology. AIP Conference Proceedings, 2019, , .	0.3	11
35	Biomass-derived aviation fuels: Challenges and perspective. Progress in Energy and Combustion Science, 2019, 74, 31-49.	15.8	166
36	Ultrafast and ultrahigh adsorption of furfural from aqueous solution via covalent organic framework-300. Separation and Purification Technology, 2019, 220, 283-292.	3.9	43

#	Article	IF	Citations
37	Adsorption of Congo red dye on FexCo3-xO4 nanoparticles. Journal of Environmental Management, 2019, 238, 473-483.	3.8	167
38	Comparing ANSYS Fluent^{Â®} and OpenFOAM^{Â®} simulations of Geldart A, B and D bubbling fluidized bed hydrodynamics. International Journal of Numerical Methods for Heat and Fluid Flow, 2019, 30, 93-118.	1.6	17
39	Flue Gas Desulphurization in Circulating Fluidized Beds. Energies, 2019, 12, 3908.	1.6	29
40	Macro-TGA steam-assisted gasification of lignocellulosic wastes. Journal of Environmental Management, 2019, 233, 626-635.	3.8	61
41	The use of ultrasound probes to monitor multi-phase behavior in opaque systems. Particuology, 2019, 45, 91-97.	2.0	6
42	Solids Flow in a â€œParticle-in-Tubeâ€•Concentrated Solar Heat Absorber. Industrial & Engineering Chemistry Research, 2019, 58, 4598-4608.	1.8	9
43	An energy-friendly alternative in the large-scale production of soybean oil. Journal of Environmental Management, 2019, 230, 234-244.	3.8	11
44	Towards an energy-friendly and cleaner solvent-extraction of vegetable oil. Journal of Environmental Management, 2018, 217, 196-206.	3.8	24
45	Energy analysis of a particle suspension solar combined cycle power plant. Energy Conversion and Management, 2018, 163, 292-303.	4.4	47
46	Solar processing of reactive particles up to 900Â°C, the SOLPART project. AIP Conference Proceedings, 2018, , .	0.3	10
47	Solids mixing in a shallow cross-flow bubbling fluidized bed. Chemical Engineering Science, 2018, 187, 213-222.	1.9	21
48	Environmental and economic assessment of vegetable oil production using membrane separation and vapor recompression. Frontiers of Chemical Science and Engineering, 2017, 11, 166-176.	2.3	15
49	High-efficiency solar power towers using particle suspensions as heat carrier in the receiver and in the thermal energy storage. Renewable Energy, 2017, 111, 438-446.	4.3	78
50	Biosynthesis of medium chain length alkanes for bio-aviation fuel by metabolic engineered Escherichia coli. Bioresource Technology, 2017, 239, 542-545.	4.8	15
51	Bubbling and Slugging of Geldart Group A Powders in Small Diameter Columns. Industrial & Engineering Chemistry Research, 2017, 56, 4136-4144.	1.8	41
52	Experiments support an improved model for particle transport in fluidized beds. Scientific Reports, 2017, 7, 10178.	1.6	21
53	High-efficiency concentrated solar power plants need appropriate materials for high-temperature heat capture, conveying and storage. Energy, 2017, 139, 52-64.	4.5	34
54	The Ni-Mo/Î³-Al2O3 catalyzed hydrodeoxygenation of FAME to aviation fuel. Catalysis Communications, 2017, 100, 237-241.	1.6	21

#	Article	IF	Citations
55	Thermochemical Energy Storage for Power Generation on Demand. Energy Technology, 2016, 4, 341-352.	1.8	30
56	Use of Particle Heat Carriers in the Stirling Engine Concept. Energy Technology, 2016, 4, 401-408.	1.8	15
57	Thermal energy storage: Recent developments and practical aspects. Progress in Energy and Combustion Science, 2016, 53, 1-40.	15.8	634
58	Particle circulation loops in solar energy capture and storage: Gasâ€"solid flow and heat transfer considerations. Applied Energy, 2016, 161, 206-224.	5.1	83
59	Powder attrition in gas fluidized beds. Powder Technology, 2016, 287, 1-11.	2.1	43
60	The Voidage in a CFB Riser as Function of Solids Flux and Gas Velocity. Procedia Engineering, 2015, 102, 1112-1122.	1.2	21
61	Wall-to-Suspension Heat Transfer in a CFB Downcomer. Journal of Powder Technology, 2015, 2015, 1-9.	0.4	2
62	Hybrid operation of the bio-ethanol fermentation. Separation and Purification Technology, 2015, 149, 322-330.	3.9	40
63	A novel sintered metal fiber microfiltration of bio-ethanol fermentation broth. Korean Journal of Chemical Engineering, 2015, 32, 1625-1633.	1.2	9
64	Operation Diagram of Circulating Fluidized Beds (CFBs). Procedia Engineering, 2015, 102, 1092-1103.	1.2	20
65	Challenges and opportunities in improving the production of bio-ethanol. Progress in Energy and Combustion Science, 2015, 47, 60-88.	15.8	446
66	Thermo-mechanical analysis of copper-encapsulated NaNO3â€"KNO3. Chemical Engineering Research and Design, 2015, 93, 224-231.	2.7	28
67	The Potential of a Hybrid Power Plant for the Dubrovnik - Neretva County (Southern Croatia). Journal of Sustainable Development of Energy, Water and Environment Systems, 2015, 3, 174-182.	0.9	8
68	Choking Affects the Operation Diagram of a CFB Riser. Journal of Powder Technology, 2014, 2014, 1-6.	0.4	4
69	Photovoltaics: Reviewing the European Feed-in-Tariffs and Changing PV Efficiencies and Costs. Scientific World Journal, The, 2014, 2014, 1-10.	0.8	17
70	Wall-to-Bed Heat Transfer at Minimum Gas-Solid Fluidization. Journal of Powder Technology, 2014, 2014, 1-8.	0.4	4
71	The convection heat transfer coefficient in a Circulating Fluidized Bed (CFB). Advanced Powder Technology, 2014, 25, 710-715.	2.0	28
72	Impact of biochar on mineralisation of C and N from soil and willow litter and its relationship with microbial community biomass and structure. Biology and Fertility of Soils, 2014, 50, 695-702.	2.3	216

#	Article	IF	Citations
73	Hydrophilic membranes to replace molecular sieves in dewatering the bio-ethanol/water azeotropic mixture. Separation and Purification Technology, 2014, 136, 144-149.	3.9	56
74	Latent heat storage with tubular-encapsulated phase change materials (PCMs). Energy, 2014, 76, 66-72.	4.5	114
75	The design of cyclonic pre-heaters in suspension cement kilns. International Journal of Sustainable Engineering, 2014, 7, 307-312.	1.9	14
76	Energy-Efficient Production of Cassava-Based Bio-Ethanol. Advances in Bioscience and Biotechnology (Print), 2014, 05, 925-939.	0.3	40
77	Concentrated solar power plants: Review and design methodology. Renewable and Sustainable Energy Reviews, 2013, 22, 466-481.	8.2	839
78	Heat transfer to the riser-wall of a circulating fluidised bed (CFB). Energy, 2013, 50, 493-500.	4.5	23
79	Performance of molten salt solar power towers in Chile. Journal of Renewable and Sustainable Energy, 2013, 5, 053142.	0.8	24
80	Circulating fluidized bed heat recovery/storage and its potential to use coated phase-change-material (PCM) particles. Applied Energy, 2013, 109, 505-513.	5.1	59
81	Pollution prevention in the pharmaceutical industry. International Journal of Sustainable Engineering, 2013, 6, 344-351.	1.9	7
82	THEORY AND EXPERIMENTS FOR DISSOLVING SOLIDS IN WATER. Chemical Engineering Communications, 2012, 199, 335-353.	1.5	3
83	The bubble-induced mixing in starch-to-ethanol fermenters. Chemical Engineering Research and Design, 2012, 90, 2122-2128.	2.7	18
84	Solids flow diagram of a CFB riser using Geldart B-type powders. Particuology, 2012, 10, 51-61.	2.0	34
85	Mixing phenomena in a large-scale fermenter of starch to bio-ethanol. Energy, 2012, 48, 380-391.	4.5	33
86	Thermal energy storage: â€œHow previous findings determine current research prioritiesâ€• Energy, 2012, 39, 246-257.	4.5	268
87	Fluidized bed waste incinerators: Design, operational and environmental issues. Progress in Energy and Combustion Science, 2012, 38, 551-582.	15.8	173
88	The expanding world market of generic pharmaceuticals. Journal of Generic Medicines, 2011, 8, 227-239.	0.0	2
89	Modelling the transport disengagement height in fluidized beds. Advanced Powder Technology, 2011, 22, 155-161.	2.0	12
90	Thermogravimetric pyrolysis of waste polyethylene-terephthalate and polystyrene: A critical assessment of kinetics modelling. Resources, Conservation and Recycling, 2011, 55, 772-781.	5.3	102

#	Article	IF	Citations
91	The solids flow in the CFB-riser quantified by single radioactive particle tracking. Powder Technology, 2011, 211, 135-143.	2.1	36
92	Polymeric Cracking of Waste Polyethylene Terephthalate to Chemicals and Energy. Journal of the Air and Waste Management Association, 2011, 61, 721-731.	0.9	110
93	Fundamentals, kinetics and endothermicity of the biomass pyrolysis reaction. Renewable Energy, 2010, 35, 232-242.	4.3	465
94	PEPT study of particle motion for different riser exit geometries. Particuology, 2010, 8, 623-630.	2.0	18
95	Particle velocities and their residence time distribution in the riser of a CFB. Powder Technology, 2010, 203, 187-197.	2.1	70
96	The residence time distribution and mixing of the gas phase in the riser of a circulating fluidized bed. Powder Technology, 2010, 203, 322-330.	2.1	43
97	NOx formation and selective non-catalytic reduction (SNCR) in a fluidized bed combustor of biomass. Biomass and Bioenergy, 2010, 34, 1393-1409.	2.9	136
98	Recovery and recycling of post-consumer waste materials. Part 1. Generalities and target wastes (paper, cardboard and aluminium cans). International Journal of Sustainable Engineering, 2010, 3, 148-158.	1.9	14
99	Recovery and recycling of post-consumer waste materials. Part 2. Target wastes (glass beverage) Tj ETQq1 1 0.784314 rgBT /Overlock	1.9	36
100	Solid particle motion in a standpipe as observed by Positron Emission Particle Tracking. Powder Technology, 2009, 194, 58-66.	2.1	28
101	Particle motion in the CFB riser with special emphasis on PEPT-imaging of the bottom section. Powder Technology, 2009, 196, 318-325.	2.1	37
102	REMOVING POLYCYCLIC AROMATIC HYDROCARBONS FROM WATER BY ADSORPTION ON SILICAGEL. Polycyclic Aromatic Compounds, 2009, 29, 160-183.	1.4	48
103	Particle Motion in CFB Cyclones as Observed By Positron Emission Particle Tracking. Industrial & Engineering Chemistry Research, 2009, 48, 253-261.	1.8	26
104	The effect of bed materials on the solid/bubble motion in a fluidised bed. Chemical Engineering Science, 2008, 63, 943-950.	1.9	33
105	The solids flow in the riser of a Circulating Fluidised Bed (CFB) viewed by Positron Emission Particle Tracking (PEPT). Powder Technology, 2008, 183, 290-296.	2.1	72
106	CFB cyclones at high temperature: Operational results and design assessment. Particuology, 2008, 6, 149-156.	2.0	19
107	Principles and potential of the anaerobic digestion of waste-activated sludge. Progress in Energy and Combustion Science, 2008, 34, 755-781.	15.8	2,275
108	Modeling CFB biomass pyrolysis reactors. Biomass and Bioenergy, 2008, 32, 128-139.	2.9	123

#	Article	IF	Citations
109	Investigation of operational parameters for an industrial CFB combustor of coal, biomass and sludge. Particuology: Science and Technology of Particles, 2007, 5, 247-254.	0.4	40
110	Solids mixing in the riser of a circulating fluidized bed. Chemical Engineering Science, 2007, 62, 2139-2153.	1.9	70
111	Using mesoporous silica materials to immobilise biocatalysis-enzymes. Catalysis Communications, 2005, 6, 307-311.	1.6	80
112	Immobilisation behaviour of biomolecules in mesoporous silica materials. Catalysis Communications, 2005, 6, 591-595.	1.6	23
113	Thermal degradation of PMMA in fluidised beds. Waste Management, 2004, 24, 849-857.	3.7	95
114	Removal of PCDD/F from flue gases in fixed or moving bed adsorbers. Waste Management, 2004, 24, 37-42.	3.7	47
115	Pulse jet cleaning of rigid filters: a literature review and introduction to process modelling. Filtration and Separation, 2004, 41, 26-33.	0.2	22
116	Catalytic combustion of volatile organic compounds. Journal of Hazardous Materials, 2004, 109, 113-139.	6.5	527
117	Combustion of chlorinated hydrocarbons in catalyst-coated sintered metal fleece reactors. Journal of Chemical Technology and Biotechnology, 2003, 78, 167-172.	1.6	22
118	Adsorption of dioxins and furans from flue gases in an entrained flow or fixed/moving bed reactor. Journal of Chemical Technology and Biotechnology, 2003, 78, 213-219.	1.6	29
119	VOC-air separations using gas membranes. Journal of Chemical Technology and Biotechnology, 2003, 78, 294-297.	1.6	23
120	Entrained-Phase Adsorption of PCDD/F from Incinerator Flue Gases. Environmental Science & Technology, 2003, 37, 1219-1224.	4.6	51
121	Modeling and Scaleup of Reverse Osmosis Separation. Environmental Engineering Science, 2002, 19, 37-45.	0.8	11
122	Advanced Biosolids Treatment Using H2O2-Oxidation. Environmental Engineering Science, 2002, 19, 27-35.	0.8	67
123	Removal of PCDD/F from Incinerator Flue Gases by Entrained-Phase Adsorption. Journal of the Air and Waste Management Association, 2002, 52, 1378-1388.	0.9	24
124	The use of gas membranes for VOC-air separations. Filtration and Separation, 2001, 38, 48-54.	0.2	20
125	Hydrodynamic modelling of the axial density profile in the riser of a lowâ€density circulating fluidized bed. Canadian Journal of Chemical Engineering, 2001, 79, 422-429.	0.9	29
126	Gas fluidized beds operating at high velocities: a critical review of occurring regimes. Powder Technology, 2001, 119, 269-291.	2.1	85

#	Article	IF	Citations
127	Correlation of PCDD/F Emissions with Operating Parameters of Municipal Solid Waste Incinerators. Journal of the Air and Waste Management Association, 2001, 51, 718-724.	0.9	28
128	Cleaning of hot calciner exhaust gas by low-density ceramic filters. Powder Technology, 2000, 111, 240-244.	2.1	18
129	Macroscopic fluid flow conditions in spiral wound membrane elements: packed bed approach. Water Science and Technology, 2000, 41, 85-91.	1.2	7
130	Effect of the gridâ€velocity on attrition in gas fluidized beds. Canadian Journal of Chemical Engineering, 1999, 77, 738-744.	0.9	27
131	Pneumatic drying: the use of large-scale experimental data in a design procedure. Powder Technology, 1995, 83, 139-148.	2.1	61
132	Fluidized bed incineration of sewage sludge: a strategy for the design of the incinerator and the future for incinerator ash utilization. Journal of Hazardous Materials, 1994, 37, 179-190.	6.5	45
133	Bed expansion and the visible bubble flow rate in gas fluidized beds. Advanced Powder Technology, 1992, 3, 163-189.	2.0	13
134	Elutriation of fines from gas fluidized beds of Geldart A-type powders â€" effect of adding superfines. Powder Technology, 1992, 71, 71-80.	2.1	79
135	Effect of operating temperature on minimum fluidization velocity. Powder Technology, 1991, 67, 217-220.	2.1	80
136	The design of distributors for gas-fluidized beds. Powder Technology, 1985, 42, 67-78.	2.1	119
137	An investigation into slugging fluidized beds. Chemical Engineering Science, 1974, 29, 255-265.	1.9	177
138	Challenges for Design Engineers in Sustainable Engineering. IOP Conference Series: Earth and Environmental Science, 0, 544, 012010.	0.2	3
139	Bio-energy Carriers as Back-up Fuel in Hybrid Solar Power Plants. IOP Conference Series: Earth and Environmental Science, 0, 544, 012012.	0.2	2