Matteo Gazzani

List of Publications by Year
in descending order

73 papers	3,219 citations	159358 30 h-index	155451 55 g-index
75 all docs	75 docs citations	75 times ranked	2537 citing authors

#	Article	IF	Citations
1	Optimal design of multi-energy systems with seasonal storage. Applied Energy, 2018, 219, 408-424.	5.1	357
2	The Role of Carbon Capture and Utilization, Carbon Capture and Storage, and Biomass to Enable a Net-Zero-CO₂ Emissions Chemical Industry. Industrial & Engineering Chemistry Research, 2020, 59, 7033-7045.	1.8	286
3	Pre-combustion CO2 capture. International Journal of Greenhouse Gas Control, 2015, 40, 167-187.	2.3	253
4	Comparison of Technologies for CO2 Capture from Cement Productionâ€"Part 1: Technical Evaluation. Energies, 2019, 12, 559.	1.6	137
5	Seasonal energy storage for zero-emissions multi-energy systems via underground hydrogen storage. Renewable and Sustainable Energy Reviews, 2020, 121, 109629.	8.2	137
6	Comparison of Technologies for CO2 Capture from Cement Productionâ€"Part 2: Cost Analysis. Energies, 2019, 12, 542.	1.6	135
7	Perspective on the hydrogen economy as a pathway to reach net-zero CO₂emissions in Europe. Energy and Environmental Science, 2022, 15, 1034-1077.	15.6	132
8	On the climate impacts of blue hydrogen production. Sustainable Energy and Fuels, 2021, 6, 66-75.	2.5	126
9	A comparative energy and costs assessment and optimization for direct air capture technologies. Joule, 2021, 5, 2047-2076.	11.7	122
10	CO2 capture in integrated gasification combined cycle with SEWGS â€" Part A: Thermodynamic performances. Fuel, 2013, 105, 206-219.	3.4	110
11	Rational design of temperature swing adsorption cycles for post-combustion CO 2 capture. Chemical Engineering Science, 2017, 158, 381-394.	1.9	96
12	Evaluation of a Direct Air Capture Process Combining Wet Scrubbing and Bipolar Membrane Electrodialysis. Industrial & Engineering Chemistry Research, 2020, 59, 7007-7020.	1.8	67
13	Predicting the ultimate potential of natural gas SOFC power cycles with CO 2 capture â€" Part A: Methodology and reference cases. Journal of Power Sources, 2016, 324, 598-614.	4.0	62
14	Reduced order modeling of the Shellâ€"Prenflo entrained flow gasifier. Fuel, 2013, 104, 822-837.	3.4	61
15	CO2 capture in Integrated Gasification Combined Cycle with SEWGS â€" Part B: Economic assessment. Fuel, 2013, 105, 220-227.	3.4	59
16	Electrochemical conversion technologies for optimal design of decentralized multi-energy systems: Modeling framework and technology assessment. Applied Energy, 2018, 221, 557-575.	5.1	59
17	On the optimal design of membrane-based gas separation processes. Journal of Membrane Science, 2017, 526, 118-130.	4.1	54
18	CO2 capture in natural gas combined cycle with SEWGS. Part B: Economic assessment. International Journal of Greenhouse Gas Control, 2013, 12, 502-509.	2.3	51

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19	SEWGS Technology is Now Ready for Scale-up!. Energy Procedia, 2013, 37, 2265-2273.	1.8	51
20	Using Hydrogen as Gas Turbine Fuel: Premixed Versus Diffusive Flame Combustors. Journal of Engineering for Gas Turbines and Power, 2014, 136, .	0.5	51
21	CO2 capture in integrated steelworks by commercial-ready technologies and SEWGS process. International Journal of Greenhouse Gas Control, 2015, 41, 249-267.	2.3	51
22	Temperature Swing Adsorption for the Recovery of the Heavy Component: An Equilibrium-Based Shortcut Model. Industrial & Engineering Chemistry Research, 2015, 54, 3027-3038.	1.8	50
23	CO2 capture in natural gas combined cycle with SEWGS. Part A: Thermodynamic performances. International Journal of Greenhouse Gas Control, 2013, 12, 493-501.	2.3	43
24	Predicting the ultimate potential of natural gas SOFC power cycles with CO2 capture â€“ Part B: Applications. Journal of Power Sources, 2016, 325, 194-208.	4.0	40
25	Optimal hydrogen production in a wind-dominated zero-emission energy system. Advances in Applied Energy, 2021, 3, 100032.	6.6	36
26	Integration of SEWGS for carbon capture in Natural Gas Combined Cycle. Part B: Reference case comparison. International Journal of Greenhouse Gas Control, 2011, 5, 214-225.	2.3	34
27	Techno-economic assessment of two novel feeding systems for a dry-feed gasifier in an IGCC plant with Pd-membranes for CO2 capture. International Journal of Greenhouse Gas Control, 2014, 25, 62-78.	2.3	34
28	Integration of the Caâ€“Cu Process in Ammonia Production Plants. Industrial & Engineering Chemistry Research, 2017, 56, 2526-2539.	1.8	33
29	Techno-economic assessment of hydrogen selective membranes for CO2 capture in integrated gasification combined cycle. International Journal of Greenhouse Gas Control, 2014, 20, 293-309.	2.3	32
30	Formation of solids in ammonia-based CO2 capture processes â€" Identification of criticalities through thermodynamic analysis of the CO2â€“NH3â€“H2O system. Chemical Engineering Science, 2015, 133, 170-180.	1.9	32
31	A low-energy chilled ammonia process exploiting controlled solid formation for post-combustion CO₂capture. Faraday Discussions, 2016, 192, 59-83.	1.6	30
32	Integration of SEWGS for carbon capture in natural gas combined cycle. Part A: Thermodynamic performances. International Journal of Greenhouse Gas Control, 2011, 5, 200-213.	2.3	25
33	Novel Adsorption Process for Co-Production of Hydrogen and CO₂ from a Multicomponent Stream. Industrial & Engineering Chemistry Research, 2019, 58, 17489-17506.	1.8	25
34	Addressing the Criticalities for the Deployment of Adsorption-based CO2 Capture Processes. Energy Procedia, 2017, 114, 2497-2505.	1.8	23
35	Comment on â€œHow green is blue hydrogen?â€ Energy Science and Engineering, 2022, 10, 1944-1954.	1.9	23
36	MO-MCS, a Derivative-Free Algorithm for the Multiobjective Optimization of Adsorption Processes. Industrial & Engineering Chemistry Research, 2018, 57, 9977-9993.	1.8	22

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37	Modeling of circulating fluidized beds systems for postâ€combustion CO₂ capture via temperature swing adsorption. AIChE Journal, 2018, 64, 1744-1759.	1.8	20
38	Analysis of Direct Carbon Fuel Cell Based Coal Fired Power Cycles With CO2 Capture. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	0.5	18
39	CO₂ Capture from a Binary CO₂/N₂ and a Ternary CO₂/N₂/H₂ Mixture by PSA: Experiments and Predictions. Industrial & Engineering Chemistry Research, 2015, 54, 6035-6045.	1.8	18
40	Advanced configurations for post-combustion CO2 capture processes using an aqueous ammonia solution as absorbent. Separation and Purification Technology, 2021, 274, 118959.	3.9	18
41	Application of Hydrogen Selective Membranes to IGCC. Energy Procedia, 2013, 37, 2274-2283.	1.8	15
42	Improving the Efficiency of a Chilled Ammonia CO2 Capture Plant Through Solid Formation: A Thermodynamic Analysis. Energy Procedia, 2014, 63, 1084-1090.	1.8	15
43	CAESAR: SEWGS integration into an IGCC plant. Energy Procedia, 2011, 4, 1096-1103.	1.8	14
44	Combined water desalination and electricity generation through a humidification-dehumidification process integrated with photovoltaic-thermal modules: Design, performance analysis and techno-economic assessment. Energy Conversion and Management: X, 2019, 1, 100004.	0.9	14
45	Application of Sorption Enhanced Water Gas Shift for Carbon Capture in Integrated Steelworks. Energy Procedia, 2013, 37, 7125-7133.	1.8	12
46	Application of a Chilled Ammonia-based Process for CO2 Capture to Cement Plants. Energy Procedia, 2017, 114, 6197-6205.	1.8	12
47	MO-MCS: An Efficient Multi-objective Optimization Algorithm for the Optimization of Temperature/Pressure Swing Adsorption Cycles. Computer Aided Chemical Engineering, 2016, 38, 1467-1472.	0.3	10
48	Modeling photovoltaic-electrochemical water splitting devices for the production of hydrogen under real working conditions. International Journal of Hydrogen Energy, 2022, 47, 11764-11777.	3.8	10
49	High Efficiency SOFC Power Cycles With Indirect Natural Gas Reforming and CO2 Capture. Journal of Fuel Cell Science and Technology, 2015, 12, .	0.8	9
50	Solid Formation in Ammonia-based Processes for CO2 Capture â€“ Turning a Challenge into an Opportunity. Energy Procedia, 2017, 114, 866-872.	1.8	8
51	A MILP model for the design of multi-energy systems with long-term energy storage. Computer Aided Chemical Engineering, 2017, 40, 2437-2442.	0.3	8
52	Process Synthesis, Modeling and Optimization of Continuous Cooling Crystallization with Heat Integrationâ€”Application to the Chilled Ammonia CO₂ Capture Process. Industrial & Engineering Chemistry Research, 2018, 57, 11712-11727.	1.8	8
53	Economic and environmental impact of photovoltaic and wind energy high penetration towards the achievement of the Italian 20-20-20 targets. , 2015, , .		7
54	Modeling for optimal operation of PEM fuel cells and electrolyzers. , 2016, , .		7

#	ARTICLE	IF	CITATIONS
55	On the optimal design of forward osmosis desalination systems with NH₃â€“CO₂â€“H₂O solutions. Environmental Science: Water Research and Technology, 2017, 3, 811-829.	1.2	7
56	Corrigendum to â€œOptimal design of multi-energy systems with seasonal storageâ€•[Appl. Energy (2017)]. Applied Energy, 2018, 212, 720.	5.1	6
57	Rigorous rate-based model for CO₂ capture via monoethanolamine-based solutions: effect of kinetic models, mass transfer, and holdup correlations on prediction accuracy. Separation Science and Technology, 2021, 56, 1491-1509.	1.3	6
58	Kinetics of Solid Formation in the Chilled Ammonia System and Implications for a 2nd Generation Process. Energy Procedia, 2014, 63, 1957-1962.	1.8	5
59	CCS â€“ A technology for now: general discussion. Faraday Discussions, 2016, 192, 125-151.	1.6	5
60	CCS â€“ A technology for the future: general discussion. Faraday Discussions, 2016, 192, 303-335.	1.6	4
61	Editorial: The Role of Carbon Capture and Storage Technologies in a Net-Zero Carbon Future. Frontiers in Energy Research, 2021, 9, .	1.2	4
62	A novel time discretization method for solving complex multi-energy system design and operation problems with high penetration of renewable energy. Computers and Chemical Engineering, 2022, 163, 107816.	2.0	4
63	A methodology for the heuristic optimization of solvent-based CO2 capture processes when applied to new flue gas compositions: A case study of the Chilled Ammonia Process for capture in cement plants. Chemical Engineering Science: X, 2020, 8, 100074.	1.5	3
64	Modeling fuel cells in integrated multi-energy systems. Energy Procedia, 2017, 142, 1407-1413.	1.8	2
65	A Time-series-based approach for robust design of multi-energy systems with energy storage. Computer Aided Chemical Engineering, 2018, 43, 525-530.	0.3	2
66	An MILP model of post-combustion carbon capture based on detailed process simulation. Computer Aided Chemical Engineering, 2021, 50, 319-325.	0.3	2
67	On the role of H2 storage and conversion for wind power production in the Netherlands. Computer Aided Chemical Engineering, 2019, , 1627-1632.	0.3	2
68	Using Hydrogen as Gas Turbine Fuel: Premixed Versus Diffusive Flame Combustors. , 2013, , .		1
69	Energy System Design for the Production of Synthetic Carbon-neutral Fuels from Air-captured CO2. Computer Aided Chemical Engineering, 2020, , 1471-1476.	0.3	1
70	Analysis of Direct Carbon Fuel Cell (DCFC) Based Coal Fired Power Cycles With CO2 Capture. , 2012, , .		0
71	High Efficiency SOFC Power Cycles With Indirect Natural Gas Reforming and CO2 Capture. , 2014, , .		0
72	Modelling â€“ from molecules to mega-scale: general discussion. Faraday Discussions, 2016, 192, 493-509.	1.6	0

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73	Multi-Objective Optimization of a Pressure-Temperature Swing Adsorption Process for Biogas Upgrading. Computer Aided Chemical Engineering, 2017, , 2629-2634.	0.3	0