Muhammad Abdul Qyyum

List of Publications by Year
in descending order

107 papers	2,535 citations	159525 30 h-index	254106 43 g-index
107 all docs	107 docs citations	107 times ranked	1322 citing authors

#	Article	IF	Citations
1	Graphene enhanced detoxification of wastewater rich 4-nitrophenol in multistage anaerobic reactor followed by baffled high-rate algal pond. Journal of Hazardous Materials, 2022, 424, 127395.	6.5	17
2	State-of-the-art assessment of natural gas liquids recovery processes: Techno-economic evaluation, policy implications, open issues, and the way forward. Energy, 2022, 238, 121684.	4.5	18
3	Neural network-inspired performance enhancement of synthetic natural gas liquefaction plant with different minimum approach temperatures. Fuel, 2022, 308, 121858.	3.4	9
4	Thermodynamic and economic assessment of cyano functionalized anion based ionic liquid for CO2 removal from natural gas integrated with, single mixed refrigerant liquefaction process for clean energy. Energy, 2022, 239, 122425.	4.5	8
5	Carbon-dioxide-precooled hydrogen liquefaction process: An innovative approach for performance enhancementâ€“Energy, exergy, and economic perspectives. Energy Conversion and Management, 2022, 251, 114947.	4.4	38
6	State-of-the-art assessment of cryogenic technologies for biogas upgrading: Energy, economic, and environmental perspectives. Renewable and Sustainable Energy Reviews, 2022, 154, 111826.	8.2	29
7	Sustainable fermentation approach for biogenic hydrogen productivity from delignified sugarcane bagasse. International Journal of Hydrogen Energy, 2022, 47, 37343-37358.	3.8	13
8	Economic and environmental sustainability for anaerobic biological treatment of wastewater from paper and cardboard manufacturing industry. Chemosphere, 2022, 289, 133166.	4.2	14
9	Developing convectiveâ€“dispersive transport model to characterize fixed-bed adsorption of lead (II) over activated tea waste biosorbent. Biomass Conversion and Biorefinery, 2022, 12, 4291-4305.	2.9	7
10	Assessment of working fluids, thermal resources and cooling utilities for Organic Rankine Cycles: State-of-the-art comparison, challenges, commercial status, and future prospects. Energy Conversion and Management, 2022, 252, 115055.	4.4	48
11	Valorization of algal cells for biomass and bioenergy production from wastewater: Sustainable strategies, challenges, and techno-economic limitations. Renewable and Sustainable Energy Reviews, 2022, 157, 112024.	8.2	28
12	State-of-the-art process simulations and techno-economic assessments of ionic liquid-based biogas upgrading techniques: Challenges and prospects. Fuel, 2022, 314, 123064.	3.4	29
13	Nano-sized mesoporous biochar derived from biomass pyrolysis as electrochemical energy storage supercapacitor. Materials Science for Energy Technologies, 2022, 5, 99-109.	1.0	13
14	Performance enhancement of hydrogen liquefaction process via absorption refrigeration and organic Rankine cycle-assisted liquid air energy system. Energy Conversion and Management, 2022, 254, 115200.	4.4	26
15	Hydrogen enrichment by CO2 anti-sublimation integrated with triple mixed refrigerant-based liquid hydrogen production process. Journal of Cleaner Production, 2022, 341, 130745.	4.6	13
16	Gated Recurrent Unit Coupled with Projection to Model Plane Imputation for the PM2.5 Prediction for Guangzhou City, China. Frontiers in Environmental Science, 2022, 9, .	1.5	6
17	Sustainable microalgal biomass valorization to bioenergy: Key challenges and future perspectives. Chemosphere, 2022, 296, 133812.	4.2	18
18	Harvesting biohydrogen from industrial wastewater: Production potential, pilot-scale bioreactors, commercialization status, techno-economics, and policy analysis. Journal of Cleaner Production, 2022, 340, 130809.	4.6	33

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19	Solar photo-oxidation of recalcitrant industrial wastewater: a review. Environmental Chemistry Letters, 2022, 20, 1839-1862.	8.3	49
20	Biohydrogen production from real industrial wastewater: Potential bioreactors, challenges in commercialization and future directions. International Journal of Hydrogen Energy, 2022, 47, 37154-37170.	3.8	30
21	Hydrofluoroolefin-based mixed refrigerant for enhanced performance of hydrogen liquefaction process. International Journal of Hydrogen Energy, 2022, 47, 41648-41662.	3.8	13
22	Graphical approach for estimating and minimizing boil-off gas and compression energy consumption in LNG regasification terminals. Journal of Natural Gas Science and Engineering, 2022, 101, 104539.	2.1	7
23	An innovative high energy efficiencyâ€“based process enhancement of hydrogen liquefaction: Energy, exergy, and economic perspectives. Fuel, 2022, 320, 123964.	3.4	19
24	A new cutting-edge review on the bioremediation of anaerobic digestate for environmental applications and cleaner bioenergy. Environmental Research, 2022, 213, 113708.	3.7	18
25	Mixed refrigerantâ€“based simplified hydrogen liquefaction process: Energy, exergy, economic, and environmental analysis. Journal of Cleaner Production, 2022, 367, 132947.	4.6	16
26	Hybrid machine learning-based model for solubilities prediction of various gases in deep eutectic solvent for rigorous process design of hydrogen purification. Separation and Purification Technology, 2022, 298, 121651.	3.9	7
27	Energy saving anammox technology-based nitrogen removal and bioenergy recovery from wastewater: Inhibition mechanisms, state-of-the-art control strategies, and prospects. Renewable and Sustainable Energy Reviews, 2021, 135, 110126.	8.2	89
28	Single mixed refrigerant LNG process: Investigation of improvement potential, operational optimization, and real potential for further improvements. Journal of Cleaner Production, 2021, 284, 125379.	4.6	23
29	Introduction to Particle Swarm Optimization and Its Paradigms: A Bibliographic Survey. Studies in Big Data, 2021, , 105-124.	0.8	1
30	Biogas upgrading through blends of deep eutectic solvents and monoethanol amine: 4 E analysis (energy, exergy, environmental, and economic). Green Chemistry, 2021, 23, 6076-6089.	4.6	14
31	Introduction to Cuckoo Search and Its Paradigms: A Bibliographic Survey and Recommendations. Studies in Big Data, 2021, , 79-93.	0.8	2
32	Metalâ€“organic frameworks for biogas upgrading: Recent advancements, challenges, and future recommendations. Applied Materials Today, 2021, 22, 100925.	2.3	16
33	Black Hole-Inspired Optimal Design of Biomethane Liquefaction Process for Small-Scale Applications. Frontiers in Energy Research, 2021, 9, .	1.2	8
34	Determination of Kinetic and Thermodynamic Parameters of Pyrolysis of Coal and Sugarcane Bagasse Blends Pretreated by Ionic Liquid: A Step towards Optimization of Energy Systems. Energies, 2021, 14, 2544.	1.6	6
35	Design and Energy Analysis of a Solar Desiccant Evaporative Cooling System with Built-In Daily Energy Storage. Energies, 2021, 14, 2429.	1.6	7
36	Methoxyâ€methylheptane as a cleaner fuel additive: An energyâ€and costâ€efficient enhancement for separation and purification units. Energy Science and Engineering, 2021, 9, 1632-1646.	1.9	1

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37	Process Systems Engineering Evaluation of Prospective Working Fluids for Organic Rankine Cycles Facilitated by Biogas Combustion Flue Gases. Frontiers in Energy Research, 2021, 9, .	1.2	2
38	Direct Analytical Modeling for Optimal, On-Design Performance of Ejector for Simulating Heat-Driven Systems. Energies, 2021, 14, 2819.	1.6	4
39	Refining and Reuse of Waste Lube Oil in SI Engines: A Novel Approach for a Sustainable Environment. Energies, 2021, 14, 2937.	1.6	10
40	Energy-efficient and cost-effective alternative separation techniques for 2-methoxyethanolâ€“toluene azeotropic mixture: Design and control studies. Chemical Engineering and Processing: Process Intensification, 2021, 163, 108376.	1.8	4
41	Sources, chemistry, bioremediation and social aspects of arsenic-contaminated waters: a review. Environmental Chemistry Letters, 2021, 19, 3859-3886.	8.3	31
42	Availability, versatility, and viability of feedstocks for hydrogen production: Product space perspective. Renewable and Sustainable Energy Reviews, 2021, 145, 110843.	8.2	57
43	Response Surface Methodology Routed Optimization of Performance of Hydroxy Gas Enriched Diesel Fuel in Compression Ignition Engines. Processes, 2021, 9, 1355.	1.3	7
44	Fermentation-based nanoparticle systems for sustainable conversion of black-liquor into biohydrogen. Journal of Cleaner Production, 2021, 309, 127349.	4.6	56
45	Quality and environmental impacts of oil production through pyrolysis of waste tyres. Environmental Technology and Innovation, 2021, 23, 101565.	3.0	5
46	Recent Approaches for the Production of High Value-Added Biofuels from Gelatinous Wastewater. Energies, 2021, 14, 4936.	1.6	13
47	Review of biodiesel synthesis technologies, current trends, yield influencing factors and economical analysis of supercritical process. Journal of Cleaner Production, 2021, 309, 127388.	4.6	69
48	Developing machine learning models for relative humidity prediction in air-based energy systems and environmental management applications. Journal of Environmental Management, 2021, 292, 112736.	3.8	12
49	Synthesis of biodiesel from non-edible (Brachychiton populneus) oil in the presence of nickel oxide nanocatalyst: Parametric and optimisation studies. Chemosphere, 2021, 278, 130469.	4.2	71
50	Teaching-learning self-study approach for optimal retrofitting of dual mixed refrigerant LNG process: Energy and exergy perspective. Applied Energy, 2021, 298, 117187.	5.1	23
51	Thermal Analysis and Energy Efficiency Improvements in Tunnel Kiln for Sustainable Environment. Processes, 2021, 9, 1629.	1.3	6
52	Renewable LNG production: Biogas upgrading through CO2 solidification integrated with single-loop mixed refrigerant biomethane liquefaction process. Energy Conversion and Management, 2021, 243, 114363.	4.4	18
53	100% saturated liquid hydrogen production: Mixed-refrigerant cascaded process with two-stage ortho-to-para hydrogen conversion. Energy Conversion and Management, 2021, 246, 114659.	4.4	36
54	Dual production of hydrogen and biochar from industrial effluent containing phenolic compounds. Fuel, 2021, 301, 121087.	3.4	35

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55	Robustness enhancement of biomass steam gasification thermodynamic models for biohydrogen production: Introducing new correction factors. Journal of Cleaner Production, 2021, 321, 128954.	4.6	15
56	Performance improvement potential of harnessing LNG regasification for hydrogen liquefaction process: Energy and exergy perspectives. Applied Energy, 2021, 301, 117471.	5.1	33
57	Sustainable economic growth and export diversification potential for Asian LNG-exporting countries: LNGâ€“petrochemical nexus development using product space model. Energy, 2021, 236, 121334.	4.5	5
58	Weed colonizationâ€based performance improvement opportunities in dualâ€mixed refrigerant natural gas liquefaction process. Energy Science and Engineering, 2021, 9, 297-312.	1.9	8
59	Two-phase expander refrigeration cycles with ethaneâ€“nitrogen: A cost-efficient alternative LNG processes for offshore applications. Journal of Cleaner Production, 2020, 248, 119189.	4.6	18
60	Gasâ€“liquid dual-expander natural gas liquefaction process with confirmation of biogeography-based energy and cost savings. Applied Thermal Engineering, 2020, 166, 114643.	3.0	11
61	Purification step enhancement of the 2,3-butanediol production process through minimization of high pressure steam consumption. Chemical Engineering Research and Design, 2020, 153, 697-708.	2.7	8
62	Integrated biomethane liquefaction using exergy from the discharging end of a liquid air energy storage system. Applied Energy, 2020, 260, 114260.	5.1	42
63	Biogas to liquefied biomethane: Assessment of 3P'sâ€“Production, processing, and prospects. Renewable and Sustainable Energy Reviews, 2020, 119, 109561.	8.2	51
64	Membrane-Assisted Removal of Hydrogen and Nitrogen from Synthetic Natural Gas for Energy-Efficient Liquefaction. Energies, 2020, 13, 5023.	1.6	10
65	Performance Enhancement of Nitrogen Dual Expander and Single Mixed Refrigerant LNG Processes Using Jaya Optimization Approach. Energies, 2020, 13, 3278.	1.6	12
66	Energy Saving through Efficient BOG Prediction and Impact of Static Boil-off-Rate in Full Containment-Type LNG Storage Tank. Energies, 2020, 13, 5578.	1.6	12
67	Shuffled Complex Evolution-Based Performance Enhancement and Analysis of Cascade Liquefaction Process for Large-Scale LNG Production. Energies, 2020, 13, 2511.	1.6	13
68	Simultaneous capture of acid gases from natural gas adopting ionic liquids: Challenges, recent developments, and prospects. Renewable and Sustainable Energy Reviews, 2020, 123, 109771.	8.2	70
69	Impact of mixed refrigerant selection on energy and exergy performance of natural gas liquefaction processes. Energy, 2020, 199, 117378.	4.5	38
70	Single-Solution-Based Vortex Search Strategy for Optimal Design of Offshore and Onshore Natural Gas Liquefaction Processes. Energies, 2020, 13, 1732.	1.6	19
71	Dual-effect single-mixed refrigeration cycle: An innovative alternative process for energy-efficient and cost-effective natural gas liquefaction. Applied Energy, 2020, 268, 115022.	5.1	44
72	Simulation study of deep eutectic solvent-based biogas upgrading process integrated with single mixed refrigerant biomethane liquefaction. Biofuel Research Journal, 2020, 7, 1245-1255.	7.2	33

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73	Investigation of improvement potential of Modified Single Mixed Refrigerant (MSMR) LNG process in terms of avoidable and unavoidable exergy destruction. , 2020, , .		3
74	Self-recuperative high temperature co-electrolysis-based methanol production with vortex search-based exergy efficiency enhancement. Journal of Cleaner Production, 2019, 239, 118029.	4.6	17
75	Particle Swarm Optimization Methodology for Optimal Distillation Retrofit. Journal of Chemical Engineering of Japan, 2019, 52, 333-341.	0.3	9
76	Simulation study of biomethane liquefaction followed by biogas upgrading using an imidazolium-based cationic ionic liquid. Journal of Cleaner Production, 2019, 231, 953-962.	4.6	30
77	Heating load depreciation in the solvent-regeneration step of absorption-based acid gas removal using an ionic liquid with an imidazolium-based cation. International Journal of Greenhouse Gas Control, 2019, 87, 89-99.	2.3	23
78	Dual mixed refrigerant LNG process: Uncertainty quantification and dimensional reduction sensitivity analysis. Applied Energy, 2019, 250, 1446-1456.	5.1	31
79	Optimization of mixed fluid cascade LNG process using a multivariate Coggins step-up approach: Overall compression power reduction and exergy loss analysis. International Journal of Refrigeration, 2019, 104, 189-200.	1.8	32
80	Membrane separation processes for dehydration of bioethanol from fermentation broths: Recent developments, challenges, and prospects. Renewable and Sustainable Energy Reviews, 2019, 105, 427-443.	8.2	94
81	Vortex tube shape optimization for hot control valves through computational fluid dynamics. International Journal of Refrigeration, 2019, 102, 151-158.	1.8	22
82	Analytical design of constraint handling optimal two parameter internal model control for dead-time processes. Korean Journal of Chemical Engineering, 2019, 36, 356-367.	1.2	6
83	Nitrogen self-recuperation expansion-based process for offshore coproduction of liquefied natural gas, liquefied petroleum gas, and pentane plus. Applied Energy, 2019, 235, 247-257.	5.1	53
84	Coal to clean energy: Energy-efficient single-loop mixed-refrigerant-based schemes for the liquefaction of synthetic natural gas. Journal of Cleaner Production, 2019, 211, 574-589.	4.6	37
85	Knowledge-inspired operational reliability for optimal LNG production at the offshore site. Applied Thermal Engineering, 2019, 150, 19-29.	3.0	14
86	Closed-Loop Self-Cooling Recuperative N₂ Expander Cycle for the Energy Efficient and Ecological Natural Gas Liquefaction Process. ACS Sustainable Chemistry and Engineering, 2018, 6, 5021-5033.	3.2	32
87	Design optimization of single mixed refrigerant LNG process using a hybrid modified coordinate descent algorithm. Cryogenics, 2018, 89, 131-140.	0.9	44
88	Energy efficiency enhancement of a single mixed refrigerant LNG process using a novel hydraulic turbine. Energy, 2018, 144, 968-976.	4.5	70
89	Innovative propane-nitrogen two-phase expander refrigeration cycle for energy-efficient and low-global warming potential LNG production. Applied Thermal Engineering, 2018, 139, 157-165.	3.0	44
90	Energy optimization for single mixed refrigerant natural gas liquefaction process using the metaheuristic vortex search algorithm. Applied Thermal Engineering, 2018, 129, 782-791.	3.0	49

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91	Feasibility study of environmental relative humidity through the thermodynamic effects on the performance of natural gas liquefaction process. Applied Thermal Engineering, 2018, 128, 51-63.	3.0	28
92	Design of an Intensified Reactive Distillation Configuration for 2-Methoxy-2-methylheptane. Industrial & Engineering Chemistry Research, 2018, 57, 316-328.	1.8	13
93	Comprehensive Review of the Design Optimization of Natural Gas Liquefaction Processes: Current Status and Perspectives. Industrial & Engineering Chemistry Research, 2018, 57, 5819-5844.	1.8	86
94	Krill-Herd-Based Investigation for Energy Saving Opportunities in Offshore Liquefied Natural Gas Processes. Industrial & Engineering Chemistry Research, 2018, 57, 14162-14172.	1.8	22
95	Cost- and Energy-Efficient Butanol-Based Extraction-Assisted Distillation Designs for Purification of 2,3-Butanediol for Use as a Drop-in Fuel. ACS Sustainable Chemistry and Engineering, 2018, 6, 14901-14910.	3.2	38
96	Design trade-offs in a column with side-reactor configuration for improving selectivity in multiple reaction systems. Chemical Engineering and Processing: Process Intensification, 2018, 134, 86-96.	1.8	7
97	Techno-economic analysis of various process schemes for the production of fuel grade 2,3-butanediol from fermentation broth. Biochemical Engineering Journal, 2018, 140, 93-107.	1.8	26
98	Hydrofluoroolefin-based novel mixed refrigerant for energy efficient and ecological LNG production. Energy, 2018, 157, 483-492.	4.5	34
99	An innovative vortex-tube turbo-expander refrigeration cycle for performance enhancement of nitrogen-based natural-gas liquefaction process. Applied Thermal Engineering, 2018, 144, 117-125.	3.0	32
100	Surrogate-assisted modeling and optimization of a natural-gas liquefaction plant. Computers and Chemical Engineering, 2018, 118, 132-142.	2.0	33
101	Sparse Bayesian learning for data driven polynomial chaos expansion with application to chemical processes. Chemical Engineering Research and Design, 2018, 137, 553-565.	2.7	8
102	A novel design of reactive distillation configuration for 2-methoxy-2-methylheptane process. E3S Web of Conferences, 2017, 22, 00067.	0.2	0
103	A novel vortex tube-based N2-expander liquefaction process for enhancing the energy efficiency of natural gas liquefaction. E3S Web of Conferences, 2017, 22, 00140.	0.2	1
104	Measuring the effect on chemical processes due to uncertain input states: Uncertainty-cum-sensitivity analysis using a gPC approach. Computer Aided Chemical Engineering, 2017, 40, 439-444.	0.3	2
105	Thermo-Economic Assessment and Uncertainty Quantification of Hydrofluoroolefin-Based Single Mixed Refrigerant Process for Natural Gas Liquefaction. SSRN Electronic Journal, 0, , .	0.4	0
106	Prediction of Process Parameters for the Integrated Biomass Gasification Power Plant Using Artificial Neural Network. Frontiers in Energy Research, 0, 10, .	1.2	1
107	Particle Swarm-Assisted Artificial Neural Networks for Making Liquefied Natural Gas Processes Feasible Under Varying Feed Conditions. Frontiers in Energy Research, 0, 10, .	1.2	0