

Rafael M Santos

List of Publications by Year in descending order

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90
papers

3,329
citations

159358

30
h-index

161609

54
g-index

96
all docs

96
docs citations

96
times ranked

2542
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced Photoreduction of U(VI) on C ₃ N ₄ by Cr(VI) and Bisphenol A: ESR, XPS, and EXAFS Investigation. <i>Environmental Science & Technology</i> , 2019, 53, 6454-6461.	4.6	269
2	Orderly Porous Covalent Organic Frameworks-based Materials: Superior Adsorbents for Pollutants Removal from Aqueous Solutions. <i>Innovation(China)</i> , 2021, 2, 100076.	5.2	235
3	Accelerated mineral carbonation of stainless steel slags for CO ₂ storage and waste valorization: Effect of process parameters on geochemical properties. <i>International Journal of Greenhouse Gas Control</i> , 2013, 17, 32-45.	2.3	167
4	Numerical modeling and experimental investigation of gas-liquid slug formation in a microchannel T-junction. <i>International Journal of Multiphase Flow</i> , 2010, 36, 314-323.	1.6	136
5	Stabilization of basic oxygen furnace slag by hot-stage carbonation treatment. <i>Chemical Engineering Journal</i> , 2012, 203, 239-250.	6.6	136
6	Effect of accelerated carbonation on AOD stainless steel slag for its valorisation as a CO ₂ -sequestering construction material. <i>Chemical Engineering Journal</i> , 2014, 246, 39-52.	6.6	121
7	Comparative study of ageing, heat treatment and accelerated carbonation for stabilization of municipal solid waste incineration bottom ash in view of reducing regulated heavy metal/metalloid leaching. <i>Journal of Environmental Management</i> , 2013, 128, 807-821.	3.8	111
8	Adsorption of multi-heavy metals onto water treatment residuals: Sorption capacities and applications. <i>Chemical Engineering Journal</i> , 2012, 200-202, 405-415.	6.6	97
9	X-ray Diffraction Techniques for Mineral Characterization: A Review for Engineers of the Fundamentals, Applications, and Research Directions. <i>Minerals (Basel, Switzerland)</i> , 2022, 12, 205.	0.8	96
10	Constructed wetlands for landfill leachate treatment: A review. <i>Ecological Engineering</i> , 2020, 146, 105725.	1.6	88
11	Ultrasound-intensified mineral carbonation. <i>Applied Thermal Engineering</i> , 2013, 57, 154-163.	3.0	85
12	Laboratory investigation of carbonated BOF slag used as partial replacement of natural aggregate in cement mortars. <i>Cement and Concrete Composites</i> , 2016, 65, 55-66.	4.6	85
13	Decontamination of U(VI) on graphene oxide/Al ₂ O ₃ composites investigated by XRD, FT-IR and XPS techniques. <i>Environmental Pollution</i> , 2019, 248, 332-338.	3.7	81
14	Synthesis of pure aragonite by sonochemical mineral carbonation. <i>Chemical Engineering Research and Design</i> , 2012, 90, 715-725.	2.7	80
15	Co-Benefits of Wollastonite Weathering in Agriculture: CO ₂ Sequestration and Promoted Plant Growth. <i>ACS Omega</i> , 2019, 4, 1425-1433.	1.6	68
16	Synthesis of zeolitic-type adsorbent material from municipal solid waste incinerator bottom ash and its application in heavy metal adsorption. <i>Catalysis Today</i> , 2012, 190, 23-30.	2.2	65
17	Susceptibility of mineral phases of steel slags towards carbonation: mineralogical, morphological and chemical assessment. <i>European Journal of Mineralogy</i> , 2013, 25, 533-549.	0.4	59
18	CO ₂ sequestration by wollastonite-amended agricultural soils – An Ontario field study. <i>International Journal of Greenhouse Gas Control</i> , 2020, 97, 103017.	2.3	58

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19	The enhanced photodegradation of bisphenol A by TiO ₂ /C ₃ N ₄ composites. <i>Environmental Research</i> , 2020, 182, 109090.	3.7	47
20	A robust prediction of U(VI) sorption on Fe ₃ O ₄ /activated carbon composites with surface complexation model. <i>Environmental Research</i> , 2020, 185, 109467.	3.7	46
21	Towards zero-waste mineral carbon sequestration via two-way valorization of ironmaking slag. <i>Chemical Engineering Journal</i> , 2014, 249, 260-269.	6.6	44
22	Environmental application of emerging zero-valent iron-based materials on removal of radionuclides from the wastewater: A review. <i>Environmental Research</i> , 2020, 188, 109855.	3.7	43
23	Process intensification education contributes to sustainable development goals. Part 1. Education for Chemical Engineers, 2020, 32, 1-14.	2.8	42
24	Recent advances in heterogeneous catalysis for supercritical water oxidation/gasification processes: Insight into catalyst development. <i>Chemical Engineering Research and Design</i> , 2021, 149, 169-184.	2.7	41
25	Optimizing Inorganic Carbon Sequestration and Crop Yield With Wollastonite Soil Amendment in a Microplot Study. <i>Frontiers in Plant Science</i> , 2020, 11, 1012.	1.7	38
26	Advances in process development of aqueous CO ₂ mineralisation towards scalability. <i>Journal of Environmental Chemical Engineering</i> , 2020, 8, 104453.	3.3	36
27	Experimental investigation of the effect of a quinoa-derived saponin-based green natural surfactant on enhanced oil recovery. <i>Fuel</i> , 2022, 318, 123652.	3.4	35
28	Nickel Extraction from Olivine: Effect of Carbonation Pre-Treatment. <i>Metals</i> , 2015, 5, 1620-1644.	1.0	34
29	Climate change/global warming/climate emergency versus general climate research: comparative bibliometric trends of publications. <i>Heliyon</i> , 2021, 7, e08219.	1.4	34
30	Strategic selection of an optimal sorbent mixture for in-situ remediation of heavy metal contaminated sediments: Framework and case study. <i>Journal of Environmental Management</i> , 2012, 105, 1-11.	3.8	32
31	Process intensification routes for mineral carbonation*. , 2011, 1, 287-293.		30
32	Effects of bioleaching on the chemical, mineralogical and morphological properties of natural and waste-derived alkaline materials. <i>Minerals Engineering</i> , 2013, 48, 116-125.	1.8	30
33	Controlled release fertilizers (CRFs) for climate-smart agriculture practices: a comprehensive review on release mechanism, materials, methods of preparation, and effect on environmental parameters. <i>Environmental Science and Pollution Research</i> , 2022, 29, 53967-53995.	2.7	30
34	Recent developments and perspectives on the treatment of industrial wastes by mineral carbonation â€” a review. <i>Open Engineering</i> , 2013, 3, .	0.7	29
35	Magnesium chloride as a leaching and aragonite-promoting self-regenerative additive for the mineral carbonation of calcium-rich materials. <i>Minerals Engineering</i> , 2014, 59, 71-81.	1.8	29
36	Alkaline Mineral Soil Amendment: A Climate Change â€”Stabilization Wedgeâ€™?. <i>Energies</i> , 2019, 12, 2299.	1.6	28

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37	Process intensification education contributes to sustainable development goals. Part 2. Education for Chemical Engineers, 2020, 32, 15-24.	2.8	28
38	Purification of slag-derived leachate and selective carbonation for high-quality precipitated calcium carbonate synthesis. Chemical Engineering Research and Design, 2015, 104, 180-190.	2.7	27
39	Integrated Mineral Carbonation Reactor Technology for Sustainable Carbon Dioxide Sequestration: "CO ₂ Energy Reactor" TM . Energy Procedia, 2013, 37, 5884-5891.	1.8	26
40	Hydrothermal Conversion of Neutral Sulfite Semi-Chemical Red Liquor into Hydrochar. Energies, 2016, 9, 435.	1.6	26
41	Influence of process parameters on carbonation rate and conversion of steelmaking slags "Introduction of the "carbonation weathering rate" TM . , 2016, 6, 470-491.		25
42	Distinguishing between carbonate and non-carbonate precipitates from the carbonation of calcium-containing organic acid leachates. Hydrometallurgy, 2014, 147-148, 90-94.	1.8	23
43	Mechanistic Investigation of LSW/Surfactant/Alkali Synergism for Enhanced Oil Recovery: Fluid-Fluid Interactions. ACS Omega, 2020, 5, 30059-30072.	1.6	23
44	DEVELOPMENTS ON WETTING EFFECTS IN MICROFLUIDIC SLUG FLOW. Chemical Engineering Communications, 2012, 199, 1626-1641.	1.5	22
45	Atom-Efficient Route for Converting Incineration Ashes into Heavy Metal Sorbents. ChemSusChem, 2014, 7, 276-283.	3.6	22
46	Accumulation and toxicity of lanthanum and neodymium in horticultural plants (<i>Brassica</i> Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 387 1 2263-2272.	0.9	21
47	Acceleration of CO ₂ mineralisation of alkaline brines with nickel nanoparticles catalysts in continuous tubular reactor. Chemical Engineering Journal, 2019, 377, 120479.	6.6	21
48	CO ₂ Energy Reactor " Integrated Mineral Carbonation: Perspectives on Lab-Scale Investigation and Products Valorization. Frontiers in Energy Research, 2016, 4, .	1.2	20
49	Experimental and modelling approach to investigate the mechanisms of formation damage due to calcium carbonate precipitation in carbonate reservoirs. Journal of Petroleum Science and Engineering, 2021, 205, 108801.	2.1	19
50	Risk assessment of Ni, Cr, and Si release from alkaline minerals during enhanced weathering. Open Agriculture, 2020, 5, 166-175.	0.7	19
51	Use of municipal, agricultural, industrial, construction and demolition waste in thermal and sound building insulation materials: a review article. Journal of Environmental Health Science & Engineering, 2019, 17, 1227-1242.	1.4	18
52	The fate of atmospheric carbon sequestered through weathering in mine tailings. Minerals Engineering, 2021, 163, 106767.	1.8	17
53	Chemoorganotrophic Bioleaching of Olivine for Nickel Recovery. Minerals (Basel, Switzerland), 2014, 4, 553-564.	0.8	16
54	Application of commercial zwitterionic surfactants and ionic liquids to reduce interfacial tension and alter wettability in a carbonate reservoir. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2022, 44, 2811-2822.	1.2	16

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55	Using nondestructive techniques in mineral carbonation for understanding reaction fundamentals. Powder Technology, 2019, 357, 134-148.	2.1	16
56	Impacts of Nickel Nanoparticles on Mineral Carbonation. Scientific World Journal, The, 2014, 2014, 1-10.	0.8	15
57	CO2 mineralisation of brines with regenerative hydrotalcites in a cyclical process. Chemical Engineering Journal, 2021, 404, 126450.	6.6	15
58	Effect of nano cerium oxide on soybean (Glycine max L. Merrill) crop exposed to environmentally relevant concentrations. Chemosphere, 2021, 273, 128492.	4.2	14
59	Pressurized in situ X-ray diffraction insights into super/subcritical carbonation reaction pathways of steelmaking slags and constituent silicate minerals. Journal of Supercritical Fluids, 2021, 171, 105191.	1.6	14
60	Microalgal phycocyanin productivity: strategies for phycovalorization. Journal of Chemical Technology and Biotechnology, 2015, 90, 1968-1982.	1.6	12
61	Assessment of geochemical modeling applications and research hot spots—a year in review. Environmental Geochemistry and Health, 2021, 43, 3351-3374.	1.8	12
62	Characterization of Physically Fractionated Wollastonite-Amended Agricultural Soils. Minerals (Basel, Switzerland), 2019, 9, 635.	0.8	11
63	Solvochemical carbonation of lime using ethanol: Mechanism and enhancement for direct atmospheric CO2 capture. Journal of CO2 Utilization, 2018, 26, 143-151.	3.3	10
64	Micro-structured copper and nickel metal foams for wastewater disinfection: proof-of-concept and scale-up. Chemical Engineering Research and Design, 2020, 142, 191-202.	2.7	10
65	Urban Farming with Enhanced Rock Weathering As a Prospective Climate Stabilization Wedge. Environmental Science & Technology, 2021, 55, 13575-13578.	4.6	10
66	How Characterization of Particle Size Distribution Pre- and Post-Reaction Provides Mechanistic Insights into Mineral Carbonation. Geosciences (Switzerland), 2018, 8, 260.	1.0	9
67	Fast and facile sonochemical synthesis of Mg- and Zn-doped PbS nanospheres: optical properties and photocatalytic activity. Journal of Materials Science: Materials in Electronics, 2020, 31, 14192-14202.	1.1	9
68	Valorization of Kimberlite Tailings by Carbon Capture and Utilization (CCU) Method. Minerals (Basel,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	0.8	9
69	Rapid CO ₂ capture-to-mineralisation in a scalable reactor. Reaction Chemistry and Engineering, 2020, 5, 473-484.	1.9	9
70	Monitoring Pedogenic Inorganic Carbon Accumulation Due to Weathering of Amended Silicate Minerals in Agricultural Soils.. Journal of Visualized Experiments, 2021, , .	0.2	8
71	Beneficial use of animal hides for abattoir and tannery waste management: a review of unconventional, innovative, and sustainable approaches. Environmental Science and Pollution Research, 2022, 29, 1807-1823.	2.7	8
72	Isolating the effect of asphaltene content on enhanced oil recovery during low salinity water flooding of carbonate reservoirs. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 0, , 1-14.	1.2	6

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73	Phosphorous runoff risk assessment and its potential management using wollastonite according to geochemical modeling. <i>Open Agriculture</i> , 2019, 4, 787-794.	0.7	6
74	Ultrafast and highly capture of U(VI) by hierarchical mesoporous carbon. <i>Radiochimica Acta</i> , 2020, 108, 717-726.	0.5	6
75	Mineral Carbonation as an Educational Investigation of Green Chemical Engineering Design. <i>Sustainability</i> , 2019, 11, 4156.	1.6	5
76	Geochemical Modeling Applied in Waste Disposal, and Its Relevance for Municipal Solid Waste Management. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 846.	0.8	5
77	Accelerated Weathering and Carbonation (Mild to Intensified) of Natural Canadian Silicates (Kimberlite and Wollastonite) for CO ₂ Sequestration. <i>Crystals</i> , 2021, 11, 1584.	1.0	5
78	Improving the Yield of Sonochemical Precipitated Aragonite Synthesis by Scaling up Intensified Conditions. <i>Chemical Engineering Communications</i> , 2016, 203, 1671-1680.	1.5	4
79	Wet Air Oxidation Route for the Synthesis of Organomineral Fertilizers from Synergistic Wastes (Pomace and Kimberlite). <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 11657-11675.	1.8	4
80	Comparative bibliometric trends of microplastics and perfluoroalkyl and polyfluoroalkyl substances: how these hot environmental remediation research topics developed over time. <i>RSC Advances</i> , 2022, 12, 4973-4987.	1.7	4
81	Gas-liquid slug formation at a rectangular microchannel T-junction: A CFD benchmark case. <i>Open Engineering</i> , 2011, 1, .	0.7	3
82	Editorial: Emerging Technologies and Associated Scientific Advancements for CCUS Deployment. <i>Frontiers in Energy Research</i> , 2021, 9, .	1.2	3
83	Sensing and Delineating Mixed-VOC Composition in the Air Using a Single Metal Oxide Sensor. <i>Clean Technologies</i> , 2021, 3, 519-533.	1.9	3
84	Waste Derived Sorbents and Their Potential Roles in Heavy Metal Remediation Applications. <i>E3S Web of Conferences</i> , 2013, 1, 25003.	0.2	2
85	Two-way Valorization of Blast Furnace Slag: Synthesis of Precipitated Calcium Carbonate and Zeolitic Heavy Metal Adsorbent. <i>Journal of Visualized Experiments</i> , 2017, , .	0.2	2
86	Application of Geochemical Modeling in Rare Earth Elements Leaching of Coal Combustion and Secondary Residues. , 2021, , 605-616.		2
87	Modeling Canadian farmer's intention to adopt eco-friendly agricultural inputs and practices. <i>Regional Environmental Change</i> , 2022, 22, 1.	1.4	2
88	Process Intensification of Dichlorodiphenyltrichloroethane Detection Methods for Determining Trace Concentrations in Soils. <i>Sustainable Chemistry</i> , 2020, 1, 63-74.	2.2	0
89	SUSCEPTIBILITY OF MAIN MINERAL PHASES OF STEEL SLAGS TOWARDS MINERAL CARBONATION AND CALCIUM LEACHING. , 2011, , .		0
90	Enhanced weathering of wollastonite in agricultural soils and mineral-soil-plant interactions. , 2021, , .		0