

C Rodriguez-Navarro

List of Publications by Year in descending order

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115
papers

8,525
citations

36303

51
h-index

45317

90
g-index

122
all docs

122
docs citations

122
times ranked

6848
citing authors

#	ARTICLE	IF	CITATIONS
1	Salt weathering: influence of evaporation rate, supersaturation and crystallization pattern. <i>Earth Surface Processes and Landforms</i> , 1999, 24, 191-209.	2.5	505
2	Carbonate and silicate phase reactions during ceramic firing. <i>European Journal of Mineralogy</i> , 2001, 13, 621-634.	1.3	469
3	Conservation of Ornamental Stone by <i>Myxococcus xanthus</i> -Induced Carbonate Biomineralization. <i>Applied and Environmental Microbiology</i> , 2003, 69, 2182-2193.	3.1	442
4	How does sodium sulfate crystallize? Implications for the decay and testing of building materials. <i>Cement and Concrete Research</i> , 2000, 30, 1527-1534.	11.0	347
5	Thermal decomposition of calcite: Mechanisms of formation and textural evolution of CaO nanocrystals. <i>American Mineralogist</i> , 2009, 94, 578-593.	1.9	344
6	Influence of mineralogy and firing temperature on the porosity of bricks. <i>Journal of the European Ceramic Society</i> , 2004, 24, 547-564.	5.7	334
7	Bacterially mediated mineralization of vaterite. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1197-1213.	3.9	291
8	Phase and morphology evolution of calcium carbonate precipitated by carbonation of hydrated lime. <i>Journal of Materials Science</i> , 2012, 47, 6151-6165.	3.7	207
9	The role of saline solution properties on porous limestone salt weathering by magnesium and sodium sulfates. <i>Environmental Geology</i> , 2007, 52, 269-281.	1.2	193
10	Role of particulate matter from vehicle exhaust on porous building stones (limestone) sulfation. <i>Science of the Total Environment</i> , 1996, 187, 79-91.	8.0	181
11	Influence of Substrate Mineralogy on Bacterial Mineralization of Calcium Carbonate: Implications for Stone Conservation. <i>Applied and Environmental Microbiology</i> , 2012, 78, 4017-4029.	3.1	174
12	Alcohol Dispersions of Calcium Hydroxide Nanoparticles for Stone Conservation. <i>Langmuir</i> , 2013, 29, 11457-11470.	3.5	169
13	Formation of amorphous calcium carbonate and its transformation into mesostructured calcite. <i>CrystEngComm</i> , 2015, 17, 58-72.	2.6	169
14	Precipitation and Growth Morphology of Calcium Carbonate Induced by <i>Myxococcus Xanthus</i> : Implications for Recognition of Bacterial Carbonates. <i>Journal of Sedimentary Research</i> , 2004, 74, 868-876.	1.6	156
15	Nanostructure and Irreversible Colloidal Behavior of Ca(OH) ₂ : Implications in Cultural Heritage Conservation. <i>Langmuir</i> , 2005, 21, 10948-10957.	3.5	152
16	Aging of Lime Putty: Effects on Traditional Lime Mortar Carbonation. <i>Journal of the American Ceramic Society</i> , 2000, 83, 1070-1076.	3.8	141
17	Calcium Hydroxide Crystal Evolution upon Aging of Lime Putty. <i>Journal of the American Ceramic Society</i> , 1998, 81, 3032-3034.	3.8	130
18	Mechanism of leached layer formation during chemical weathering of silicate minerals. <i>Geology</i> , 2012, 40, 947-950.	4.4	127

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19	Consolidation of degraded ornamental porous limestone stone by calcium carbonate precipitation induced by the microbiota inhabiting the stone. <i>Chemosphere</i> , 2007, 68, 1929-1936.	8.2	117
20	Effects of ferrocyanide ions on NaCl crystallization in porous stone. <i>Journal of Crystal Growth</i> , 2002, 243, 503-516.	1.5	112
21	Dissolution and Carbonation of Portlandite [Ca(OH) ₂] Single Crystals. <i>Environmental Science & Technology</i> , 2013, 47, 11342-11349.	10.0	105
22	An atomic force microscopy study of calcite dissolution in saline solutions: The role of magnesium ions. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 3201-3217.	3.9	99
23	A non-classical view on calcium oxalate precipitation and the role of citrate. <i>Nature Communications</i> , 2017, 8, 768.	12.8	99
24	TEM study of mullite growth after muscovite breakdown. <i>American Mineralogist</i> , 2003, 88, 713-724.	1.9	96
25	Consolidation of quarry calcarenite by calcium carbonate precipitation induced by bacteria activated among the microbiota inhabiting the stone. <i>International Biodeterioration and Biodegradation</i> , 2008, 62, 352-363.	3.9	93
26	Direct Nanoscale Imaging Reveals the Growth of Calcite Crystals via Amorphous Nanoparticles. <i>Crystal Growth and Design</i> , 2016, 16, 1850-1860.	3.0	89
27	The mechanism of thermal decomposition of dolomite: New insights from 2D-XRD and TEM analyses. <i>American Mineralogist</i> , 2012, 97, 38-51.	1.9	88
28	Bacterial biomineralization: new insights from <i>Myxococcus</i> -induced mineral precipitation. <i>Geological Society Special Publication</i> , 2010, 336, 31-50.	1.3	85
29	Effect of pH on calcite growth at constant ratio and supersaturation. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 284-296.	3.9	84
30	Amorphous and crystalline calcium carbonate phases during carbonation of nanolimes: implications in heritage conservation. <i>CrystEngComm</i> , 2016, 18, 6594-6607.	2.6	83
31	Protection and consolidation of stone heritage by self-inoculation with indigenous carbonatogenic bacterial communities. <i>Nature Communications</i> , 2017, 8, 279.	12.8	83
32	Origins of honeycomb weathering: The role of salts and wind. <i>Bulletin of the Geological Society of America</i> , 1999, 111, 1250-1255.	3.3	81
33	Nanolimes: from synthesis to application. <i>Pure and Applied Chemistry</i> , 2018, 90, 523-550.	1.9	80
34	Human impact in a tourist karstic cave (Aracena, Spain). <i>Environmental Geology</i> , 1997, 31, 142-149.	1.2	78
35	Lime Mortars for the Conservation of Historic Buildings. <i>Studies in Conservation</i> , 2002, 47, 62-75.	1.1	78
36	Swelling damage in clay-rich sandstones used in the church of San Mateo in Tarifa (Spain). <i>Journal of Cultural Heritage</i> , 2008, 9, 66-76.	3.3	77

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37	Damage Mechanisms of Porous Materials due to In-Pore Salt Crystallization. <i>Physical Review Letters</i> , 2012, 109, 265503.	7.8	77
38	Lime Mortars for the Conservation of Historic Buildings. <i>Studies in Conservation</i> , 2002, 47, 62.	1.1	75
39	Nonclassical crystallization in vivo et in vitro (II): Nanogranular features in biomimetic minerals disclose a general colloid-mediated crystal growth mechanism. <i>Journal of Structural Biology</i> , 2016, 196, 260-287.	2.8	74
40	Bioconservation of Deteriorated Monumental Calcarene Stone and Identification of Bacteria with Carbonatogenic Activity. <i>Microbial Ecology</i> , 2010, 60, 39-54.	2.8	72
41	Control of silicate weathering by interface-coupled dissolution-precipitation processes at the mineral-solution interface. <i>Geology</i> , 2016, 44, 567-570.	4.4	68
42	Effects of particulate matter from gasoline and diesel vehicle exhaust emissions on silicate stones sulfation. <i>Atmospheric Environment</i> , 2006, 40, 6905-6917.	4.1	67
43	Ion-specific effects on the kinetics of mineral dissolution. <i>Chemical Geology</i> , 2011, 281, 364-371.	3.3	64
44	Liesegang pattern development in carbonating traditional lime mortars. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2002, 458, 2261-2273.	2.1	62
45	A review of selected inorganic consolidants and protective treatments for porous calcareous materials. <i>Studies in Conservation</i> , 2003, 48, 13-25.	1.1	62
46	Kinetics and Mechanism of Calcium Hydroxide Conversion into Calcium Alkoxides: Implications in Heritage Conservation Using Nanolimes. <i>Langmuir</i> , 2016, 32, 5183-5194.	3.5	62
47	Nonclassical crystallization in vivo et in vitro (I): Process-structure-property relationships of nanogranular biominerals. <i>Journal of Structural Biology</i> , 2016, 196, 244-259.	2.8	60
48	Predicting salt damage in practice: A theoretical insight into laboratory tests.. <i>RILEM Technical Letters</i> , 0, 2, 108-118.	0.0	60
49	Microstructure and Rheology of Lime Putty. <i>Langmuir</i> , 2010, 26, 3868-3877.	3.5	56
50	Consolidation of archaeological gypsum plaster by bacterial biomineralization of calcium carbonate. <i>Acta Biomaterialia</i> , 2014, 10, 3844-3854.	8.3	56
51	Alkaline treatment of clay minerals from the Alhambra Formation: Implications for the conservation of earthen architecture. <i>Applied Clay Science</i> , 2008, 39, 122-132.	5.2	54
52	Alkaline activation as an alternative method for the consolidation of earthen architecture. <i>Journal of Cultural Heritage</i> , 2015, 16, 461-469.	3.3	54
53	In situ nanoscale observations of the dissolution of dolomite cleavage surfaces. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 80, 1-13.	3.9	53
54	Mineralogy and physicochemical features of Saharan dust wet deposited in the Iberian Peninsula during an extreme red rain event. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 10089-10122.	4.9	48

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55	Influencing Crystallization Damage in Porous Materials through the Use of Surfactants:Â Experimental Results Using Sodium Dodecyl Sulfate and Cetyldimethylbenzylammonium Chloride. <i>Langmuir</i> , 2000, 16, 947-954.	3.5	47
56	Role of clay minerals in the physicochemical deterioration of sandstone. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	47
57	Sulfation of calcitic and dolomitic lime mortars in the presence of diesel particulate matter. <i>Environmental Geology</i> , 2008, 56, 741-752.	1.2	46
58	Behavior of Brick Samples in Aggressive Environments. <i>Water, Air, and Soil Pollution</i> , 2000, 119, 191-207.	2.4	43
59	Sodium Sulfate Crystallization in the Presence of Phosphonates:â€‰ Implications in Ornamental Stone Conservation. <i>Crystal Growth and Design</i> , 2006, 6, 1575-1583.	3.0	43
60	Effectiveness of oxalic acid treatments for the protection of marble surfaces. <i>Materials and Design</i> , 2017, 115, 82-92.	7.0	42
61	Control of Crystal Nucleation and Growth by Additives. <i>Elements</i> , 2013, 9, 203-209.	0.5	40
62	Evidence of honeycomb weathering on Mars. <i>Geophysical Research Letters</i> , 1998, 25, 3249-3252.	4.0	39
63	Crystallization and Colloidal Stabilization of Ca(OH) ₂ in the Presence of Nopal Juice (<i>Opuntia ficus indica</i>): Implications in Architectural Heritage Conservation. <i>Langmuir</i> , 2017, 33, 10936-10950.	3.5	39
64	Application limits of Q-switched Nd:YAG laser irradiation for stone cleaning based on colour measurements. <i>Journal of Cultural Heritage</i> , 2003, 4, 50-55.	3.3	38
65	The Role of Sepiolite-Palygorskite in the Decay of Ancient Egyptian Limestone Sculptures. <i>Clays and Clay Minerals</i> , 1998, 46, 414-422.	1.3	36
66	Lime Putties and Mortars. <i>Studies in Conservation</i> , 2008, 53, 9-23.	1.1	36
67	An urban model for dolomite precipitation: authigenic dolomite on weathered building stones. <i>Sedimentary Geology</i> , 1997, 109, 1-11.	2.1	35
68	An integrated methodology for salt damage assessment and remediation: the case of San JerÃ³nimo Monastery (Granada, Spain). <i>Environmental Earth Sciences</i> , 2011, 63, 1475-1486.	2.7	34
69	The Carbonation of Wollastonite: A Model Reaction to Test Natural and Biomimetic Catalysts for Enhanced CO ₂ Sequestration. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 209.	2.0	34
70	Mechanism and Kinetics of Dehydration of Epsomite Crystals Formed in the Presence of Organic Additives. <i>Journal of Physical Chemistry B</i> , 2007, 111, 41-52.	2.6	33
71	Nonclassical Crystallization of Calcium Hydroxide via Amorphous Precursors and the Role of Additives. <i>Crystal Growth and Design</i> , 2020, 20, 4418-4432.	3.0	29
72	The Role of Clays in the Decay of Ancient Egyptian Limestone Sculptures. <i>Journal of the American Institute for Conservation</i> , 1997, 36, 151-163.	0.5	27

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73	Role of marble microstructure in near-infrared laser-induced damage during laser cleaning. <i>Journal of Applied Physics</i> , 2004, 95, 3350-3357.	2.5	27
74	Hydration Effects on the Stability of Calcium Carbonate Pre-Nucleation Species. <i>Minerals (Basel)</i> , 2019, 9, 1075-1087.	2.0	26
75	Exploring the effect of poly(acrylic acid) on pre- and post-nucleation BaSO ₄ species: new insights into the mechanisms of crystallization control by polyelectrolytes. <i>CrystEngComm</i> , 2016, 18, 2830-2842.	2.6	24
76	Interaction between Epsomite Crystals and Organic Additives. <i>Crystal Growth and Design</i> , 2008, 8, 2665-2673.	3.0	23
77	Hydration effects on gypsum dissolution revealed by in situ nanoscale atomic force microscopy observations. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 179, 110-122.	3.9	23
78	The multiple roles of carbonic anhydrase in calcium carbonate mineralization. <i>CrystEngComm</i> , 2019, 21, 7407-7423.	2.6	23
79	The Role of Clays in the Decay of Ancient Egyptian Limestone Sculptures. <i>Journal of the American Institute for Conservation</i> , 1997, 36, 151.	0.5	23
80	Kinetic effect of carbonic anhydrase enzyme on the carbonation reaction of lime mortar. <i>International Journal of Architectural Heritage</i> , 2018, 12, 779-789.	3.1	22
81	The Mechanism of Vapor Phase Hydration of Calcium Oxide: Implications for CO ₂ capture. <i>Environmental Science & Technology</i> , 2014, 48, 12411-12418.	10.0	21
82	Procesos de alteraci3n asociados al contenido de minerales arcillosos en materiales p4treos. <i>Materiales De Construccion</i> , 2001, 51, 163-182.	0.7	21
83	Bioinspired Alkoxysilane Conservation Treatments for Building Materials Based on Amorphous Calcium Carbonate and Oxalate Nanoparticles. <i>ACS Applied Nano Materials</i> , 2019, 2, 4954-4967.	5.0	20
84	Stone Consolidation by Bacterial Carbonatogenesis: Evaluation of in situ Applications. <i>Restoration of Buildings and Monuments</i> , 2015, 21, 9-20.	0.6	19
85	Bacterial Diversity Evolution in Maya Plaster and Stone Following a Bio-Conservation Treatment. <i>Frontiers in Microbiology</i> , 2020, 11, 599144.	3.5	19
86	CO ₂ sequestration and simultaneous zeolite production by carbonation of coal fly ash: Impact on the trapping of toxic elements. <i>Journal of CO₂ Utilization</i> , 2020, 40, 101263.	6.8	19
87	Influence of organic matter on the reactivity of clay minerals in highly alkaline environments. <i>Applied Clay Science</i> , 2015, 111, 27-36.	5.2	18
88	Thaumasite as decay product of cement mortar in brick masonry of a church near Venice. <i>Cement and Concrete Composites</i> , 2003, 25, 1123-1129.	10.7	17
89	Reaction of pseudowollastonite with carbonate-bearing fluids: Implications for CO ₂ mineral sequestration. <i>Chemical Geology</i> , 2019, 524, 158-173.	3.3	17
90	Degradation and conservation of clay-containing stone: A review. <i>Construction and Building Materials</i> , 2022, 330, 127226.	7.2	17

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91	Template-Assisted Crystallization of Sulfates onto Calcite: Implications for the Prevention of Salt Damage. <i>Crystal Growth and Design</i> , 2013, 13, 40-51.	3.0	16
92	Signatures in magnetites formed by (Ca,Mg,Fe)CO ₃ thermal decomposition: Terrestrial and extraterrestrial implications. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 87, 69-80.	3.9	15
93	Citrate Stabilizes Hydroxylapatite Precursors: Implications for Bone Mineralization. <i>ACS Biomaterials Science and Engineering</i> , 2021, 7, 2346-2357.	5.2	15
94	Carbonation of calcium-magnesium pyroxenes: Physical-chemical controls and effects of reaction-driven fracturing. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 304, 258-280.	3.9	14
95	Laser cleaning of stone materials: an overview of current research. <i>Studies in Conservation</i> , 2003, 48, 65-82.	1.1	10
96	Degradation of ancient Maya carved tuff stone at Copan and its bacterial bioconservation. <i>Npj Materials Degradation</i> , 2021, 5, .	5.8	9
97	Consolidation of clay-rich earthen building materials: A comparative study at the Alhambra fortress (Spain). <i>Journal of Building Engineering</i> , 2022, 50, 104081.	3.4	9
98	Incipient Maya Burnt-Lime Technology: Characterization and Chronological Variations in Preclassic Plaster, Stucco and Mortar at Nakbe, Guatemala. <i>Materials Research Society Symposia Proceedings</i> , 1996, 462, 207.	0.1	8
99	The Sierra Nevada serpentinites: the serpentinites most used in Spanish heritage buildings. <i>Geological Society Special Publication</i> , 2015, 407, 101-108.	1.3	8
100	Weathering of serpentinite stone due to in situ generation of calcium and magnesium sulfates. <i>Construction and Building Materials</i> , 2021, 280, 122402.	7.2	7
101	Influence of the calcination process in traditional gypsum with structural behavior. <i>Ge-Conservacion</i> , 0, 11, 79-85.	0.2	7
102	Kinetics and Mechanisms of Acid-Buffered Weathering of Pyroxenes. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2021GC009711.	2.5	7
103	Mineralogical Evolution of Di- and Trioctahedral Smectites in Highly Alkaline Environments. <i>Clays and Clay Minerals</i> , 2015, 63, 414-431.	1.3	6
104	Protection and Consolidation of Stone Heritage by Bacterial Carbonatogenesis. , 2021, , 281-299.		6
105	Synthesis of high surface area CaSO ₄ ·0.5H ₂ O nanorods using calcium ethoxide as precursor. <i>Chemical Communications</i> , 2021, 57, 7304-7307.	4.1	6
106	Suppression of salt weathering of porous limestone by borax-induced promotion of sodium and magnesium sulphate crystallization. <i>Geological Society Special Publication</i> , 2010, 331, 93-102.	1.3	5
107	Stabilization of Calcium Oxalate Precursors during the Pre- and Post-Nucleation Stages with Poly(acrylic acid). <i>Nanomaterials</i> , 2021, 11, 235.	4.1	5
108	Bioprotection. <i>Encyclopedia of Earth Sciences Series</i> , 2011, , 185-189.	0.1	5

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109	Carbonates. , 0, , 337-375.		5
110	Reactions between minerals and aqueous solutions. , 2017, , 419-467.		5
111	Virtual environments of teaching learning for training in experimental techniques. Innovation in multidisciplinary groups. Advances in Building Education, 2021, 5, 27.	0.1	3
112	New polymer-based treatments for the prevention of damage by salt crystallization in stone. Materials and Structures/Materiaux Et Constructions, 2019, 52, 1.	3.1	2
113	Pollution-Derived Heavy-Metal Enrichment on Building Stones. Mineralogical Magazine, 1994, 58A, 781-782.	1.4	1
114	Understanding kinetics and mechanisms of pyroxenes weathering. , 2021, , .		0
115	Reaction-Induced Fracturing during Silicate Weathering and Carbonation. , 2020, , .		0