

Alejandro Basilio RodrÃ-iguez-Navarro

List of Publications by Year in descending order

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101
papers

3,569
citations

159585

30
h-index

149698

56
g-index

103
all docs

103
docs citations

103
times ranked

4242
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal decomposition of calcite: Mechanisms of formation and textural evolution of CaO nanocrystals. <i>American Mineralogist</i> , 2009, 94, 578-593.	1.9	344
2	The eggshell: structure, composition and mineralization. <i>Frontiers in Bioscience - Landmark</i> , 2012, 17, 1266.	3.0	315
3	Bacterially mediated mineralization of vaterite. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1197-1213.	3.9	291
4	Self-organisation of nacre in the shells of Pterioidea (Bivalvia: Mollusca). <i>Biomaterials</i> , 2005, 26, 1071-1079.	11.4	138
5	Magnetite biomineralization induced by <i>Shewanella oneidensis</i> . <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 967-979.	3.9	138
6	Amorphous calcium carbonate controls avian eggshell mineralization: A new paradigm for understanding rapid eggshell calcification. <i>Journal of Structural Biology</i> , 2015, 190, 291-303.	2.8	122
7	The nature and formation of calcitic columnar prismatic shell layers in pteriomorphian bivalves. <i>Biomaterials</i> , 2005, 26, 6404-6414.	11.4	107
8	XRD2DScan: new software for polycrystalline materials characterization using two-dimensional X-ray diffraction. <i>Journal of Applied Crystallography</i> , 2006, 39, 905-909.	4.5	104
9	Influence of lysozyme on the precipitation of calcium carbonate: a kinetic and morphologic study. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 1667-1676.	3.9	100
10	Nanostructure, osteopontin, and mechanical properties of calcitic avian eggshell. <i>Science Advances</i> , 2018, 4, eaar3219.	10.3	86
11	Crystallographic structure of the foliated calcite of bivalves. <i>Journal of Structural Biology</i> , 2007, 157, 393-402.	2.8	83
12	Change in the chicken eggshell cuticle with hen age and egg freshness. <i>Poultry Science</i> , 2013, 92, 3026-3035.	3.4	63
13	Quantitative proteomics provides new insights into chicken eggshell matrix protein functions during the primary events of mineralisation and the active calcification phase. <i>Journal of Proteomics</i> , 2015, 126, 140-154.	2.4	57
14	Biomineralization changes with food supply confer juvenile scallops (<i>Argopecten purpuratus</i>) resistance to ocean acidification. <i>Global Change Biology</i> , 2016, 22, 2025-2037.	9.5	57
15	Geometrical and crystallographic constraints determine the self-organization of shell microstructures in Unionidae (Bivalvia: Mollusca). <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2001, 268, 771-778.	2.6	56
16	Precipitation of aragonite by calcitic bivalves in Mg-enriched marine waters. <i>Marine Biology</i> , 2007, 150, 819-827.	1.5	56
17	Microstructure and crystallographic-texture of giant barnacle (<i>Austromegabalanus psittacus</i>) shell. <i>Journal of Structural Biology</i> , 2006, 156, 355-362.	2.8	52
18	Life-history traits of the giant squid <i>Architeuthis dux</i> revealed from stable isotope signatures recorded in beaks. <i>ICES Journal of Marine Science</i> , 2010, 67, 1425-1431.	2.5	51

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19	Origin and Expansion of Foliated Microstructure in Pteriomorph Bivalves. <i>Biological Bulletin</i> , 2008, 214, 153-165.	1.8	44
20	High dietary intake of retinol leads to bone marrow hypoxia and diaphyseal endosteal mineralization in rats. <i>Bone</i> , 2011, 48, 496-506.	2.9	44
21	Model of textural development of layered crystal aggregates. <i>European Journal of Mineralogy</i> , 2000, 12, 609-614.	1.3	42
22	Model of texture development in polycrystalline films growing on amorphous substrates with different topographies. <i>Thin Solid Films</i> , 2001, 389, 288-295.	1.8	41
23	Crystallographic relationships in the crossed lamellar microstructure of the shell of the gastropod <i>Conus marmoreus</i> . <i>Acta Biomaterialia</i> , 2012, 8, 830-835.	8.3	40
24	Crystallographic reorganization of the calcitic prismatic layer of oysters. <i>Journal of Structural Biology</i> , 2009, 167, 261-270.	2.8	39
25	Crystalline properties of injection molded polyamide-6 and polyamide-6/montmorillonite nanocomposites. <i>Applied Clay Science</i> , 2009, 43, 91-97.	5.2	37
26	Effects of 3,3',4,4',5-pentachlorobiphenyl (PCB126) on vertebral bone mineralization and on thyroxin and vitamin D levels in Sprague-Dawley rats. <i>Toxicology Letters</i> , 2009, 187, 63-68.	0.8	37
27	Relationship between Bone Quality, Egg Production and Eggshell Quality in Laying Hens at the End of an Extended Production Cycle (105 Weeks). <i>Animals</i> , 2021, 11, 623.	2.3	37
28	Upwelling intensity modulates the fitness and physiological performance of coastal species: Implications for the aquaculture of the scallop <i>Argopecten purpuratus</i> in the Humboldt Current System. <i>Science of the Total Environment</i> , 2020, 745, 140949.	8.0	35
29	Effect of In Ovo Exposure to PCBs and Hg on Clapper Rail Bone Mineral Chemistry from a Contaminated Salt Marsh in Coastal Georgia. <i>Environmental Science & Technology</i> , 2006, 40, 4936-4942.	10.0	34
30	Innovative Analytical Methodology Combining Micro-X-Ray Diffraction, Scanning Electron Microscopy-Based Mineral Maps, and Diffuse Reflectance Infrared Fourier Transform Spectroscopy to Characterize Archeological Artifacts. <i>Analytical Chemistry</i> , 2009, 81, 604-611.	6.5	34
31	Organization and mode of secretion of the granular prismatic microstructure of <i>Entodesma navicula</i> (Bivalvia: Mollusca). <i>Acta Zoologica</i> , 2009, 90, 132-141.	0.8	32
32	Importance of eggshell cuticle composition and maturity for avoiding trans-shell Salmonella contamination in chicken eggs. <i>Food Control</i> , 2015, 55, 31-38.	5.5	32
33	Crystalline organization of the fibrous prismatic calcitic layer of the Mediterranean mussel <i>Mytilus galloprovincialis</i> . <i>European Journal of Mineralogy</i> , 2014, 26, 495-505.	1.3	30
34	Changes with age (from 0 to 37 D) in tibiae bone mineralization, chemical composition and structural organization in broiler chickens. <i>Poultry Science</i> , 2019, 98, 5215-5225.	3.4	29
35	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
36	Short-term exposure to dioxin impairs bone tissue in male rats. <i>Chemosphere</i> , 2009, 75, 680-684.	8.2	25

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37	Shifts in shell mineralogy and metabolism of <i>Concholepas concholepas</i> juveniles along the Chilean coast. <i>Marine and Freshwater Research</i> , 2015, 66, 1147.	1.3	25
38	Analysis of avian eggshell microstructure using X-ray area detectors. <i>European Journal of Mineralogy</i> , 2007, 19, 391-398.	1.3	24
39	Crystal Growth in the Foliated Aragonite of Monoplacophorans (Mollusca). <i>Crystal Growth and Design</i> , 2009, 9, 4574-4580.	3.0	24
40	Collagen-based proteinaceous binder-pigment interaction study under UV ageing conditions by MALDI-TOF-MS and principal component analysis. <i>Journal of Mass Spectrometry</i> , 2012, 47, 322-330.	1.6	24
41	Magnetite Nanoparticles Biomineralization in the Presence of the Magnetosome Membrane Protein MamC: Effect of Protein Aggregation and Protein Structure on Magnetite Formation. <i>Crystal Growth and Design</i> , 2017, 17, 1620-1629.	3.0	24
42	Compositional and Quantitative Microtextural Characterization of Historic Paintings by Micro-X-ray Diffraction and Raman Microscopy. <i>Analytical Chemistry</i> , 2011, 83, 8420-8428.	6.5	23
43	Chronic effects of lead (Pb) on bone properties in red deer and wild boar: Relationship with vitamins A and D3. <i>Environmental Pollution</i> , 2013, 174, 142-149.	7.5	23
44	Registering pole figures using an X-ray single-crystal diffractometer equipped with an area detector. <i>Journal of Applied Crystallography</i> , 2007, 40, 631-634.	4.5	22
45	Effects of lead shot ingestion on bone mineralization in a population of red-legged partridge (<i>Alectoris rufa</i>). <i>Science of the Total Environment</i> , 2014, 466-467, 34-39.	8.0	22
46	No evidence that selection for egg production persistency causes loss of bone quality in laying hens. <i>Genetics Selection Evolution</i> , 2021, 53, 11.	3.0	22
47	Directing Effect of Bacterial Extracellular Polymeric Substances (EPS) on Calcite Organization and EPS-Carbonate Composite Aggregate Formation. <i>Crystal Growth and Design</i> , 2020, 20, 1467-1484.	3.0	21
48	The combined effects of salinity and pH on shell biomineralization of the edible mussel <i>Mytilus chilensis</i> . <i>Environmental Pollution</i> , 2020, 263, 114555.	7.5	20
49	Geographical variation in shell morphology of juvenile snails (<i>Concholepas concholepas</i>) along the physical-chemical gradient of the Chilean coast. <i>Journal of the Marine Biological Association of the United Kingdom</i> , 2013, 93, 2167-2176.	0.8	19
50	To Infer the early Evolution of Mollusc Shell Microstructures. <i>Key Engineering Materials</i> , 0, 672, 113-133.	0.4	19
51	Thermo-XRD and differential scanning calorimetry to trace epitaxial crystallization in PA6/montmorillonite nanocomposites. <i>Materials Letters</i> , 2009, 63, 1159-1161.	2.6	18
52	Extreme pH Conditions at a Natural CO ₂ Vent System (Italy) Affect Growth, and Survival of Juvenile Pen Shells (<i>Pinna nobilis</i>). <i>Estuaries and Coasts</i> , 2015, 38, 1986-1999.	2.2	18
53	Avian eggshell formation reveals a new paradigm for vertebrate mineralization via vesicular amorphous calcium carbonate. <i>Journal of Biological Chemistry</i> , 2020, 295, 15853-15869.	3.4	18
54	Changes in avian cortical and medullary bone mineral composition and organization during acid-induced demineralization. <i>European Journal of Mineralogy</i> , 2019, 31, 209-216.	1.3	17

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55	Guinea fowl eggshell quantitative proteomics yield new findings related to its unique structural characteristics and superior mechanical properties. <i>Journal of Proteomics</i> , 2019, 209, 103511.	2.4	16
56	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
57	An eQTL in the cystathionine beta synthase gene is linked to osteoporosis in laying hens. <i>Genetics Selection Evolution</i> , 2020, 52, 13.	3.0	15
58	Properties, Genetics and Innate Immune Function of the Cuticle in Egg-Laying Species. <i>Frontiers in Immunology</i> , 2022, 13, 838525.	4.8	15
59	Influence of processing conditions on the optical and crystallographic properties of injection molded polyamide-6 and polyamide-6/montmorillonite nanocomposites. <i>Applied Clay Science</i> , 2011, 51, 414-418.	5.2	14
60	Articulation and growth of skeletal elements in balanid barnacles (Balanidae, Balanomorpha,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 542	2.4	14
61	Great spotted cuckoo eggshell microstructure characteristics can make eggs stronger. <i>Journal of Avian Biology</i> , 2019, 50, .	1.2	14
62	Development and characterization of magnetic eggshell membranes for lead removal from wastewater. <i>Ecotoxicology and Environmental Safety</i> , 2020, 192, 110307.	6.0	14
63	Research Note: Changes in eggshell quality and microstructure related to hen age during a production cycle. <i>Poultry Science</i> , 2021, 100, 101287.	3.4	14
64	Effect of Degradation on Wood Hygroscopicity: The Case of a 400-Year-Old Coffin. <i>Forests</i> , 2020, 11, 712.	2.1	12
65	Plasticity in organic composition maintains biomechanical performance in shells of juvenile scallops exposed to altered temperature and pH conditions. <i>Scientific Reports</i> , 2021, 11, 24201.	3.3	12
66	Automatic Crystal Size Determination in the Micrometer Range from Spotty X-Ray Diffraction Rings of Powder Samples. <i>Journal of the American Ceramic Society</i> , 2006, 89, 060427083300005-???	3.8	11
67	Data set for the proteomic inventory and quantitative analysis of chicken eggshell matrix proteins during the primary events of eggshell mineralization and the active growth phase of calcification. <i>Data in Brief</i> , 2015, 4, 430-436.	1.0	11
68	Effect of 30% hydrogen peroxide on mineral chemical composition and surface morphology of bovine enamel. <i>Odontology / the Society of the Nippon Dental University</i> , 2016, 104, 44-52.	1.9	11
69	Validating chemical and structural changes in painting materials by principal component analysis of spectroscopic data using internal mineral standards. <i>Journal of Cultural Heritage</i> , 2013, 14, 509-514.	3.3	10
70	Fluid-driven low-grade metamorphism in polydeformed rocks of Avalonia (Arisaig Group, Nova Scotia,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 9	1.2	9
71	Effect of vacuum/pressure cycles on cell wall composition and structure of poplar wood. <i>Cellulose</i> , 2019, 26, 8543-8556.	4.9	9
72	Influence of de-remineralization process on chemical, microstructural, and mechanical properties of human and bovine dentin. <i>Clinical Oral Investigations</i> , 2021, 25, 841-849.	3.0	8

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73	Origin of the biphasic nature and surface roughness of biogenic calcite secreted by the giant barnacle <i>Austromegabalanus psittacus</i> . <i>Scientific Reports</i> , 2020, 10, 16784.	3.3	7
74	Deminerallization effects of phosphoric acid on surface and subsurface bovine enamel bleached with in-office hydrogen peroxide. <i>Journal of Adhesive Dentistry</i> , 2011, 13, 315-21.	0.5	7
75	Impact of Different Layer Housing Systems on Eggshell Cuticle Quality and Salmonella Adherence in Table Eggs. <i>Foods</i> , 2021, 10, 2559.	4.3	7
76	The Influence of Hydrostatic Pressure on Shell Mineralization of <i>Anodonta cygnea</i> : A Comparative Study with a Hydrothermal Vent Bivalve <i>Bathymodiolus azoricus</i> . <i>Journal of Shellfish Research</i> , 2009, 28, 899-904.	0.9	6
77	Crystallography and Textural Aspects of Crossed Lamellar Layers in Arcidae (Bivalvia, Mollusca) Shells. <i>Key Engineering Materials</i> , 2016, 672, 60-70.	0.4	6
78	Microstructure and crystallography of the wall plates of the giant barnacle <i>Austromegabalanus psittacus</i> : a material organized by crystal growth. <i>Journal of the Royal Society Interface</i> , 2020, 17, 20190743.	3.4	6
79	Proanthocyanidin-functionalized hydroxyapatite nanoparticles as dentin biomodifier. <i>Dental Materials</i> , 2021, 37, 1437-1445.	3.5	6
80	Geographical variability and parasitism on body size, reproduction and shell characteristics of the keyhole limpet <i>Fissurella crassa</i> (Mollusca: Vetigastropoda). <i>Marine Environmental Research</i> , 2020, 161, 105060.	2.5	5
81	Bacterial EPS in Agarose Hydrogels Directs Mineral Organization in Calcite Precipitates: Species-Specific Biosignatures of <i>Bacillus subtilis</i> , <i>Mycobacterium phley</i> , <i>Mycobacterium smagmatis</i> , and <i>Pseudomonas putida</i> EPS. <i>Crystal Growth and Design</i> , 2020, 20, 4402-4417.	3.0	5
82	Dense <i>Mytilus</i> Beds Along Freshwater-Influenced Greenland Shores: Resistance to Corrosive Waters Under High Food Supply. <i>Estuaries and Coasts</i> , 2020, 43, 387-395.	2.2	5
83	Antimicrobial defenses of table eggs: Importance of antibacterial proteins in egg white as a function of hen age in an extended production cycle. <i>Food Microbiology</i> , 2022, 107, 104068.	4.2	5
84	Mineral fabrics analysis using a low-cost universal stage for X-ray diffractometry. <i>European Journal of Mineralogy</i> , 2002, 14, 987-992.	1.3	4
85	Irregularities of crystallographic orientation and residual stresses in the crossed-lamellar shell as a natural functionally graded material. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20150738.	3.4	4
86	Nanostructure of mouse otoconia. <i>Journal of Structural Biology</i> , 2020, 210, 107489.	2.8	4
87	The argonaut constructs its shell via physical self-organization and coordinated cell sensorial activity. <i>IScience</i> , 2021, 24, 103288.	4.1	4
88	Crystallographic control of the fabrication of an extremely sophisticated shell surface microornament in the glass scallop <i>Catillopecten</i> . <i>Scientific Reports</i> , 2022, 12, .	3.3	4
89	Parasitism by metacercariae modulates the morphological, organic and mechanical responses of the shell of an intertidal bivalve to environmental drivers. <i>Science of the Total Environment</i> , 2022, 830, 154747.	8.0	3
90	Ferric sulphate alterations on primary dentin and the adhesive interface. <i>Journal of Adhesive Dentistry</i> , 2014, 16, 347-56.	0.5	3

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91	Crystallographic texture analysis of Protobranchia (Mollusca: Bivalvia): interspecific variations, homology and shell microstructural evolution. <i>Journal of Molluscan Studies</i> , 2017, 83, 304-315.	1.2	2
92	Role of the Organic Matter in the Structural Organization of Giant Barnacle <i>Austromegabalanus Psittacus</i> Shell from the Micro- to Nanoscale. <i>Crystal Growth and Design</i> , 2021, 21, 357-365.	3.0	2
93	New method for separation of magnetite from rock samples for oxygen isotope analysis. <i>European Journal of Mineralogy</i> , 2007, 19, 717-722.	1.3	1
94	Automatic sample changer for the analysis of powder samples on an X-ray single-crystal diffractometer equipped with an area detector. <i>Journal of Applied Crystallography</i> , 2012, 45, 135-137.	4.5	1
95	An intrapopulation study of organic compounds and biomechanical properties of the shell of the Antarctic bivalve <i>Laternula elliptica</i> (P. P. King, 1832) at King George Island. <i>Polar Biology</i> , 2021, 44, 1343-1352.	1.2	1
96	Correlative vibrational spectroscopy and 2D X-ray diffraction to probe the mineralization of bone in phosphate-deficient mice. <i>Journal of Applied Crystallography</i> , 2019, 52, 960-971.	4.5	1
97	Mechanisms and hormonal regulation of shell formation. , 2022, , 813-859.		1
98	Percentage exposure of root dentin collagen after application of two irrigation protocols with manual or rotary instrumentation and two methacrylate resin-based sealers. <i>Journal of Adhesive Dentistry</i> , 2013, 15, 481-9.	0.5	1
99	Magnetron Sputtering Deposition of Calcium Phosphate Films with Nanoscale Grain Morphology in their Surface. <i>Materials Research Society Symposia Proceedings</i> , 2006, 975, 1.	0.1	0
100	Microstructure Characterization Of Calcified Tissues By Xrd Using An Area Detector. <i>Materials Research Society Symposia Proceedings</i> , 2008, 1094, 1.	0.1	0
101	Chronic Lead Exposure Alters Mineral Properties in Alveolar Bone. <i>Minerals (Basel, Switzerland)</i> , 2021, 11, 642.	2.0	0