Anuraag Gaddam

List of Publications by Year
in descending order

119 papers	3,548 citations	136950 32 h-index	168389 53 g-index
121 all docs	121 docs citations	121 times ranked	3797 citing authors

#	Article	IF	Citations
1	Bioactive Glasses and Glass-Ceramics for Healthcare Applications in Bone Regeneration and Tissue Engineering. Materials, 2018, 11, 2530.	2.9	196
2	Cationic Substitutions in Hydroxyapatite: Current Status of the Derived Biofunctional Effects and Their In Vitro Interrogation Methods. Materials, 2018, 11, 2081.	2.9	179
3	Physicochemical Mechanism for the Continuous Reaction of ?-Al2O3-Modified Aluminum Powder with Water. Journal of the American Ceramic Society, 2007, 90, 1521-1526.	3.8	147
4	Hydrogenâ€Generation Materials for Portable Applications. Journal of the American Ceramic Society, 2008, 91, 3825-3834.	3.8	132
5	Composite and Nanocomposite Metal Foams. Materials, 2016, 9, 79.	2.9	102
6	Influence of strontium on structure, sintering and biodegradation behaviour of CaOâ€"MgOâ€"SrOâ€"SiO2â€"P2O5â€"CaF2 glasses. Acta Biomaterialia, 2011, 7, 4071-4080.	8.3	98
7	Alkali-free bioactive glasses for bone tissue engineering: A preliminary investigation. Acta Biomaterialia, 2012, 8, 361-372.	8.3	96
8	Hydrothermal Synthesis of Nanosized Titania Powders: Influence of Tetraalkyl Ammonium Hydroxides on Particle Characteristics. Journal of the American Ceramic Society, 2001, 84, 1696-1702.	3.8	94
9	Fabrication of Highly Porous Mullite Materials. Journal of the American Ceramic Society, 2005, 88, 777-779.	3.8	83
10	Structural and Femtosecond Third-Order Nonlinear Optical Properties of Sodium Borate Oxide Glasses: Effect of Antimony. Journal of Physical Chemistry C, 2019, 123, 5591-5602.	3.1	68
11	The role of P2O5, TiO2 and ZrO2 as nucleating agents on microstructure and crystallization behaviour of lithium disilicate-based glass. Journal of Materials Science, 2013, 48, 765-773.	3.7	65
12	Role of glass structure in defining the chemical dissolution behavior, bioactivity and antioxidant properties of zinc and strontium co-doped alkali-free phosphosilicate glasses. Acta Biomaterialia, 2014, 10, 3264-3278.	8.3	64
13	Multifunctional materials for bone cancer treatment. International Journal of Nanomedicine, 2014, 9, 2713.	6.7	64
14	Influence of the annealing temperatures on the photoluminescence of KCaBO3:Eu3+ phosphor. RSC Advances, 2012, 2, 8768.	3.6	61
15	Structural analysis and thermal behavior of diopsideâ€"fluorapatiteâ€"wollastonite-based glasses and glassâ€"ceramics. Acta Biomaterialia, 2010, 6, 4380-4388.	8.3	59
16	Novel route for rapid sol-gel synthesis of hydroxyapatite, avoiding ageing and using fast drying with a 50-fold to 200-fold reduction in process time. Materials Science and Engineering C, 2017, 70, 796-804.	7.3	59
17	Synthetic and Marine-Derived Porous Scaffolds for Bone Tissue Engineering. Materials, 2018, 11, 1702.	2.9	55
18	Structural role of zinc in biodegradation of alkali-free bioactive glasses. Journal of Materials Chemistry B, 2013, 1, 3073.	5.8	54

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19	KCa4(BO3)3:Ln3+ (Ln = Dy, Eu, Tb) phosphors for near UV excited whiteâ€“lightâ€“emitting diodes. AIP Advances, 2013, 3, .	1.3	53
20	Effect of Solids Loading on Slipâ€Casting Performance of Silicon Carbide Slurries. Journal of the American Ceramic Society, 1999, 82, 1993-2000.	3.8	51
21	Single step synthesis of nanosized CeO2â€“MxOy mixed oxides (MxOyÂ=ÂSiO2, TiO2, ZrO2, and Al2O3) by microwave induced solution combustion synthesis: characterization and CO oxidation. Journal of Materials Science, 2009, 44, 2743-2751.	3.7	45
22	Structure and Crystallization of Alkaline-Earth Aluminosilicate Glasses: Prevention of the Alumina-Avoidance Principle. Journal of Physical Chemistry B, 2018, 122, 4737-4747.	2.6	42
23	Diopside (CaOÂ·MgOÂ·2SiO2)â€“fluorapatite (9CaOÂ·3P2O5Â·CaF2) glass-ceramics: potential materials for bone tissue engineering. Journal of Materials Chemistry, 2011, 21, 16247.	6.7	41
24	Structure, surface reactivity and physico-chemical degradation of fluoride containing phospho-silicate glasses. Journal of Materials Chemistry, 2011, 21, 8074.	6.7	41
25	Sintering behavior of lanthanide-containing glass-ceramic sealants for solid oxide fuel cells. Journal of Materials Chemistry, 2012, 22, 10042.	6.7	41
26	The roles of P2O5 and SiO2/Li2O ratio on the network structure and crystallization kinetics of non-stoichiometric lithium disilicate based glasses. Journal of Non-Crystalline Solids, 2018, 481, 512-521.	3.1	37
27	Thermal stability and crystallization kinetics of ternary Seâ€“Teâ€“Sb semiconducting glassy alloys. Journal of Thermal Analysis and Calorimetry, 2009, 98, 347-354.	3.6	36
28	Structure, Sintering, and Crystallization Kinetics of Alkalineâ€Earth Aluminosilicate Glassâ€“Ceramic Sealants for Solid Oxide Fuel Cells. Journal of the American Ceramic Society, 2010, 93, 830-837.	3.8	36
29	A new model formulation of the SiO2â€“Al2O3â€“B2O3â€“MgOâ€“CaOâ€“Na2Oâ€“F glass-ceramics. Biomaterials, 2005, 26, 2255-2264.	11.4	35
30	Gelcasting of Magnesium Aluminate Spinel Powder. Journal of the American Ceramic Society, 2009, 92, 350-357.	3.8	35
31	Crystallization Process and Some Properties of Li₂Oâ€“SiO₂Glassâ€“Ceramics Doped with Al₂O₃and K₂O. Journal of the American Ceramic Society, 2008, 91, 3698-3703.	3.8	34
32	Understanding the compositionâ€“structureâ€“bioactivity relationships in diopside (CaOÂ·MgOÂ·2SiO2)â€“tricalcium phosphate (3CaOÂ·P2O5) glass system. Acta Biomaterialia, 2015, 15, 210-226.	8.3	34
33	Structure, biodegradation behavior and cytotoxicity of alkali-containing alkaline-earth phosphosilicate glasses. Materials Science and Engineering C, 2014, 44, 159-165.	7.3	33
34	Microwave-assisted Synthesis and Structural Characterization of Nanosized Ce0.5Zr0.5O2 for CO Oxidation. Catalysis Letters, 2009, 130, 227-234.	2.6	31
35	Thermal and mechanical stability of lanthanide-containing glassâ€“ceramic sealants for solid oxide fuel cells. Journal of Materials Chemistry A, 2014, 2, 1834-1846.	10.3	31
36	Characterization and photocatalytic activity of TiO2â€“M x O y (M x O y Â=ÂSiO2, Al2O3, and ZrO2) mixed oxides synthesized by microwave-induced solution combustion technique. Journal of Materials Science, 2009, 44, 4874-4882.	3.7	29

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37	Study of melilite based glasses and glass-ceramics nucleated by Bi2O3 for functional applications. RSC Advances, 2012, 2, 10955.	3.6	29
38	Direct ink writing of macroporous leadâ€free piezoelectric Ba_{0.85}Ca_{0.15}Zr_{0.1}Ti_{0.9}O₃. Journal of the American Ceramic Society, 2019, 102, 3191-3203.	3.8	29
39	Hydrothermal synthesis of well-dispersed TiO₂ nano-crystals. Journal of Materials Research, 2002, 17, 2197-2200.	2.6	28
40	Temperature-Induced Gelation of Concentrated Sialon Suspensions. Journal of the American Ceramic Society, 2005, 88, 593-598.	3.8	28
41	Role of manganese on the structure, crystallization and sintering of non-stoichiometric lithium disilicate glasses. RSC Advances, 2014, 4, 13581.	3.6	28
42	Cosubstitution of Zinc and Strontium in Î²-Tricalcium Phosphate: Synthesis and Characterization. Journal of the American Ceramic Society, 2011, 94, 230-235.	3.8	27
43	Sintering and devitrification of glass-powder compacts in the akermaniteâ€"gehlenite system. Journal of Materials Science, 2013, 48, 4128-4136.	3.7	27
44	Influence of ZnO/MgO substitution on sintering, crystallisation, and bio-activity of alkali-free glass-ceramics. Materials Science and Engineering C, 2015, 53, 252-261.	7.3	27
45	Nano-TiO2-Coated Unidirectional Porous Glass Structure Prepared by Freeze Drying and Solution Infiltration. Journal of the American Ceramic Society, 2007, 90, 1265-1268.	3.8	26
46	Understanding the Formation of CaAl₂Si₂O₈ in Melilite-Based Glass-Ceramics: Combined Diffraction and Spectroscopic Studies. ACS Omega, 2017, 2, 6233-6243.	3.5	26
47	Osteogenic capacity of alkaliâ€free bioactive glasses. <i>In vitro</i> studies. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2017, 105, 2360-2365.	3.4	26
48	Glass structure and crystallization of Al and B containing glasses belonging to the Li₂Oâ€"SiO₂system. RSC Advances, 2015, 5, 41066-41078.	3.6	25
49	The <i>in vivo</i> performance of an alkaliâ€free bioactive glass for bone grafting, <scp>F</scp>ast<scp>O</scp>s^{Â®}<scp>BG</scp>, assessed with an ovine model. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2017, 105, 30-38.	3.4	25
50	Feedstock Formulations for Direct Consolidation of Porcelains with Polysaccharides. Journal of the American Ceramic Society, 2001, 84, 719-725.	3.8	24
51	Development of bilayer glass-ceramic SOFC sealants via optimizing the chemical composition of glassesâ€"a review. Journal of Solid State Electrochemistry, 2015, 19, 2899-2916.	2.5	24
52	The structural role of lanthanum oxide in silicate glasses. Journal of Non-Crystalline Solids, 2019, 505, 18-27.	3.1	24
53	Tunable femtosecond nonlinear absorption and optical limiting thresholds of La2O3â€'B2O3 glasses by controlling the borate structural units. Scripta Materialia, 2022, 211, 114530.	5.2	24
54	The Beneficial Mechanical and Biological Outcomes of Thin Copper-Gallium Doped Silica-Rich Bio-Active Glass Implant-Type Coatings. Coatings, 2020, 10, 1119.	2.6	23

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55	Effect of BaO Addition on Crystallization, Microstructure, and Properties of Diopside?Ca-Tschermak Clinopyroxene-Based Glass?Ceramics. Journal of the American Ceramic Society, 2007, 90, 2236-2244.	3.8	22
56	A hundred times faster: Novel, rapid solâ€gel synthesis of bioâ€glass nanopowders (Siâ€Naâ€Caâ€P system, Ca:P =) Tj ETQq0 0 0 rgBT /	2.0	22
57	Surface functionalization of cuttlefish bone-derived biphasic calcium phosphate scaffolds with polymeric coatings. Materials Science and Engineering C, 2019, 105, 110014.	7.3	22
58	Study of Crystallization Kinetics in Glasses along the Diopside-Ca-Tschermak Join. Journal of the American Ceramic Society, 2008, 91, 2690-2697.	3.8	21
59	Additive manufacturing of 3D porous alkali-free bioactive glass scaffolds for healthcare applications. Journal of Materials Science, 2017, 52, 12079-12088.	3.7	21
60	Hydrolysis Control of AlN Powders for the Aqueous Processing of Spherical AlN Granules. Journal of the American Ceramic Society, 2013, 96, 1383-1389.	3.8	20
61	Elucidating the formation of Alâ€"NBO bonds, Alâ€"Oâ€"Al linkages and clusters in alkaline-earth aluminosilicate glasses based on molecular dynamics simulations. Physical Chemistry Chemical Physics, 2019, 21, 23966-23977.	2.8	20
62	Ionic Conductivity of Na₃Al₂P₃O₁₂ Glass Electrolytesâ€"Role of Charge Compensators. Inorganic Chemistry, 2021, 60, 12893-12905.	4.0	20
63	Structural characterisation and thermo-physical properties of glasses in the Li2Oâ€"SiO2â€"Al2O3â€"K2O system. Journal of Thermal Analysis and Calorimetry, 2011, 103, 827-834.	3.6	18
64	Enhanced bioactivity of a rapidly-dried sol-gel derived quaternary bioglass. Materials Science and Engineering C, 2018, 91, 36-43.	7.3	18
65	Robocasting of Cu2+ & La3+ doped solâ€"gel glass scaffolds with greatly enhanced mechanical properties: Compressive strength up to 14â€MPa. Acta Biomaterialia, 2019, 87, 265-272.	8.3	18
66	Dielectric and optical properties of Ni- and Fe-doped CeO2 Nanoparticles. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	2.3	18
67	Threeâ€dimensional printing of zirconia scaffolds for load bearing applications: Study of the optimal fabrication conditions. Journal of the American Ceramic Society, 2021, 104, 4368-4380.	3.8	18
68	Influence of ZnO on the crystallization kinetics and properties of diopside-Ca-Tschermak based glasses and glass-ceramics. Journal of Applied Physics, 2008, 104, 043529.	2.5	17
69	Fabrication of Barium Strontium Titanate (<scp><scp>Ba</scp></scp>_{0.6}<scp><scp>Sr</scp></scp>_{0.4}<scp><scp>TiO</scp></scp>₃) 3D Microcomponents from Aqueous Suspensions. Journal of the American Ceramic Society, 2014, 97, 725-732.	3.8	17
70	Doping Î²-TCP as a Strategy for Enhancing the Regenerative Potential of Composite Î²-TCPâ€"Alkali-Free Bioactive Glass Bone Grafts. Experimental Study in Rats. Materials, 2019, 12, 4.	2.9	17
71	Nanocrystalline ZnOâ€"SnO2 mixed metal oxide powder: microstructural study, optical properties, and photocatalytic activity. Journal of Sol-Gel Science and Technology, 2017, 84, 274-282.	2.4	16
72	Direct Ink Writing Glass: A Preliminary Step for Optical Application. Materials, 2020, 13, 1636.	2.9	16

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73	Coprecipitation and Processing of Mullite Precursor Phases. Journal of the American Ceramic Society, 1996, 79, 1756-1760.	3.8	15
74	Î±â€SiAlON Ceramics Obtained by Slip Casting and Pressureless Sintering. Journal of the American Ceramic Society, 2003, 86, 366-368.	3.8	15
75	Hydrothermal Synthesis of Submicrometer Î±â€Alumina from Seeded Tetraethylammonium Hydroxideâ€Peptized Aluminum Hydroxide. Journal of the American Ceramic Society, 2003, 86, 2055-2058.	3.8	15
76	Influence of Strontium Oxide on Structural Transformations in Diopside-Based Glass-Ceramics Assessed by Diverse Structural Tools. Journal of Physical Chemistry C, 2015, 119, 11482-11492.	3.1	15
77	Structure and Stability of High CaO- and P2O5-Containing Silicate and Borosilicate Bioactive Glasses. Journal of Physical Chemistry B, 2019, 123, 7558-7569.	2.6	14
78	Melilite glassâ€"ceramic sealants for solid oxide fuel cells: effects of ZrO2 additions assessed by microscopy, diffraction and solid-state NMR. Journal of Materials Chemistry A, 2013, 1, 6471.	10.3	13
79	Synthesis and bioactivity assessment of high silica content quaternary glasses with <scp>C</scp>a:<scp>P</scp> ratios of 1.5 and 1.67, made by a rapid solâ€gel process. Journal of Biomedical Materials Research - Part A, 2018, 106, 510-520.	4.0	13
80	Robocasting: Prediction of ink printability in solgel bioactive glass. Journal of the American Ceramic Society, 2019, 102, 1608-1618.	3.8	13
81	Characterization and Mechanical Performance of the Mg-Stabilized beta-Ca3(PO4)2 Prepared from Mg-Substituted Ca-Deficient Apatite. Journal of the American Ceramic Society, 2006, 89, 060623005134017-???.	3.8	12
82	Influence of Al₂O₃ and B₂O₃ on Sintering and Crystallization of Lithium Silicate Glass System. Journal of the American Ceramic Society, 2016, 99, 833-840.	3.8	12
83	The effect of TiO2 and P2O5 on densification behavior and properties of Anortite-Diopside glass-ceramic substrates. Journal of Electroceramics, 2010, 25, 38-44.	2.0	10
84	Effects of catalysts on polymerization and microstructure of solâ€gel derived bioglasses. Journal of the American Ceramic Society, 2018, 101, 2831-2839.	3.8	10
85	Role of vanadium oxide on the lithium silicate glass structure and properties. Journal of the American Ceramic Society, 2021, 104, 2495-2505.	3.8	10
86	Solâ€"Gel Synthesis and Characterization of a Quaternary Bioglass for Bone Regeneration and Tissue Engineering. Materials, 2021, 14, 4515.	2.9	10
87	Robocasting of 3D printed and sintered ceria scaffold structures with hierarchical porosity for solar thermochemical fuel production from the splitting of CO₂. Nanoscale, 2022, 14, 4994-5001.	5.6	10
88	Lithium Disilicate based Glass-Ceramics for Dental Applications. Transactions of the Indian Ceramic Society, 2013, 72, 56-60.	1.0	9
89	Insights on the properties of levofloxacin-adsorbed Sr- and Mg-doped calcium phosphate powders. Journal of Materials Science: Materials in Medicine, 2016, 27, 123.	3.6	9
90	Structure and thermal relaxation of network units and crystallization of lithium silicate based glasses doped with oxides of Al and B. Physical Chemistry Chemical Physics, 2017, 19, 26034-26046.	2.8	9

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91	Highly Porous Composite Scaffolds Endowed with Antibacterial Activity for Multifunctional Grafts in Bone Repair. Polymers, 2021, 13, 4378.	4.5	9
92	Hydrolysis-Induced Aqueous Gelcasting of Magnesium Aluminate Spinel. International Journal of Applied Ceramic Technology, 2011, 8, 873-884.	2.1	8
93	Al2O3/K2O-containing non-stoichiometric lithium disilicate-based glasses. Journal of Thermal Analysis and Calorimetry, 2013, 112, 1359-1368.	3.6	8
94	Design and synthesis of foam glasses from recycled materials. International Journal of Applied Ceramic Technology, 2020, 17, 64-74.	2.1	8
95	Robocasting and surface functionalization with highly bioactive glass of ZrO₂ scaffolds for load bearing applications. Journal of the American Ceramic Society, 2022, 105, 1753-1764.	3.8	8
96	3D Printing of Macro Porous Sol-Gel Derived Bioactive Glass Scaffolds and Assessment of Biological Response. Materials, 2021, 14, 5946.	2.9	8
97	Sintering and crystallization behavior of CaMgSi2O6â€“NaFeSi2O6 based glass-ceramics. Journal of Applied Physics, 2009, 106, .	2.5	7
98	Meltâ€Derived Condensed Polymorphic Calcium Phosphate as Bone Substitute Material: An <i>In Vitro</i> Study. Journal of the American Ceramic Society, 2011, 94, 3023-3029.	3.8	7
99	Characterization of cement-bonded particleboards manufactured with maritime pine, blue gum and cork grown in Portugal. European Journal of Wood and Wood Products, 2012, 70, 107-111.	2.9	7
100	Statistics of silicate units in binary glasses. Journal of Chemical Physics, 2016, 145, 124505.	3.0	7
101	Cytotoxicity and bioactivity assessments for Cu²⁺ and La³⁺ doped highâ€silica solâ€gel derived bioglasses: The complex interplay between additive ions revealed. Journal of Biomedical Materials Research - Part A, 2019, 107, 2680-2693.	4.0	7
102	Structural and Optical Investigation of Rare Earth Doped Oxyfluoride Glasses. Transactions of the Indian Ceramic Society, 2013, 72, 18-20.	1.0	6
103	ElucidatingÂthe influence of structure and Ag+-Na+Âion-exchange on crack-resistance and ionic conductivity of Na3Al1.8Si1.65P1.8O12Âglass electrolyte. Acta Materialia, 2022, 227, 117745.	7.9	6
104	Fabrication of Î±-sialon sheets by tape castingand pressureless sintering. Journal of Materials Research, 2003, 18, 1363-1367.	2.6	5
105	Structure, properties and crystallization of non-stoichiometric lithium disilicate glasses containing CaF2. Journal of Non-Crystalline Solids, 2014, 406, 54-61.	3.1	5
106	The Influence of Cu²⁺ and Mn²⁺ Ions on the Structure and Crystallization of Diopsideâ€“Calcium Pyrophosphate Bioglasses. International Journal of Applied Glass Science, 2016, 7, 345-354.	2.0	5
107	Cuttlefish Bone-Derived Biphasic Calcium Phosphate Scaffolds Coated with Sol-Gel Derived Bioactive Glass. Materials, 2019, 12, 2711.	2.9	5
108	Fabrication of three dimensional bioactive Sr 2+ substituted apatite scaffolds by gelâ€casting technique for hard tissue regeneration. Journal of Tissue Engineering and Regenerative Medicine, 2021, 15, 577-585.	2.7	5

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109	Effect of Vanadium Oxide on the Structure and Li-Ion Conductivity of Lithium Silicate Glasses. Journal of Physical Chemistry C, 2021, 125, 16843-16857.	3.1	5
110	The key Features expected from a Perfect Bioactive Glass â€“How Far we still are from an Ideal Composition?. Biomedical Journal of Scientific & Technical Research, 2017, 1, .	0.1	5
111	Synthesis, Characterization, and Processing of Cordieriteâ€Glass Particles Modified by Coating with an Alumina Precursor. Journal of the American Ceramic Society, 2002, 85, 155-160.	3.8	4
112	Formation and Densification Behavior of Mullite Aggregates from Beach Sand Sillimanite. Journal of the American Ceramic Society, 2008, 91, 2464-2468.	3.8	4
113	Effects of <scp>M</scp>gâ€Doping and of Reinforcing <scp>Multiwalled Carbon Nanotubes</scp> Content on the Structure and Properties of Hydroxyapatite Nanocomposite Ceramics. International Journal of Applied Ceramic Technology, 2015, 12, 264-272.	2.1	4
114	Combined Occupancy of Gadolinium at the Lattice Sites of Î²â€Ca₃(PO₄)₂ and <i>t</i>â€ZrO₂ Crystal Structures. European Journal of Inorganic Chemistry, 2020, 2020, 1163-1171.	2.0	4
115	Development of microfibers for bone regeneration based on alkaliâ€free bioactive glasses doped with boron oxide. Journal of the American Ceramic Society, 2021, 104, 4492-4504.	3.8	4
116	New and Efficient Bioactive Glass Compositions for Controlling Endodontic Pathogens. Nanomaterials, 2022, 12, 1577.	4.1	4
117	Influence of Li2O Doping on Non-Isothermal Evolution of Phases in K-Na-Containing Aluminosilicate Matrix. Journal of the American Ceramic Society, 2006, 89, 292-297.	3.8	3
118	Dynamic Stability of Organic Conducting Polymers and Its Replication in Electrical Conduction and Degradation Mechanisms. Advanced Functional Materials, 2011, 21, 2240-2250.	14.9	2
119	Use of colemanite and borax penta-hydrate in soda lime silicate glass melting - A strategy to reduce energy consumption and improve glass properties. Ceramics International, 2022, 48, 1181-1190.	4.8	2