

Ashutosh Goel

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87
papers

2,133
citations

28
h-index

41
g-index

90
ext. papers

2,496
ext. citations

5.2
avg, IF

5.05
L-index

#	Paper	IF	Citations
87	Influence of strontium on structure, sintering and biodegradation behaviour of CaO-MgO-SrO-SiO ₂ -P ₂ O ₅ -CaF ₂ glasses. <i>Acta Biomaterialia</i> , 2011 , 7, 4071-80	10.8	87
86	Discovery of Ultra-Crack-Resistant Oxide Glasses with Adaptive Networks. <i>Chemistry of Materials</i> , 2017 , 29, 5865-5876	9.6	77
85	Alkali-free bioactive glasses for bone tissue engineering: a preliminary investigation. <i>Acta Biomaterialia</i> , 2012 , 8, 361-72	10.8	77
84	Structure and mechanical properties of compressed sodium aluminosilicate glasses: Role of non-bridging oxygens. <i>Journal of Non-Crystalline Solids</i> , 2016 , 441, 49-57	3.9	71
83	Stable glass-ceramic sealants for solid oxide fuel cells: Influence of Bi ₂ O ₃ doping. <i>International Journal of Hydrogen Energy</i> , 2010 , 35, 6911-6923	6.7	70
82	The effect of Cr ₂ O ₃ addition on crystallization and properties of La ₂ O ₃ -containing diopside glass-ceramics. <i>Acta Materialia</i> , 2008 , 56, 3065-3076	8.4	68
81	Effect of Al ₂ O ₃ and K ₂ O content on structure, properties and devitrification of glasses in the Li ₂ O-Bi ₂ O ₃ system. <i>Journal of the European Ceramic Society</i> , 2010 , 30, 2017-2030	6	61
80	Structural origin of high crack resistance in sodium aluminoborate glasses. <i>Journal of Non-Crystalline Solids</i> , 2017 , 460, 54-65	3.9	53
79	Rhenium solubility in borosilicate nuclear waste glass: implications for the processing and immobilization of technetium-99. <i>Environmental Science & Technology</i> , 2012 , 46, 12616-22	10.3	53
78	Glass-ceramics for nuclear-waste immobilization. <i>MRS Bulletin</i> , 2017 , 42, 233-240	3.2	52
77	Role of glass structure in defining the chemical dissolution behavior, bioactivity and antioxidant properties of zinc and strontium co-doped alkali-free phosphosilicate glasses. <i>Acta Biomaterialia</i> , 2014 , 10, 3264-78	10.8	52
76	Optimization of La ₂ O ₃ -containing diopside based glass-ceramic sealants for fuel cell applications. <i>Journal of Power Sources</i> , 2009 , 189, 1032-1043	8.9	52
75	Structural analysis and thermal behavior of diopside-fluorapatite-wollastonite-based glasses and glass-ceramics. <i>Acta Biomaterialia</i> , 2010 , 6, 4380-8	10.8	49
74	Structural role of zinc in biodegradation of alkali-free bioactive glasses. <i>Journal of Materials Chemistry B</i> , 2013 , 1, 3073-3082	7.3	46
73	KCa ₄ (BO ₃) ₃ :Ln ³⁺ (Ln = Dy, Eu, Tb) phosphors for near UV excited white-light-emitting diodes. <i>AIP Advances</i> , 2013 , 3, 022126	1.5	45
72	Study of calcium-magnesium-aluminum-silicate (CMAS) glass and glass-ceramic sealant for solid oxide fuel cells. <i>Journal of Power Sources</i> , 2013 , 231, 203-212	8.9	43
71	Structure, surface reactivity and physico-chemical degradation of fluoride containing phospho-silicate glasses. <i>Journal of Materials Chemistry</i> , 2011 , 21, 8074		39

70	Diopside (CaO[MgO]2SiO2)fluorapatite (9CaO[BP2O5][CaF2) glass-ceramics: potential materials for bone tissue engineering. <i>Journal of Materials Chemistry</i> , 2011 , 21, 16247		38
69	Sintering behavior of lanthanide-containing glass-ceramic sealants for solid oxide fuel cells. <i>Journal of Materials Chemistry</i> , 2012 , 22, 10042		37
68	Understanding the structural drivers governing glass-water interactions in borosilicate based model bioactive glasses. <i>Acta Biomaterialia</i> , 2018 , 65, 436-449	10.8	33
67	Structure, Sintering, and Crystallization Kinetics of Alkaline-Earth Aluminosilicate Glass-Ceramic Sealants for Solid Oxide Fuel Cells. <i>Journal of the American Ceramic Society</i> , 2010 , 93, 830-837	3.8	32
66	Development and performance of diopside based glass-ceramic sealants for solid oxide fuel cells. <i>Journal of Non-Crystalline Solids</i> , 2010 , 356, 1070-1080	3.9	32
65	Synthesis, processing and characterization of a bioactive glass composition for bone regeneration. <i>Ceramics International</i> , 2013 , 39, 2519-2526	5.1	31
64	Composition-structure-property relationships in alkali aluminosilicate glasses: A combined experimental-computational approach towards designing functional glasses. <i>Journal of Non-Crystalline Solids</i> , 2019 , 505, 144-153	3.9	30
63	Understanding the structural origin of crystalline phase transformations in nepheline (NaAlSiO4)-based glass-ceramics. <i>Journal of the American Ceramic Society</i> , 2017 , 100, 2859-2878	3.8	29
62	Effect of K2O on structure-property relationships and phase transformations in Li2O-BiO2 glasses. <i>Journal of the European Ceramic Society</i> , 2012 , 32, 291-298	6	29
61	Electrical behavior of aluminosilicate glass-ceramic sealants and their interaction with metallic solid oxide fuel cell interconnects. <i>Journal of Power Sources</i> , 2010 , 195, 522-526	8.9	29
60	Elucidating the Effect of Iron Speciation (Fe2+/Fe3+) on Crystallization Kinetics of Sodium Aluminosilicate Glasses. <i>Journal of the American Ceramic Society</i> , 2016 , 99, 2306-2315	3.8	29
59	Challenges with vitrification of Hanford High-Level Waste (HLW) to borosilicate glass-An overview. <i>Journal of Non-Crystalline Solids: X</i> , 2019 , 4, 100033	2.5	28
58	Thermal and mechanical stability of lanthanide-containing glass-ceramic sealants for solid oxide fuel cells. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 1834-1846	13	28
57	Structural and thermal characterization of CaO-MgO-BiO2-B2O5-CaF2 glasses. <i>Journal of the European Ceramic Society</i> , 2012 , 32, 2739-2746	6	28
56	Understanding the composition-structure-bioactivity relationships in diopside (CaO[MgO]2SiO2)tricalcium phosphate (3CaO[PO4])glass system. <i>Acta Biomaterialia</i> , 2015 , 15, 210-26	10.8	26
55	Compositional Dependence of Solubility/Retention of Molybdenum Oxides in Aluminoborosilicate-Based Model Nuclear Waste Glasses. <i>Journal of Physical Chemistry B</i> , 2018 , 122, 1714-1729	3.4	26
54	Wet chemical synthesis of apatite-based waste forms-A novel room temperature method for the immobilization of radioactive iodine. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 14331-14342	13	26
53	Study of melilite based glasses and glass-ceramics nucleated by Bi2O3 for functional applications. <i>RSC Advances</i> , 2012 , 2, 10955	3.7	26

52	Alkali-free bioactive diopside-calcium phosphate glass-ceramics for scaffold fabrication: Sintering and crystallization behaviours. <i>Journal of Non-Crystalline Solids</i> , 2016 , 432, 81-89	3.9	21
51	Diopside [Mg orthosilicate and diopside [Ba disilicate glass-ceramics for sealing applications in SOFC: Sintering and chemical interactions studies. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 12528-12539	6.7	21
50	Effect of BaO Addition on Crystallization, Microstructure, and Properties of Diopside-Ca-Tschermak Clinopyroxene-Based Glass-Ceramics. <i>Journal of the American Ceramic Society</i> , 2007 , 90, 2236-2244	3.8	21
49	Influence of NiO on the crystallization kinetics of near stoichiometric cordierite glasses nucleated with TiO ₂ . <i>Journal of Physics Condensed Matter</i> , 2007 , 19, 386231	1.8	21
48	Structure-solubility relationships in fluoride-containing phosphate based bioactive glasses. <i>Journal of Materials Chemistry B</i> , 2015 , 3, 9360-9373	7.3	20
47	Machine learning as a tool to design glasses with controlled dissolution for healthcare applications. <i>Acta Biomaterialia</i> , 2020 , 107, 286-298	10.8	20
46	Dy ³⁺ -doped nano-glass ceramics comprising NaAlSiO ₄ and NaY ₉ Si ₆ O ₂₆ nanocrystals for white light generation. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2013 , 178, 218-224	3.1	20
45	Study of Crystallization Kinetics in Glasses along the Diopside-Ca-Tschermak Join. <i>Journal of the American Ceramic Society</i> , 2008 , 91, 2690-2697	3.8	20
44	Structural dependence of crystallization in glasses along the nepheline (NaAlSiO ₄) - eucryptite (LiAlSiO ₄) join. <i>Journal of the American Ceramic Society</i> , 2018 , 101, 2840-2855	3.8	19
43	Crystallization behavior of iron- and boron-containing nepheline (Na ₂ O[Al ₂ O ₃]SiO ₂) based model high-level nuclear waste glasses. <i>Journal of the American Ceramic Society</i> , 2019 , 102, 1101-1121	3.8	19
42	Structure of Rhenium-Containing Sodium Borosilicate Glass. <i>International Journal of Applied Glass Science</i> , 2013 , 4, 42-52	1.8	19
41	Structural analysis of some sodium and alumina rich high-level nuclear waste glasses. <i>Journal of Non-Crystalline Solids</i> , 2012 , 358, 674-679	3.9	19
40	An insight into the corrosion of alkali aluminoborosilicate glasses in acidic environments. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 1881-1896	3.6	19
39	The in vivo performance of an alkali-free bioactive glass for bone grafting, FastOs BG, assessed with an ovine model. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2017 , 105, 30-38	3.5	18
38	Influence of ZnO/MgO substitution on sintering, crystallisation, and bio-activity of alkali-free glass-ceramics. <i>Materials Science and Engineering C</i> , 2015 , 53, 252-61	8.3	18
37	Assessment of interatomic parameters for the reproduction of borosilicate glass structures via DFT-GIPAW calculations. <i>Journal of the American Ceramic Society</i> , 2019 , 102, 7225-7243	3.8	18
36	Thermo-mechanical behaviour of alkali free bioactive glass-ceramics co-doped with strontium and zinc. <i>Journal of Non-Crystalline Solids</i> , 2013 , 375, 74-82	3.9	18
35	Crystallization of Rhenium Salts in a Simulated Low-Activity Waste Borosilicate Glass. <i>Journal of the American Ceramic Society</i> , 2013 , 96, 1150-1157	3.8	17

34	Effect of BaO on the crystallization kinetics of glasses along the Diopside-Ca-Tschermak join. <i>Journal of Non-Crystalline Solids</i> , 2009 , 355, 193-202	3.9	17
33	Impact of rare earth ion size on the phase evolution of MoO ₃ -containing aluminoborosilicate glass-ceramics. <i>Journal of Nuclear Materials</i> , 2018 , 510, 539-550	3.3	17
32	Structural characterisation and thermo-physical properties of glasses in the Li ₂ O-Bi ₂ O ₃ -Al ₂ O ₃ -K ₂ O system. <i>Journal of Thermal Analysis and Calorimetry</i> , 2011 , 103, 827-834	4.1	16
31	Effect of some rare-earth oxides on structure, devitrification and properties of diopside based glasses. <i>Ceramics International</i> , 2009 , 35, 3221-3227	5.1	16
30	Luminescence study of mixed valence Eu-doped nanocrystalline glass-ceramics. <i>Optical Materials</i> , 2013 , 36, 198-206	3.3	15
29	Influence of ZnO on the crystallization kinetics and properties of diopside-Ca-Tschermak based glasses and glass-ceramics. <i>Journal of Applied Physics</i> , 2008 , 104, 043529	2.5	15
28	Why does BO suppress nepheline (NaAlSiO ₃) crystallization in sodium aluminosilicate glasses?. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 8679-8698	3.6	15
27	Structural and Chemical Approach toward Understanding the Aqueous Corrosion of Sodium Aluminoborate Glasses. <i>Journal of Physical Chemistry B</i> , 2018 , 122, 10913-10927	3.4	14
26	Melilite glass-ceramic sealants for solid oxide fuel cells: effects of ZrO ₂ additions assessed by microscopy, diffraction and solid-state NMR. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 6471	13	13
25	Structure and crystallization behaviour of some MgSiO ₃ -based glasses. <i>Ceramics International</i> , 2009 , 35, 1529-1538	5.1	12
24	Composition-structure-property relationships in Li ₂ O-Al ₂ O ₃ -B ₂ O ₃ glasses. <i>Journal of Non-Crystalline Solids</i> , 2018 , 502, 142-151	3.9	12
23	Impact of transition metal ions on the structure and bioactivity of alkali-free bioactive glasses. <i>Journal of Non-Crystalline Solids</i> , 2019 , 506, 98-108	3.9	10
22	Sintering behavior and devitrification kinetics of iron containing clinopyroxene based magnetic glass-ceramics. <i>Solid State Ionics</i> , 2011 , 186, 59-68	3.3	8
21	Combined Experimental and Computational Approach toward the Structural Design of Borosilicate-Based Bioactive Glasses. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 17655-17674	3.8	8
20	Sintering and crystallization behavior of CaMgSi ₂ O ₆ -NaFeSi ₂ O ₆ based glass-ceramics. <i>Journal of Applied Physics</i> , 2009 , 106, 093502	2.5	7
19	Lead- and Bismuth-Borate Fly-Ash Glasses as Gamma-Ray-Shielding Materials. <i>Nuclear Science and Engineering</i> , 2006 , 154, 233-240	1.2	7
18	Influence of lead and cadmium fluoride variation on white light emission characteristics in oxyfluoride glasses and glass-ceramics. <i>Journal of Luminescence</i> , 2015 , 159, 38-46	3.8	6
17	Structural and Optical Investigation of Rare Earth Doped Oxyfluoride Glasses. <i>Transactions of the Indian Ceramic Society</i> , 2013 , 72, 18-20	1.8	5

16	The effect of fluoride ions on the structure and crystallization kinetics of La ₂ O ₃ -containing diopside based oxyfluoride glasses. <i>Ceramics International</i> , 2009 , 35, 3489-3493	5.1	5
15	Structure and crystallization behavior of phosphorus-containing nepheline (NaAlSiO ₄) based sodium aluminosilicate glasses. <i>Journal of Non-Crystalline Solids</i> , 2021 , 560, 120719	3.9	5
14	Composition-Structure-Solubility Relationships in Borosilicate Glasses: Toward a Rational Design of Bioactive Glasses with Controlled Dissolution Behavior. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 31495-31513	9.5	5
13	Glass structure and crystallization in boro-alumino-silicate glasses containing rare earth and transition metal cations: a US-UK collaborative program. <i>MRS Advances</i> , 2019 , 4, 1029-1043	0.7	4
12	Structural drivers controlling sulfur solubility in alkali aluminoborosilicate glasses. <i>Journal of the American Ceramic Society</i> , 2021 , 104, 5030-5049	3.8	4
11	Crystallisation kinetics of diopside-Ca-Tschermak based glasses nucleated with Cr ₂ O ₃ and Fe ₂ O ₃ . <i>International Journal of Materials Engineering Innovation</i> , 2009 , 1, 40	0.9	3
10	Ruthenium solubility and its impact on the crystallization behavior and electrical conductivity of MoO ₃ -containing borosilicate-based model high-level nuclear waste glasses. <i>Journal of Non-Crystalline Solids</i> , 2020 , 549, 120356	3.9	3
9	Dissolution kinetics of a sodium borosilicate glass in Tris buffer solutions: impact of Tris concentration and acid (HCl/HNO ₃) identity. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 16165-16179	3.6	3
8	Insight into the Partitioning and Clustering Mechanism of Rare-Earth Cations in Alkali Aluminoborosilicate Glasses. <i>Chemistry of Materials</i> , 2021 , 33, 7944-7963	9.6	2
7	Multiscale Investigation of the Mechanisms Controlling the Corrosion of Borosilicate Glasses in Hyper-Alkaline Media. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 27542-27557	3.8	2
6	Correlating Sulfur Solubility with Short-to-Intermediate Range Ordering in the Structure of Borosilicate Glasses. <i>Journal of Physical Chemistry C</i> , 2022 , 126, 655-674	3.8	1
5	Structural dependence of crystallization in phosphorus-containing sodium aluminoborosilicate glasses. <i>Journal of the American Ceramic Society</i> ,	3.8	1
4	Machine Learning Enabled Models to Predict Sulfur Solubility in Nuclear Waste Glasses. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 53375-53387	9.5	1
3	A comparative study on the effect of Zr, Sn, and Ti on the crystallization behavior of nepheline glass. <i>Journal of Non-Crystalline Solids</i> , 2021 , 569, 120970	3.9	1
2	Compositional dependence of crystallization and chemical durability in alkali aluminoborosilicate glasses. <i>Journal of Non-Crystalline Solids</i> , 2022 , 590, 121694	3.9	0
1	Impact of Experimental Protocols on the Flexural Strength Testing of Lithium Disilicate-Based Dental Glass-Ceramics. <i>Transactions of the Indian Ceramic Society</i> , 2021 , 80, 258-264	1.8	