Ashutosh Goel

List of Publications by Year in Descending Order

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	Correlating Sulfur Solubility with Short-to-Intermediate Range Ordering in the Structure of Borosilicate Glasses. *Journal of Physical Chemistry C*, **2022**, 126, 655-674	3.8	1
86	Compositional dependence of crystallization and chemical durability in alkali aluminoborosilicate glasses. *Journal of Non-Crystalline Solids*, **2022**, 590, 121694	3.9	0
85	Impact of Experimental Protocols on the Flexural Strength Testing of Lithium Disilicate-Based Dental Glass-Ceramics. *Transactions of the Indian Ceramic Society*, **2021**, 80, 258-264	1.8	
84	Insight into the Partitioning and Clustering Mechanism of Rare-Earth Cations in Alkali Aluminoborosilicate Glasses. *Chemistry of Materials*, **2021**, 33, 7944-7963	9.6	2
83	Structural drivers controlling sulfur solubility in alkali aluminoborosilicate glasses. *Journal of the American Ceramic Society*, **2021**, 104, 5030-5049	3.8	4
82	Structure and crystallization behavior of phosphorus-containing nepheline (NaAlSiO4) based sodium aluminosilicate glasses. *Journal of Non-Crystalline Solids*, **2021**, 560, 120719	3.9	5
81	Composition-Structure-Solubility Relationships in Borosilicate Glasses: Toward a Rational Design of Bioactive Glasses with Controlled Dissolution Behavior. *ACS Applied Materials & Interfaces*, **2021**, 13, 31495-31513	9.5	5
80	Dissolution kinetics of a sodium borosilicate glass in Tris buffer solutions: impact of Tris concentration and acid (HCl/HNO) identity. *Physical Chemistry Chemical Physics*, **2021**, 23, 16165-16179	3.6	3
79	Machine Learning Enabled Models to Predict Sulfur Solubility in Nuclear Waste Glasses. *ACS Applied Materials & Interfaces*, **2021**, 13, 53375-53387	9.5	1
78	A comparative study on the effect of Zr, Sn, and Ti on the crystallization behavior of nepheline glass. *Journal of Non-Crystalline Solids*, **2021**, 569, 120970	3.9	1
77	Machine learning as a tool to design glasses with controlled dissolution for healthcare applications. *Acta Biomaterialia*, **2020**, 107, 286-298	10.8	20
76	Ruthenium solubility and its impact on the crystallization behavior and electrical conductivity of MoO3-containing borosilicate-based model high-level nuclear waste glasses. *Journal of Non-Crystalline Solids*, **2020**, 549, 120356	3.9	3
75	An insight into the corrosion of alkali aluminoborosilicate glasses in acidic environments. *Physical Chemistry Chemical Physics*, **2020**, 22, 1881-1896	3.6	19
74	Combined Experimental and Computational Approach toward the Structural Design of Borosilicate-Based Bioactive Glasses. *Journal of Physical Chemistry C*, **2020**, 124, 17655-17674	3.8	8
73	Multiscale Investigation of the Mechanisms Controlling the Corrosion of Borosilicate Glasses in Hyper-Alkaline Media. *Journal of Physical Chemistry C*, **2020**, 124, 27542-27557	3.8	2
72	Why does BO suppress nepheline (NaAlSiO) crystallization in sodium aluminosilicate glasses?. *Physical Chemistry Chemical Physics*, **2020**, 22, 8679-8698	3.6	15
71	Impact of transition metal ions on the structure and bioactivity of alkali-free bioactive glasses. *Journal of Non-Crystalline Solids*, **2019**, 506, 98-108	3.9	10

70	Glass structure and crystallization in boro-alumino-silicate glasses containing rare earth and transition metal cations: a US-UK collaborative program. *MRS Advances*, **2019**, 4, 1029-1043	0.7	4
69	Crystallization behavior of iron- and boron-containing nepheline (Na2O–Al2O3–2SiO2) based model high-level nuclear waste glasses. *Journal of the American Ceramic Society*, **2019**, 102, 1101-1121	3.8	19
68	Challenges with vitrification of Hanford High-Level Waste (HLW) to borosilicate glass – An overview. *Journal of Non-Crystalline Solids: X*, **2019**, 4, 100033	2.5	28
67	Assessment of interatomic parameters for the reproduction of borosilicate glass structures via DFT-GIPAW calculations. *Journal of the American Ceramic Society*, **2019**, 102, 7225-7243	3.8	18
66	Composition – structure – property relationships in alkali aluminosilicate glasses: A combined experimental – computational approach towards designing functional glasses. *Journal of Non-Crystalline Solids*, **2019**, 505, 144-153	3.9	30
65	Structural dependence of crystallization in glasses along the nepheline (NaAlSiO4) - eucryptite (LiAlSiO4) join. *Journal of the American Ceramic Society*, **2018**, 101, 2840-2855	3.8	19
64	Compositional Dependence of Solubility/Retention of Molybdenum Oxides in Aluminoborosilicate-Based Model Nuclear Waste Glasses. *Journal of Physical Chemistry B*, **2018**, 122, 1714-1729	3.4	26
63	Understanding the structural drivers governing glass-water interactions in borosilicate based model bioactive glasses. *Acta Biomaterialia*, **2018**, 65, 436-449	10.8	33
62	Structural and Chemical Approach toward Understanding the Aqueous Corrosion of Sodium Aluminoborate Glasses. *Journal of Physical Chemistry B*, **2018**, 122, 10913-10927	3.4	14
61	Impact of rare earth ion size on the phase evolution of MoO3-containing aluminoborosilicate glass-ceramics. *Journal of Nuclear Materials*, **2018**, 510, 539-550	3.3	17
60	Composition-structure-property relationships in Li2O–Al2O3–B2O3 glasses. *Journal of Non-Crystalline Solids*, **2018**, 502, 142-151	3.9	12
59	The in vivo performance of an alkali-free bioactive glass for bone grafting, FastOs BG, assessed with an ovine model. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2017**, 105, 30-38	3.5	18
58	Structural origin of high crack resistance in sodium aluminoborate glasses. *Journal of Non-Crystalline Solids*, **2017**, 460, 54-65	3.9	53
57	Glass-ceramics for nuclear-waste immobilization. *MRS Bulletin*, **2017**, 42, 233-240	3.2	52
56	Discovery of Ultra-Crack-Resistant Oxide Glasses with Adaptive Networks. *Chemistry of Materials*, **2017**, 29, 5865-5876	9.6	77
55	Understanding the structural origin of crystalline phase transformations in nepheline (NaAlSiO4)-based glass-ceramics. *Journal of the American Ceramic Society*, **2017**, 100, 2859-2878	3.8	29
54	Wet chemical synthesis of apatite-based waste forms – A novel room temperature method for the immobilization of radioactive iodine. *Journal of Materials Chemistry A*, **2017**, 5, 14331-14342	13	26
53	Alkali-free bioactive diopside–tricalcium phosphate glass-ceramics for scaffold fabrication: Sintering and crystallization behaviours. *Journal of Non-Crystalline Solids*, **2016**, 432, 81-89	3.9	21

52	Elucidating the Effect of Iron Speciation (Fe2+/Fe3+) on Crystallization Kinetics of Sodium Aluminosilicate Glasses. *Journal of the American Ceramic Society*, **2016**, 99, 2306-2315	3.8	29
51	Structure and mechanical properties of compressed sodium aluminosilicate glasses: Role of non-bridging oxygens. *Journal of Non-Crystalline Solids*, **2016**, 441, 49-57	3.9	71
50	Understanding the composition-structure-bioactivity relationships in diopside (CaO·MgO·2SiO$_2$)-tricalcium phosphate (3CaO·P$_2$O$_5$) glass system. *Acta Biomaterialia*, **2015**, 15, 210-26	10.8	26
49	Influence of ZnO/MgO substitution on sintering, crystallisation, and bio-activity of alkali-free glass-ceramics. *Materials Science and Engineering C*, **2015**, 53, 252-61	8.3	18
48	Structure-solubility relationships in fluoride-containing phosphate based bioactive glasses. *Journal of Materials Chemistry B*, **2015**, 3, 9360-9373	7.3	20
47	Influence of lead and cadmium fluoride variation on white light emission characteristics in oxyfluoride glasses and glass-ceramics. *Journal of Luminescence*, **2015**, 159, 38-46	3.8	6
46	Thermal and mechanical stability of lanthanide-containing glass-ceramic sealants for solid oxide fuel cells. *Journal of Materials Chemistry A*, **2014**, 2, 1834-1846	13	28
45	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, 3264-78	10.8	52
44	Structural role of zinc in biodegradation of alkali-free bioactive glasses. *Journal of Materials Chemistry B*, **2013**, 1, 3073-3082	7.3	46
43	Thermo-mechanical behaviour of alkali free bioactive glass-ceramics co-doped with strontium and zinc. *Journal of Non-Crystalline Solids*, **2013**, 375, 74-82	3.9	18
42	Luminescence study of mixed valence Eu-doped nanocrystalline glass-ceramics. *Optical Materials*, **2013**, 36, 198-206	3.3	15
41	Synthesis, processing and characterization of a bioactive glass composition for bone regeneration. *Ceramics International*, **2013**, 39, 2519-2526	5.1	31
40	Study of calcium-magnesium-aluminum-silicate (CMAS) glass and glass-ceramic sealant for solid oxide fuel cells. *Journal of Power Sources*, **2013**, 231, 203-212	8.9	43
39	Structure of Rhenium-Containing Sodium Borosilicate Glass. *International Journal of Applied Glass Science*, **2013**, 4, 42-52	1.8	19
38	Melilite glass-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	13	13
37	Dy3+-doped nano-glass ceramics comprising NaAlSiO4 and NaY9Si6O26 nanocrystals for white light generation. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2013**, 178, 218-224	3.1	20
36	KCa4(BO3)3:Ln3+ (Ln = Dy, Eu, Tb) phosphors for near UV excited white-light-emitting diodes. *AIP Advances*, **2013**, 3, 022126	1.5	45
35	Crystallization of Rhenium Salts in a Simulated Low-Activity Waste Borosilicate Glass. *Journal of the American Ceramic Society*, **2013**, 96, 1150-1157	3.8	17

34	Structural and Optical Investigation of Rare Earth Doped Oxyfluoride Glasses. *Transactions of the Indian Ceramic Society*, **2013**, 72, 18-20	1.8	5
33	Effect of K2O on structure–property relationships and phase transformations in Li2O–SiO2 glasses. *Journal of the European Ceramic Society*, **2012**, 32, 291-298	6	29
32	Structural and thermal characterization of CaO–MgO–SiO2–P2O5–CaF2 glasses. *Journal of the European Ceramic Society*, **2012**, 32, 2739-2746	6	28
31	Sintering behavior of lanthanide-containing glass-ceramic sealants for solid oxide fuel cells. *Journal of Materials Chemistry*, **2012**, 22, 10042		37
30	Rhenium solubility in borosilicate nuclear waste glass: implications for the processing and immobilization of technetium-99. *Environmental Science & Technology*, **2012**, 46, 12616-22	10.3	53
29	Study of melilite based glasses and glass-ceramics nucleated by Bi2O3 for functional applications. *RSC Advances*, **2012**, 2, 10955	3.7	26
28	Structural analysis of some sodium and alumina rich high-level nuclear waste glasses. *Journal of Non-Crystalline Solids*, **2012**, 358, 674-679	3.9	19
27	Diopside – Mg orthosilicate and diopside – Ba disilicate glass–ceramics for sealing applications in SOFC: Sintering and chemical interactions studies. *International Journal of Hydrogen Energy*, **2012**, 37, 12528-12539	6.7	21
26	Alkali-free bioactive glasses for bone tissue engineering: a preliminary investigation. *Acta Biomaterialia*, **2012**, 8, 361-72	10.8	77
25	Diopside (CaO–MgO–2SiO2)–fluorapatite (9CaO–3P2O5–CaF2) glass-ceramics: potential materials for bone tissue engineering. *Journal of Materials Chemistry*, **2011**, 21, 16247		38
24	Structure, surface reactivity and physico-chemical degradation of fluoride containing phospho-silicate glasses. *Journal of Materials Chemistry*, **2011**, 21, 8074		39
23	Influence of strontium on structure, sintering and biodegradation behaviour of CaO-MgO-SrO-SiO(2)-P(2)O(5)-CaF(2) glasses. *Acta Biomaterialia*, **2011**, 7, 4071-80	10.8	87
22	Structural characterisation and thermo-physical properties of glasses in the Li2O–SiO2–Al2O3–K2O system. *Journal of Thermal Analysis and Calorimetry*, **2011**, 103, 827-834	4.1	16
21	Sintering behavior and devitrification kinetics of iron containing clinopyroxene based magnetic glass-ceramics. *Solid State Ionics*, **2011**, 186, 59-68	3.3	8
20	Structure, Sintering, and Crystallization Kinetics of Alkaline-Earth Aluminosilicate Glass–Ceramic Sealants for Solid Oxide Fuel Cells. *Journal of the American Ceramic Society*, **2010**, 93, 830-837	3.8	32
19	Development and performance of diopside based glass-ceramic sealants for solid oxide fuel cells. *Journal of Non-Crystalline Solids*, **2010**, 356, 1070-1080	3.9	32
18	Effect of Al2O3 and K2O content on structure, properties and devitrification of glasses in the Li2O–SiO2 system. *Journal of the European Ceramic Society*, **2010**, 30, 2017-2030	6	61
17	Electrical behavior of aluminosilicate glass-ceramic sealants and their interaction with metallic solid oxide fuel cell interconnects. *Journal of Power Sources*, **2010**, 195, 522-526	8.9	29

16	Stable glass-ceramic sealants for solid oxide fuel cells: Influence of Bi2O3 doping. *International Journal of Hydrogen Energy*, **2010**, 35, 6911-6923	6.7	70
15	Structural analysis and thermal behavior of diopside-fluorapatite-wollastonite-based glasses and glass-ceramics. *Acta Biomaterialia*, **2010**, 6, 4380-8	10.8	49
14	Sintering and crystallization behavior of CaMgSi2O6–NaFeSi2O6 based glass-ceramics. *Journal of Applied Physics*, **2009**, 106, 093502	2.5	7
13	Structure and crystallization behaviour of some MgSiO3-based glasses. *Ceramics International*, **2009**, 35, 1529-1538	5.1	12
12	Effect of some rare-earth oxides on structure, devitrification and properties of diopside based glasses. *Ceramics International*, **2009**, 35, 3221-3227	5.1	16
11	Optimization of La2O3-containing diopside based glass-ceramic sealants for fuel cell applications. *Journal of Power Sources*, **2009**, 189, 1032-1043	8.9	52
10	The effect of fluoride ions on the structure and crystallization kinetics of La2O3-containing diopside based oxyfluoride glasses. *Ceramics International*, **2009**, 35, 3489-3493	5.1	5
9	Effect of BaO on the crystallization kinetics of glasses along the Diopside–Ca-Tschermak join. *Journal of Non-Crystalline Solids*, **2009**, 355, 193-202	3.9	17
8	Crystallisation kinetics of diopside-Ca-Tschermak based glasses nucleated with Cr2O3 and Fe2O3. *International Journal of Materials Engineering Innovation*, **2009**, 1, 40	0.9	3
7	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	15
6	The effect of Cr2O3 addition on crystallization and properties of La2O3-containing diopside glass-ceramics. *Acta Materialia*, **2008**, 56, 3065-3076	8.4	68
5	Study of Crystallization Kinetics in Glasses along the Diopside–Ca-Tschermak Join. *Journal of the American Ceramic Society*, **2008**, 91, 2690-2697	3.8	20
4	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	21
3	Influence of NiO on the crystallization kinetics of near stoichiometric cordierite glasses nucleated with TiO2. *Journal of Physics Condensed Matter*, **2007**, 19, 386231	1.8	21
2	Lead- and Bismuth-Borate Fly-Ash Glasses as Gamma-Ray-Shielding Materials. *Nuclear Science and Engineering*, **2006**, 154, 233-240	1.2	7
1	Structural dependence of crystallization in phosphorus-containing sodium aluminoborosilicate glasses. *Journal of the American Ceramic Society*,	3.8	1