Gary L Messing

List of Publications by Year in Descending Order

134 papers	6,228 citations	45 h-index	75 g-index
137 ext. papers	6,722 ext. citations	4 avg, IF	5.77 L-index

#	Paper	IF	Citations
134	Relationship between composition and electromechanical properties of CuO-doped textured PYN-PMN-PT ceramics. *Journal of the European Ceramic Society*, **2021**, 41, 1230-1235	6	3
133	Direct writing of textured ceramics using anisotropic nozzles. *Journal of the European Ceramic Society*, **2021**, 41, 1945-1953	6	7
132	Textured Mn-doped PIN-PMN-PT Ceramics: Harnessing Intrinsic Piezoelectricity for High-power Transducer Applications. *Journal of the European Ceramic Society*, **2021**, 41, 1270-1279	6	11
131	Processing and electromechanical properties of high-coercive field ZnO-doped PIN-PZN-PT ceramics. *Journal of the American Ceramic Society*, **2020**, 103, 4794-4802	3.8	
130	Mn- and Mn/Cu-doped PIN-PMN-PT piezoelectric ceramics for high-power transducers. *Journal of the American Ceramic Society*, **2020**, 103, 6319-6329	3.8	7
129	Templated grain growth of high coercive field CuO-doped textured PYN-PMN-PT ceramics. *Journal of the American Ceramic Society*, **2020**, 103, 6149-6156	3.8	6
128	Densification and properties of oxygen sintered CuO-doped PIN-PMN-PT ceramics. *Journal of the European Ceramic Society*, **2020**, 40, 3956-3964	6	8
127	Design of damage tolerant and crack-free layered ceramics with textured microstructure. *Journal of the European Ceramic Society*, **2020**, 40, 427-435	6	11
126	Dispersion and rheology for direct writing lead-based piezoelectric ceramic pastes with anisotropic template particles. *Journal of the American Ceramic Society*, **2020**, 103, 6157-6168	3.8	8
125	Low temperature reactive sintering of CuO-doped PIN-PMN-PT ceramics. *Journal of the European Ceramic Society*, **2019**, 39, 4719-4726	6	12
124	Electric field induced splitting of the preferred orientation in PMN-PT textured ceramics. *Journal of the American Ceramic Society*, **2019**, 102, 5038-5044	3.8	2
123	ZnO-activated formation of phase pure perovskite Pb(In1/2Nb1/2)O3-Pb(Zn1/3Nb2/3)O3-PbTiO3 powder. *Journal of the American Ceramic Society*, **2019**, 102, 3932-3939	3.8	1
122	Tailoring particle alignment and grain orientation during tape casting and templated grain growth. *Journal of the American Ceramic Society*, **2019**, 102, 2405-2414	3.8	13
121	Powder chemistry effects on the sintering of MgO-doped specialty Al2O3. *Journal of the American Ceramic Society*, **2018**, 101, 2739-2751	3.8	4
120	The role of ceramic and glass science research in meeting societal challenges: Report from an NSF-sponsored workshop. *Journal of the American Ceramic Society*, **2017**, 100, 1777-1803	3.8	17
119	Enhanced texture evolution and piezoelectric properties in CuO-doped Pb(In1/2Nb1/2)O3-Pb(Mg1/3Nb2/3)O3-PbTiO3 grain-oriented ceramics. *Applied Physics Letters*, **2017**, 111, 232901	3.4	38
118	Texture-engineered ceramics: Property enhancements through crystallographic tailoring. *Journal of Materials Research*, **2017**, 32, 3219-3241	2.5	73

117	Cold Sintering: A Paradigm Shift for Processing and Integration of Ceramics. *Angewandte Chemie*, **2016**, 128, 11629-11633	3.6	30
116	The Effects of Na2O and SiO2 on Liquid Phase Sintering of Bayer Al2O3. *Journal of the American Ceramic Society*, **2016**, 99, 2267-2272	3.8	11
115	Pb2+-stabilized Ruddlesden Popper (Sr1 xPbx)3Ti2O7 ceramics. *Journal of Materials Research*, **2016**, 31, 1456-1465	2.5	1
114	Direct foaming and seeding of highly porous, lightweight gypsum. *Journal of Materials Research*, **2016**, 31, 2244-2251	2.5	12
113	Formation mechanism of highly [0 0 1] c textured Pb(In 1/2 Nb 1/2)O 3 -Pb(Mg 1/3 Nb 2/3)O 3 -PbTiO 3 relaxor ferroelectric ceramics with giant piezoelectricity. *Journal of the European Ceramic Society*, **2016**, 36, 1973-1981	6	43
112	Cold Sintering: A Paradigm Shift for Processing and Integration of Ceramics. *Angewandte Chemie - International Edition*, **2016**, 55, 11457-61	16.4	229
111	Enhanced electromechanical properties and phase transition temperatures in [001] textured Pb(In1/2Nb1/2)O3-Pb(Mg1/3Nb2/3)O3-PbTiO3 ternary ceramics. *Applied Physics Letters*, **2015**, 107, 082902	3.4	52
110	Design of alumina-zirconia composites with spatially tailored strength and toughness. *Journal of the European Ceramic Society*, **2015**, 35, 631-640	6	23
109	Templated Grain Growth in Macroporous Materials. *Journal of the American Ceramic Society*, **2014**, 97, 1736-1742	3.8	40
108	Texture analysis of thick bismuth ferrite lead titanate layers **2014**,		1
107	Improved Fracture Behavior of Alumina Microstructural Composites with Highly Textured Compressive Layers. *Journal of the American Ceramic Society*, **2014**, 97, 3643-3651	3.8	21
106	Particle size effects on yttrium aluminum garnet (YAG) phase formation by solid-state reaction. *Journal of Materials Research*, **2014**, 29, 2303-2311	2.5	33
105	Fabrication of Highly Textured Fine-Grained Alumina by Templated Grain Growth of Nanoscale Precursors. *Journal of the American Ceramic Society*, **2013**, 96, 1390-1397	3.8	26
104	Fracture Behavior of Layered Alumina Microstructural Composites with Highly Textured Layers. *Journal of the American Ceramic Society*, **2013**, 96, 1577-1585	3.8	19
103	Low-field dynamic magnetic alignment and templated grain growth of diamagnetic PMN PT ceramics. *Journal of Materials Research*, **2013**, 28, 2960-2969	2.5	8
102	In Situ Observations of Templated Grain Growth in (Na0.5K0.5)0.98Li0.02NbO3 Piezoceramics: Texture Development and Template Matrix Interactions. *Journal of the American Ceramic Society*, **2012**, 95, 2653-2659	3.8	19
101	Synchrotron texture analysis of thick BiFeO3-PbTiO3 layers synthesised by tape casting using Aurivillius and non-Aurivillius templates **2012**,		1
100	Aging associated domain evolution in the orthorhombic phase of <001> textured (K0.5Na0.5)Nb0.97Sb0.03O3 ceramics. *Applied Physics Letters*, **2012**, 100, 132902	3.4	12

99	Fabrication and properties of radially <001>C textured PMN-PT cylinders for transducer applications. *Journal of Applied Physics*, **2012**, 112, 014105	2.5	7
98	Processing, texture quality, and piezoelectric properties of C textured (1-x)Pb(Mg1/3Nb2/3)TiO3 - xPbTiO3 ceramics. *Journal of Applied Physics*, **2011**, 110, 014105	2.5	47
97	Effect of SiO2 on Densification and Microstructure Development in Nd:YAG Transparent Ceramics. *Journal of the American Ceramic Society*, **2011**, 94, 1380-1387	3.8	113
96	Synthesis of High Aspect Ratio PbBi4Ti4O15 and Topochemical Conversion to PbTiO3-Based Microplatelets. *Journal of the American Ceramic Society*, **2011**, 94, 2323-2329	3.8	19
95	Enhanced Electromechanical Properties and Temperature Stability of Textured (K0.5Na0.5)NbO3-Based Piezoelectric Ceramics. *Journal of the American Ceramic Society*, **2011**, 94, 2494-2498	3.8	61
94	Low temperature, transient liquid phase sintering of B2O3-SiO2-doped Nd:YAG transparent ceramics. *Journal of Materials Research*, **2011**, 26, 1151-1158	2.5	45
93	Color center formation in vacuum sintered Nd3xY3−3xAl5O12 transparent ceramics. *Applied Physics Letters*, **2011**, 98, 051906	3.4	24
92	A critical evaluation of reactive templated grain growth (RTGG) mechanisms in highly [001] textured Sr0.61Ba0.39Nb2O6 ferroelectric-thermoelectrics. *Journal of Materials Research*, **2011**, 26, 3044-3050	2.5	13
91	Thermomechanical Behavior of Ceramic Green Bodies During Presintering. *Journal of the American Ceramic Society*, **2010**, 93, 2611-2616	3.8	4
90	First-Principles Thermochemistry and Thermodynamic Modeling of the Al2O3–Nd2O3–SiO2–Y2O3 Pseudoquaternary System. *Journal of the American Ceramic Society*, **2010**, 93, 4158-4167	3.8	11
89	Microstructure development and piezoelectric properties of highly textured CuO-doped KNN by templated grain growth. *Journal of Materials Research*, **2010**, 25, 687-694	2.5	51
88	Co-casting and optical characteristics of transparent segmented composite Er:YAG laser ceramics. *Journal of Materials Research*, **2010**, 25, 476-483	2.5	51
87	Processing and mechanical response of highly textured Al2O3. *Journal of the European Ceramic Society*, **2010**, 30, 2917-2925	6	43
86	<001> textured (K0.5Na0.5)(Nb0.97Sb0.03)O3 piezoelectric ceramics with high electromechanical coupling over a broad temperature range. *Applied Physics Letters*, **2009**, 95, 232905	3.4	106
85	Templated Grain Growth of Textured PMN-28PT Using SrTiO3 Templates. *Journal of the American Ceramic Society*, **2009**, 92, S133-S139	3.8	42
84	Ceramic Processing Science. *Journal of the American Ceramic Society*, **2009**, 92, S1-S1	3.8	
83	Hot Isostatic Pressing of Transparent Nd:YAG Ceramics. *Journal of the American Ceramic Society*, **2009**, 92, 1456-1463	3.8	131
82	Materials science. Toward pore-free ceramics. *Science*, **2008**, 322, 383-4	33.3	153

81	Sintering Arches for Cosintering Camber-Free SOFC Multilayers. *Journal of the American Ceramic Society*, **2008**, 91, 421-427	3.8	23
80	First-Principles Calculations and Thermodynamic Modeling of the Al2O3Nd2O3 System. *Journal of the American Ceramic Society*, **2008**, 91, 3355-3361	3.8	11
79	Texture Measurements in <001> Fiber-Oriented PMNPT. *Journal of the American Ceramic Society*, **2006**, 89, 1965-1971	3.8	40
78	Solid-State Reactive Sintering of Transparent Polycrystalline Nd:YAG Ceramics. *Journal of the American Ceramic Society*, **2006**, 89, 1945-1950	3.8	170
77	Constrained Sintering of Low-Temperature Co-Fired Ceramics. *Journal of the American Ceramic Society*, **2006**, 89, 1923-1929	3.8	59
76	Effect of Green Density on the Thermomechanical Properties of a Ceramic During Sintering. *Journal of the American Ceramic Society*, **2006**, 89, 2448-2452	3.8	15
75	Stresses and Distortion Due to Green Density Gradients During Densification. *Journal of the American Ceramic Society*, **2006**, 89, 3027-3033	3.8	29
74	Determination of the Mechanical Response of Sintering Compacts by Cyclic Loading Dilatometry. *Journal of the American Ceramic Society*, **2005**, 80, 445-452	3.8	66
73	Kinetic Analysis of Combustion Synthesis of Lead Magnesium Niobate from Metal Carboxylate Gels. *Journal of the American Ceramic Society*, **2005**, 80, 915-924	3.8	43
72	Texture Development by Templated Grain Growth in Liquid-Phase-Sintered Alumina. *Journal of the American Ceramic Society*, **2005**, 80, 1181-1188	3.8	229
71	Mullite Transformation Kinetics in P2O5-, TiO2-, and B2O3-Doped Aluminosilicate Gels. *Journal of the American Ceramic Society*, **2005**, 80, 1551-1559	3.8	53
70	Constrained Densification of Alumina/Zirconia Hybrid Laminates, II: Viscoelastic Stress Computation. *Journal of the American Ceramic Society*, **2005**, 80, 1940-1948	3.8	97
69	Liquid-Phase Sintering of Alumina Coated with Magnesium Aluminosilicate Glass. *Journal of the American Ceramic Society*, **2005**, 81, 1163-1172	3.8	27
68	Anisotropic Grain Growth in Diphasic-Gel-Derived Titania-Doped Mullite. *Journal of the American Ceramic Society*, **2005**, 81, 1269-1277	3.8	85
67	Constrained Densification of Alumina/Zirconia Hybrid Laminates, I: Experimental Observations of Processing Defects. *Journal of the American Ceramic Society*, **2005**, 80, 1929-1939	3.8	173
66	High Strain, <001> Textured 0.675Pb(Mg1/3Nb2/3)O30.325PbTiO3 Ceramics: Templated Grain Growth and Piezoelectric Properties. *Journal of the American Ceramic Society*, **2005**, 88, 312-317	3.8	120
65	Densification and Sintering Viscosity of Low-Temperature Co-Fired Ceramics. *Journal of the American Ceramic Society*, **2005**, 88, 2681-2689	3.8	54
64	The Reaction-Bonded Aluminum Oxide Process: I, The Effect of Attrition Milling on the Solid-State Oxidation of Aluminum Powder. *Journal of the American Ceramic Society*, **2004**, 83, 299-305	3.8	22

63	The Reaction-Bonded Aluminum Oxide (RBAO) Process: II, The Solid-State Oxidation of RBAO Compacts. *Journal of the American Ceramic Society*, **2004**, 83, 1845-1852	3.8	5
62	Critical Factors in the Templated Grain Growth of Textured Reaction-Bonded Alumina. *Journal of the American Ceramic Society*, **2004**, 83, 2041-2048	3.8	78
61	Comparison of Texture Analysis Techniques for Highly Oriented Al2O3. *Journal of the American Ceramic Society*, **2004**, 83, 2049-2054	3.8	44
60	Fabrication and Electrical Properties of Textured Sr0.53Ba0.47Nb2O6 Ceramics by Templated Grain Growth. *Journal of the American Ceramic Society*, **2004**, 83, 2203-2213	3.8	130
59	Measurement of Viscosity of Densifying Glass-Based Systems by Isothermal Cyclic Loading Dilatometry. *Journal of the American Ceramic Society*, **2004**, 87, 192-196	3.8	26
58	Processing and Electrical Properties of 0.5Pb(Yb1/2Nb1/2)O3-0.5PbTiO3 Ceramics **2003**, 10, 47-55		30
57	(Reactive) Templated Grain Growth of Textured Sodium Bismuth Titanate (Na1/2Bi1/2TiO3-BaTiO3) Ceramics Processing **2003**, 11, 207-215		115
56	(Reactive) Templated Grain Growth of Textured Sodium Bismuth Titanate (Na1/2Bi1/2TiO3-BaTiO3) Ceramics Dielectric and Piezoelectric Properties **2003**, 11, 217-226		125
55	Bending Creep Test to Measure the Viscosity of Porous Materials during Sintering. *Journal of the American Ceramic Society*, **2003**, 86, 877-882	3.8	36
54	Microwave Sintering of Alumina at 2.45 GHz. *Journal of the American Ceramic Society*, **2003**, 86, 1307-1312	3.8	160
53	Dielectric and piezoelectric properties of <001> fiber-textured 0.675Pb(Mg1/3Nb2/3)O3 0.325PbTiO3 ceramics. *Journal of Applied Physics*, **2003**, 93, 4072-4080	2.5	120
52	Dielectric and piezoelectric properties of textured Sr0.53Ba0.47Nb2O6 ceramics prepared by templated grain growth. *Journal of Materials Research*, **2002**, 17, 2399-2409	2.5	40
51	Preparation and Fracture Behavior of Alumina Platelet Reinforced Alumina-Monazite Composites. *Materials Transactions*, **2002**, 43, 3262-3265	1.3	4
50	Texturing of mullite by templated grain growth with aluminum borate whiskers. *Journal of the European Ceramic Society*, **2001**, 21, 2495-2501	6	23
49	Low-Temperature Reactive Sintering of 0.65PMN 0.35PT. *Journal of the American Ceramic Society*, **2001**, 84, 648-650	3.8	45
48	Seeding of the Reaction-Bonded Aluminum Oxide Process. *Journal of the American Ceramic Society*, **2001**, 84, 657-659	3.8	6
47	Kinetics of Templated Grain Growth of 0.65Pb(Mg1/3Nb2/3)O3 0.35PbTiO3. *Journal of the American Ceramic Society*, **2001**, 84, 2507-2513	3.8	81
46	Sintering of Mixtures of Seeded Boehmite and Ultrafine Alumina. *Journal of the American Ceramic Society*, **2000**, 83, 82-88	3.8	32

45	Texture Development and Microstructure Evolution in Liquid-Phase-Sintered α-Alumina Ceramics Prepared by Templated Grain Growth. *Journal of the American Ceramic Society*, **2000**, 83, 3109-3116	3.8	56
44	Modeling Anisotropic Single Crystal Growth Kinetics in Liquid Phase Sintered α-Al2O3. *Journal of Materials Science*, **2000**, 8, 257-267		16
43	Effect of phase separation in metal carboxylate gels on perovskite lead magnesium niobate crystallization. *Journal of Materials Research*, **1999**, 14, 3921-3931	2.5	11
42	Effect of Seeding and Water Vapor on the Nucleation and Growth of α-Al2O3 from α-Al2O3. *Journal of the American Ceramic Society*, **1999**, 82, 825-832	3.8	83
41	Seeding of Perovskite Lead Magnesium Niobate Crystallization from Pb-Mg-Nb-EDTA Gels. *Journal of the American Ceramic Society*, **1999**, 82, 1659-1664	3.8	21
40	Development of Textured Mullite by Templated Grain Growth. *Journal of the American Ceramic Society*, **1999**, 82, 867-872	3.8	74
39	Interfacial precipitation in titania-doped diphasic mullite gels. *Journal of Materials Research*, **1998**, 13, 974-978	2.5	4
38	Grain Boundaries in Titania-Doped α-Alumina with Anisotropic Microstructure. *Journal of the American Ceramic Society*, **1997**, 80, 2814-2820	3.8	31
37	Dry pressing boehmite gels for the fabrication of monolithic α-Al2O3. *Journal of Sol-Gel Science and Technology*, **1997**, 9, 53-64	2.3	6
36	Pressureless Co-Sintering of Al2O/ZrO2 Multilayers and Bilayers. *Materials Research Society Symposia Proceedings*, **1996**, 434, 93		
35	Submicrometer Transparent Alumina by Sinter Forging Seeded α-Al2O3 Powders. *Journal of the American Ceramic Society*, **1995**, 78, 491-589	3.8	36
34	Constitutive Model for Dry Cohesive Powders with Application to Powder Compaction. *KONA Powder and Particle Journal*, **1995**, 13, 135-150	3.4	3
33	Metal Organic Resin Derived Barium Titanate; II, Kinetics of BaTiO3Formation. *Journal of the American Ceramic Society*, **1994**, 77, 2940-2948	3.8	34
32	Fabrication of Oriented SiC-Whisker-Reinforced Mullite Matrix Composites by Tape Casting. *Journal of the American Ceramic Society*, **1994**, 77, 2586-2592	3.8	54
31	Processing and Microstructure Development in Alumina–Silicon Carbide Intragranular Particulate Composites. *Journal of the American Ceramic Society*, **1994**, 77, 2157-2164	3.8	35
30	Metal Organic Resin Derived Barium Titanate: I, Formation of Barium Titanium Oxycarbonate Intermediate. *Journal of the American Ceramic Society*, **1993**, 76, 617-624	3.8	150
29	Transformation, Microstructure Development, and Densification in α-Fe2O3-Seeded Boehmite-Derived Alumina. *Journal of the American Ceramic Society*, **1993**, 76, 214-222	3.8	104
28	Preparation of Unsupported Metal Organic and Ceramic Thin Film Specimens for TEM Observation. *Journal of the American Ceramic Society*, **1993**, 76, 1882-1884	3.8	4

27	Synthesis of Barium Titanate by a Basic pH Pechini Process. *Materials Research Society Symposia Proceedings*, **1992**, 271, 95		15
26	Synthesis of Ceramic Powders from Metal Alkoxides. *Journal of the Ceramic Society of Japan*, **1991**, 99, 1036-1046		21
25	Epitactic Nucleation of Spinel in Aluminosilicate Gels and Its Effect on Mullite Crystallization. *Journal of the American Ceramic Society*, **1991**, 74, 2374-2381	3.8	134
24	Hybrid Gels Designed for Mullite Nucleation and Crystallization Control. *Materials Research Society Symposia Proceedings*, **1990**, 180, 515		6
23	Synthesis of Solid, Spherical Zirconia Particles by Spray Pyrolysis. *Journal of the American Ceramic Society*, **1990**, 73, 61-67	3.8	148
22	Processing and Properties of Cellular Silica Synthesized by Foaming Sol-Gels. *Journal of the American Ceramic Society*, **1990**, 73, 85-90	3.8	63
21	SiC-Whisker-Reinforced Cellular SiO2 Composites. *Journal of the American Ceramic Society*, **1990**, 73, 3497-3499	3.8	16
20	Kinetic Analysis of Solution-Precipitation During Liquid-Phase Sintering of Alumina. *Journal of the American Ceramic Society*, **1990**, 73, 275-281	3.8	70
19	Low-Temperature Sintering of Seeded Sol□Gel-Derived, ZrO2-Toughened Al2O3 Composites. *Journal of the American Ceramic Society*, **1989**, 72, 40-44	3.8	46
18	Gas Diffusion During Containerless Hot Isostatic Pressing of Liquid-Phase Sintered Ceramics. *Journal of the American Ceramic Society*, **1989**, 72, 1011-1015	3.8	8
17	Alumina Monolith Formation by Flocculation of Boehmite Sols. *Journal of the American Ceramic Society*, **1989**, 72, 1719-1721	3.8	22
16	Hybrid Gels for Homoepitactic Nucleation of Mullite. *Journal of the American Ceramic Society*, **1989**, 72, 1725-1729	3.8	85
15	Solid-Phase Epitaxy of Boehmite-Derived □Alumina on Hematite Seed Crystals. *Journal of the American Ceramic Society*, **1989**, 72, 864-867	3.8	40
14	Liquid-Phase-Assisted Transformation of Seeded □Alumina. *Journal of the American Ceramic Society* , **1988**, 71, 317-322	3.8	50
13	A Method for Preparation of Unsupported Sol□Gel Thin Films. *Journal of the American Ceramic Society*, **1988**, 71, C-222-C-224	3.8	11
12	Metastable solid solution extension of mullite by rapid solidification. *Journal of Materials Research*, **1988**, 3, 375-379	2.5	4
11	Seeding with □Alumina for Transformation and Microstructure Control in Boehmite-Derived □Alumina. *Journal of the American Ceramic Society*, **1986**, 69, C-98-C-101	3.8	32
10	Controlled Transformation and Sintering of a Boehmite Sol-Gel by □Alumina Seeding. *Journal of the American Ceramic Society*, **1985**, 68, 500-505	3.8	291

9	Enhanced Densification of Boehrmte Sol-Gels by Alumina Seeding. *Journal of the American Ceramic Society*, **1984**, 67, c230-c231	3.8	151
8	Preparation of Alumina-Zirconia Powders by Evaporative Decomposition of Solutions. *Journal of the American Ceramic Society*, **1984**, 67, c92-c93	3.8	38
7	Reactive-Phase Calsintering of Calcium-Carbonate-Derived Lime. *Journal of the American Ceramic Society*, **1984**, 67, C-109-C-111	3.8	4
6	Sintering of Inhomogeneous Binary Powder Mixtures. *Journal of the American Ceramic Society*, **1981**, 64, 468-472	3.8	15
5	Inhomogeneity-Packing Density Relations in Binary hwders. *Journal of the American Ceramic Society*, **1978**, 61, 1-5	3.8	45
4	Inhomogeneity-Packing Density Relations in Binary Powders Experimental Studies. *Journal of the American Ceramic Society*, **1978**, 61, 363-366	3.8	30
3	Additive manufacturing of textured ceramics: A review. *Journal of Materials Research*,1	2.5	0
2	Texture Development in Reaction-Bonded Alumina (Rbao) Ceramics Via Templated Grain Growth. *Ceramic Engineering and Science Proceedings*,71-78	0.1	
1	Oxidation and Transport Phenomena in the Reaction-Bonded Aluminum Oxide (Rbao) Process. *Ceramic Engineering and Science Proceedings*,79-86	0.1	