

# Yu Zhang

## List of Publications by Citations

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126  
papers

6,282  
citations

46  
h-index

77  
g-index

132  
ext. papers

7,470  
ext. citations

5.5  
avg, IF

6.45  
L-index

#	Paper	IF	Citations
126	The effect of postmenopausal estrogen therapy on bone density in elderly women. <i>New England Journal of Medicine</i> , <b>1993</b> , 329, 1141-6	59.2	499
125	Effect of sandblasting on the long-term performance of dental ceramics. <i>Journal of Biomedical Materials Research Part B</i> , <b>2004</b> , 71, 381-6		317
124	Making yttria-stabilized tetragonal zirconia translucent. <i>Dental Materials</i> , <b>2014</b> , 30, 1195-203	5.7	280
123	Novel Zirconia Materials in Dentistry. <i>Journal of Dental Research</i> , <b>2018</b> , 97, 140-147	8.1	254
122	Performance of dental ceramics: challenges for improvements. <i>Journal of Dental Research</i> , <b>2011</b> , 90, 937-52	8.1	237
121	Characterization of a polymer-infiltrated ceramic-network material. <i>Dental Materials</i> , <b>2014</b> , 30, 564-9	5.7	186
120	Shear bond strengths between different zirconia cores and veneering ceramics and their susceptibility to thermocycling. <i>Dental Materials</i> , <b>2008</b> , 24, 1556-67	5.7	184
119	Materials design in the performance of all-ceramic crowns. <i>Biomaterials</i> , <b>2004</b> , 25, 2885-92	15.6	176
118	Concerns of hydrothermal degradation in CAD/CAM zirconia. <i>Journal of Dental Research</i> , <b>2010</b> , 89, 91-5	8.1	170
117	Fatigue of dental ceramics. <i>Journal of Dentistry</i> , <b>2013</b> , 41, 1135-47	4.8	161
116	Edge chipping and flexural resistance of monolithic ceramics. <i>Dental Materials</i> , <b>2013</b> , 29, 1201-8	5.7	146
115	Damage accumulation and fatigue life of particle-abraded ceramics. <i>International Journal of Prosthodontics</i> , <b>2006</b> , 19, 442-8	1.9	139
114	Graded structures for damage resistant and aesthetic all-ceramic restorations. <i>Dental Materials</i> , <b>2009</b> , 25, 781-90	5.7	100
113	Zirconia surface modifications for implant dentistry. <i>Materials Science and Engineering C</i> , <b>2019</b> , 98, 1294-305	8.3	93
112	Fracture of porcelain-veneered structures in fatigue. <i>Journal of Dental Research</i> , <b>2007</b> , 86, 142-6	8.1	91
111	Characterization of three commercial Y-TZP ceramics produced for their high-translucency, high-strength and high-surface area. <i>Ceramics International</i> , <b>2016</b> , 42, 1077-1085	5.1	89
110	Damage and reliability of Y-TZP after cementation surface treatment. <i>Journal of Dental Research</i> , <b>2010</b> , 89, 592-6	8.1	85

109	Designing functionally graded materials with superior load-bearing properties. <i>Acta Biomaterialia</i> , <b>2012</b> , 8, 1101-8	10.8	84
108	Load-bearing properties of minimal-invasive monolithic lithium disilicate and zirconia occlusal onlays: finite element and theoretical analyses. <i>Dental Materials</i> , <b>2013</b> , 29, 742-51	5.7	83
107	Dental Ceramics for Restoration and Metal Veneering. <i>Dental Clinics of North America</i> , <b>2017</b> , 61, 797-819	3.3	78
106	Sliding contact fatigue damage in layered ceramic structures. <i>Journal of Dental Research</i> , <b>2007</b> , 86, 1046-50	5.0	78
105	Residual stresses in porcelain-veneered zirconia prostheses. <i>Dental Materials</i> , <b>2012</b> , 28, 873-9	5.7	76
104	Chipping resistance of graded zirconia ceramics for dental crowns. <i>Journal of Dental Research</i> , <b>2012</b> , 91, 311-5	8.1	74
103	New multi-layered zirconias: Composition, microstructure and translucency. <i>Dental Materials</i> , <b>2019</b> , 35, 797-806	5.7	71
102	A fractographic study of clinically retrieved zirconia-ceramic and metal-ceramic fixed dental prostheses. <i>Dental Materials</i> , <b>2015</b> , 31, 1198-206	5.7	65
101	Fatigue resistance of CAD/CAM resin composite molar crowns. <i>Dental Materials</i> , <b>2016</b> , 32, 499-509	5.7	64
100	Influence of preparation design and ceramic thicknesses on fracture resistance and failure modes of premolar partial coverage restorations. <i>Journal of Prosthetic Dentistry</i> , <b>2013</b> , 110, 264-73	4	64
99	Graded structures for all-ceramic restorations. <i>Journal of Dental Research</i> , <b>2010</b> , 89, 417-21	8.1	64
98	Failure Modes in Ceramic-Based Layer Structures: A Basis for Materials Design of Dental Crowns. <i>Journal of the American Ceramic Society</i> , <b>2007</b> , 90, 1671-1683	3.8	64
97	Deep-penetrating conical cracks in brittle layers from hydraulic cyclic contact. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2005</b> , 73, 186-93	3.5	63
96	Marginal and internal fit of heat pressed versus CAD/CAM fabricated all-ceramic onlays after exposure to thermo-mechanical fatigue. <i>Journal of Dentistry</i> , <b>2014</b> , 42, 199-209	4.8	60
95	Long-term strength of ceramics for biomedical applications. <i>Journal of Biomedical Materials Research Part B</i> , <b>2004</b> , 69, 166-72		60
94	Fracture-resistant monolithic dental crowns. <i>Dental Materials</i> , <b>2016</b> , 32, 442-9	5.7	58
93	Erosion of alumina ceramics by air- and water-suspended garnet particles. <i>Wear</i> , <b>2000</b> , 240, 40-51	3.5	58
92	Speed sintering translucent zirconia for chairside one-visit dental restorations: Optical, mechanical, and wear characteristics. <i>Ceramics International</i> , <b>2017</b> , 43, 10999-11005	5.1	57

91	Reliability and failure modes of implant-supported zirconium-oxide fixed dental prostheses related to veneering techniques. <i>Journal of Dentistry</i> , <b>2011</b> , 39, 489-98	4.8	57
90	Competition of fracture mechanisms in monolithic dental ceramics: flat model systems. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2009</b> , 88, 402-11	3.5	57
89	Optimization of ceramic strength using elastic gradients. <i>Acta Materialia</i> , <b>2009</b> , 57, 2721-2729	8.4	54
88	Fatigue sensitivity of Y-TZP to microscale sharp-contact flaws. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2005</b> , 72, 388-92	3.5	52
87	Damage maps for layered ceramics under simulated mastication. <i>Journal of Dental Research</i> , <b>2008</b> , 87, 671-5	8.1	51
86	On the interfacial fracture of porcelain/zirconia and graded zirconia dental structures. <i>Acta Biomaterialia</i> , <b>2014</b> , 10, 3756-61	10.8	49
85	Fatigue and damage tolerance of Y-TZP ceramics in layered biomechanical systems. <i>Journal of Biomedical Materials Research Part B</i> , <b>2004</b> , 71, 166-71		49
84	Performance of Zirconia for Dental Healthcare. <i>Materials</i> , <b>2010</b> , 3, 863-896	3.5	48
83	Antibacterial and bioactive coatings on titanium implant surfaces. <i>Journal of Biomedical Materials Research - Part A</i> , <b>2017</b> , 105, 2218-2227	5.4	47
82	Evaluating dental zirconia. <i>Dental Materials</i> , <b>2019</b> , 35, 15-23	5.7	47
81	Polymer infiltrated ceramic network structures for resistance to fatigue fracture and wear. <i>Dental Materials</i> , <b>2016</b> , 32, 1352-1361	5.7	46
80	Damage maps of veneered zirconia under simulated mastication. <i>Journal of Dental Research</i> , <b>2008</b> , 87, 1127-32	8.1	45
79	Sliding contact fracture of dental ceramics: Principles and validation. <i>Acta Biomaterialia</i> , <b>2014</b> , 10, 3243-53.8	10.8	44
78	Overview: Damage resistance of graded ceramic restorative materials. <i>Journal of the European Ceramic Society</i> , <b>2012</b> , 32, 2623-2632	6	44
77	Graded Ultra-Translucent Zirconia (5Y-PSZ) for Strength and Functionalities. <i>Journal of Dental Research</i> , <b>2018</b> , 97, 1222-1228	8.1	43
76	Graded zirconia glass for resistance to veneer fracture. <i>Journal of Dental Research</i> , <b>2010</b> , 89, 1057-62	8.1	43
75	Competing fracture modes in brittle materials subject to concentrated cyclic loading in liquid environments: Monoliths. <i>Journal of Materials Research</i> , <b>2005</b> , 20, 2021-2029	2.5	42
74	Competing fracture modes in brittle materials subject to concentrated cyclic loading in liquid environments: Bilayer structures. <i>Journal of Materials Research</i> , <b>2005</b> , 20, 2792-2800	2.5	41

73	Load-bearing capacity of lithium disilicate and ultra-translucent zirconias. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2018</b> , 88, 170-175	4.1	40
72	A review of engineered zirconia surfaces in biomedical applications. <i>Procedia CIRP</i> , <b>2017</b> , 65, 284-290	1.8	39
71	Wear behavior of pressable lithium disilicate glass ceramic. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2016</b> , 104, 968-78	3.5	38
70	Competing fracture modes in brittle materials subject to concentrated cyclic loading in liquid environments: Trilayer structures. <i>Journal of Materials Research</i> , <b>2006</b> , 21, 512-521	2.5	37
69	Wear of ceramic-based dental materials. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2019</b> , 92, 144-151	4.1	37
68	Effects of geometry on fracture initiation and propagation in all-ceramic crowns. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2009</b> , 88, 436-46	3.5	35
67	Improving the resistance to sliding contact damage of zirconia using elastic gradients. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2010</b> , 94, 347-52	3.5	32
66	Off-axis sliding contact reliability and failure modes of veneered alumina and zirconia. <i>Dental Materials</i> , <b>2009</b> , 25, 892-8	5.7	31
65	Micromechanics of Machining and Wear in Hard and Brittle Materials. <i>Journal of the American Ceramic Society</i> , <b>2021</b> , 104, 5-22	3.8	31
64	Viscoelastic finite element analysis of residual stresses in porcelain-veneered zirconia dental crowns. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2018</b> , 82, 202-209	4.1	30
63	Fracture, roughness and phase transformation in CAD/CAM milling and subsequent surface treatments of lithium metasilicate/disilicate glass-ceramics. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2017</b> , 74, 251-260	4.1	29
62	Effects of two grading techniques of zirconia material on the fatigue limit of full-contour 3-unit fixed dental prostheses. <i>Dental Materials</i> , <b>2017</b> , 33, e155-e164	5.7	28
61	Effects of cementation surface modifications on fracture resistance of zirconia. <i>Dental Materials</i> , <b>2015</b> , 31, 435-42	5.7	28
60	On the interfacial fracture resistance of resin-bonded zirconia and glass-infiltrated graded zirconia. <i>Dental Materials</i> , <b>2015</b> , 31, 1304-11	5.7	28
59	Sliding contact fatigue of graded zirconia with external esthetic glass. <i>Journal of Dental Research</i> , <b>2011</b> , 90, 1116-21	8.1	28
58	Role of indenter material and size in veneer failure of brittle layer structures. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2007</b> , 82, 253-9	3.5	28
57	The bending stress distribution in bilayered and graded zirconia-based dental ceramics. <i>Ceramics International</i> , <b>2016</b> , 42, 11025-11031	5.1	28
56	Design maps for failure of all-ceramic layer structures in concentrated cyclic loading. <i>Acta Materialia</i> , <b>2007</b> , 55, 2479-2488	8.4	24

55	Ultrathin Monolithic Zirconia Veneers: Reality or Future? Report of a Clinical Case and One-year Follow-up. <i>Operative Dentistry</i> , <b>2018</b> , 43, 3-11	2.9	21
54	Influence of microstructure on the erosive wear behaviour of Ca Bialon materials. <i>Journal of the European Ceramic Society</i> , <b>2001</b> , 21, 2435-2445	6	21
53	Failure Probability of Three Designs of Zirconia Crowns. <i>International Journal of Periodontics and Restorative Dentistry</i> , <b>2015</b> , 35, 843-9	2.1	20
52	Effect of finishing/polishing techniques and low temperature degradation on the surface topography, phase transformation and flexural strength of ultra-translucent ZrO ceramic. <i>Dental Materials</i> , <b>2020</b> , 36, e126-e139	5.7	19
51	Sliding contact wear and subsurface damage of CAD/CAM materials against zirconia. <i>Dental Materials</i> , <b>2020</b> , 36, 387-401	5.7	17
50	Experimental and finite element study of residual thermal stresses in veneered Y-TZP structures. <i>Ceramics International</i> , <b>2016</b> , 42, 9214-9221	5.1	17
49	Influence of residual thermal stresses on the edge chipping resistance of PFM and veneered zirconia structures: Experimental and FEA study. <i>Dental Materials</i> , <b>2019</b> , 35, 344-355	5.7	17
48	THERMAL RESIDUAL STRESSES IN BILAYERED, TRILAYERED AND GRADED DENTAL CERAMICS. <i>Ceramics International</i> , <b>2017</b> , 43, 3670-3678	5.1	16
47	Influence of interlayer design on residual thermal stresses in trilayered and graded all-ceramic restorations. <i>Materials Science and Engineering C</i> , <b>2017</b> , 71, 1037-1045	8.3	16
46	Probing the interfacial strength of novel multi-layer zirconias. <i>Dental Materials</i> , <b>2020</b> , 36, 60-67	5.7	15
45	Wear Behavior of Graded Glass/Zirconia Crowns and Their Antagonists. <i>Journal of Dental Research</i> , <b>2019</b> , 98, 437-442	8.1	12
44	Silica-Based Infiltrations for Enhanced Zirconia-Resin Interface Toughness. <i>Journal of Dental Research</i> , <b>2019</b> , 98, 423-429	8.1	12
43	Microstructural development during heat treatment of a commercially available dental-grade lithium disilicate glass-ceramic. <i>Dental Materials</i> , <b>2019</b> , 35, 697-708	5.7	12
42	Do thermal treatments affect the mechanical behavior of porcelain-veneered zirconia? A systematic review and meta-analysis. <i>Dental Materials</i> , <b>2019</b> , 35, 807-817	5.7	11
41	Edge chipping test in dentistry: A comprehensive review. <i>Dental Materials</i> , <b>2020</b> , 36, e74-e84	5.7	11
40	Antibacterial property expressed by a novel calcium phosphate glass. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2014</b> , 102, 423-9	3.5	11
39	Improving fatigue damage resistance of alumina through surface grading. <i>Journal of Dental Research</i> , <b>2011</b> , 90, 1026-30	8.1	11
38	Silica Coating of Nonsilicate Nanoparticles for Resin-Based Composite Materials. <i>Journal of Dental Research</i> , <b>2016</b> , 95, 1394-1400	8.1	11

37	The progressive wear and abrasiveness of novel graded glass/zirconia materials relative to their dental ceramic counterparts. <i>Dental Materials</i> , <b>2019</b> , 35, 763-771	5.7	10
36	Load-bearing increase in alumina evoked by introduction of a functional glass gradient. <i>Journal of the European Ceramic Society</i> , <b>2012</b> , 32, 1213-1220	6	10
35	Can material properties predict survival of all-ceramic posterior crowns?. <i>Compendium of Continuing Education in Dentistry (Jamesburg, N J: 1995)</i> , <b>2007</b> , 28, 362-8; quiz 369, 386	0.3	10
34	Viscoelastic finite element evaluation of transient and residual stresses in dental crowns: Design parametric study. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2020</b> , 103, 103545	4.1	9
33	Novel Translucent and Strong Submicron Alumina Ceramics for Dental Restorations. <i>Journal of Dental Research</i> , <b>2018</b> , 97, 289-295	8.1	8
32	An in situ and ex situ study of the microstructural evolution of a novel lithium silicate glass-ceramic during crystallization firing. <i>Dental Materials</i> , <b>2020</b> , 36, 645-659	5.7	7
31	Contact fatigue response of porcelain-veneered alumina model systems. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2012</b> , 100, 508-15	3.5	7
30	Competing Damage Modes in All-Ceramic Crowns: Fatigue and Lifetime. <i>Key Engineering Materials</i> , <b>2005</b> , 284-286, 697-700	0.4	7
29	Using glass-graded zirconia to increase delamination growth resistance in porcelain/zirconia dental structures. <i>Dental Materials</i> , <b>2018</b> , 34, e8-e14	5.7	7
28	Wear behavior and microstructural characterization of translucent multilayer zirconia. <i>Dental Materials</i> , <b>2020</b> , 36, 1407-1417	5.7	6
27	Flexural strength and crystalline stability of a monolithic translucent zirconia subjected to grinding, polishing and thermal challenges. <i>Ceramics International</i> , <b>2020</b> , 46, 26168-26175	5.1	6
26	Reliability and fatigue failure modes of implant-supported aluminum-oxide fixed dental prostheses. <i>Clinical Oral Implants Research</i> , <b>2012</b> , 23, 1173-80	4.8	5
25	Fracture Modes in Curved Brittle Layers Subject to Concentrated Cyclic Loading in Liquid Environments. <i>Journal of Materials Research</i> , <b>2009</b> , 24, 1075-1081	2.5	5
24	Inverse correlations between wear and mechanical properties in biphasic dental materials with ceramic constituents. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2020</b> , 105, 103722	4.1	5
23	Influence of CAD/CAM milling, sintering and surface treatments on the fatigue behavior of lithium disilicate glass ceramic. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2021</b> , 113, 104133	4.1	5
22	Residual stresses explaining clinical fractures of bilayer zirconia and lithium disilicate crowns: A VFEM study. <i>Dental Materials</i> , <b>2021</b> , 37, 1655-1666	5.7	5
21	Fatigue limit of monolithic Y-TZP three-unit-fixed dental prostheses: Effect of grinding at the gingival zone of the connector. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2017</b> , 72, 1594-1624	4.1	4
20	Preservation and promotion of bone formation in the mandible as a response to a novel calcium-phosphate based biomaterial in mineral deficiency induced low bone mass male versus female rats. <i>Journal of Biomedical Materials Research - Part A</i> , <b>2016</b> , 104, 1622-32	5.4	4

19	Effects of porcelain thickness on the flexural strength and crack propagation in a bilayered zirconia system. <i>Journal of Applied Oral Science</i> , <b>2017</b> , 25, 566-574	3.3	4
18	Laboratory methods to simulate the mechanical degradation of resin composite restorations.. <i>Dental Materials</i> , <b>2021</b> ,	5.7	4
17	Novel speed sintered zirconia by microwave technology. <i>Dental Materials</i> , <b>2021</b> , 37, 875-881	5.7	4
16	Damage sensitivity of dental zirconias to simulated occlusal contact. <i>Dental Materials</i> , <b>2021</b> , 37, 158-167	5.7	4
15	Effect of extrinsic pigmentation and surface treatments on biaxial flexure strength after cyclic loading of a translucent ZrO ceramic. <i>Dental Materials</i> , <b>2019</b> , 35, 1644-1653	5.7	3
14	Mono or polycrystalline alumina-modified hybrid ceramics. <i>Dental Materials</i> , <b>2016</b> , 32, 450-60	5.7	2
13	Microstructural development during crystallization firing of a dental-grade nanostructured lithia-zirconia glass-ceramic. <i>Journal of the European Ceramic Society</i> , <b>2021</b> , 41, 5728-5739	6	2
12	THRESHOLD DAMAGE MECHANISMS IN BRITTLE SOLIDS AND THEIR IMPACT ON ADVANCED TECHNOLOGIES. <i>Acta Materialia</i> , <b>2022</b> , 117921	8.4	2
11	In vivo efficacy of calcium phosphate-based synthetic-bone-mineral on bone loss resulting from estrogen and mineral deficiencies. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2020</b> , 108, 1868-1878	3.5	1
10	Non-silicate nanoparticles for improved nanohybrid resin composites. <i>Dental Materials</i> , <b>2020</b> , 36, 1314-1321	3.7	1
9	Metal-ceramic and porcelain-veneered lithium disilicate crowns: a stress profile comparison using a viscoelastic finite element model. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , <b>2021</b> , 1-12	2.1	1
8	Effect of finishing/polishing techniques and aging on topography, <i>C. albicans</i> adherence, and flexural strength of ultra-translucent zirconia: an in situ study. <i>Clinical Oral Investigations</i> , <b>2021</b> , 1	4.2	1
7	Extended glaze firings for porcelain-veneered zirconia: Effects on the mechanical and optical behavior. <i>Dental Materials</i> , <b>2021</b> , 37, 1096-1106	5.7	0
6	High surface integrity fabrication of silicon wafers using a newly developed nonwoven structured grind-polishing wheel. <i>Journal of Manufacturing Processes</i> , <b>2022</b> , 77, 229-239	5	0
5	Interfaces in fixed dental prostheses: Challenges and opportunities <b>2017</b> , 67-83		
4	Use of HEMA in Gelcasting of Ceramics: A Case Study on Fused Silica. <i>Journal of the American Ceramic Society</i> , <b>2006</b> , 89, 060623005134011-???	3.8	
3	Fracture resistance of Ceramic-Polymer hybrid materials using microscopic finite element analysis and experimental validation.. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , <b>2022</b> , 1-11	2.1	
2	Coating Dental Implants with Synthetic Bone Mineral for Early New Bone Formation in Vivo. <i>Journal of Hard Tissue Biology</i> , <b>2021</b> , 30, 339-346	0.4	



- 1 Functionally graded nanostructured biomaterials (FGNB) **2018**, 159-180