Jŕm̂e Chevalier

List of Publications by Year in Descending Order

122 papers	7,796 citations	44 h-index	87 g-index
131 ext. papers	8,867 ext. citations	6 avg, IF	6.26 L-index

#	Paper	IF	Citations
122	Impact of spherulite-type crystalline defects on the mechanical and electrochemical properties of TiCuZrPd metallic glasses. *Materialia*, **2022**, 21, 101353	3.2	1
121	Is Surface Metastability of Today□ Ceramic Bearings a Clinical Issue?. *Journal of Composites Science*, **2021**, 5, 273	3	2
120	Combining bioresorbable polyesters and bioactive glasses: Orthopedic applications of composite implants and bone tissue engineering scaffolds. *Applied Materials Today*, **2021**, 22, 100923	6.6	7
119	From dislocation nucleation to dislocation multiplication in ceramic nanoparticle. *Materials Research Letters*, **2021**, 9, 278-283	7.4	1
118	Intrinsic properties of osteomalacia bone evaluated by nanoindentation and FTIRM analysis. *Journal of Biomechanics*, **2021**, 117, 110247	2.9	1
117	Coaxial micro-extrusion of a calcium phosphate ink with aqueous solvents improves printing stability, structure fidelity and mechanical properties. *Acta Biomaterialia*, **2021**, 125, 322-332	10.8	2
116	Development of transformation bands in ceria-stabilized-zirconia based composites during bending at room temperature. *Journal of the European Ceramic Society*, **2021**, 41, 691-705	6	6
115	New Trends in Ceramics for Orthopedics **2021**, 493-500		1
114	Strength and hydrothermal stability of NiO□tabilized zirconia solid oxide cells fuel electrode supports. *Journal of the European Ceramic Society*, **2021**, 41, 4206-4216	6	3
113	Histologic and histomorphometric evaluation of new zirconia-based ceramic dental implants: A preclinical study in dogs. *Dental Materials*, **2021**, 37, 1377-1389	5.7	2
112	Yttria-Stabilized Zirconia as a Biomaterial: From Orthopedic Towards Dental Applications **2021**, 540-552		
111	Improving the fracture toughness of stabilized zirconia-based solid oxide cells fuel electrode supports: Effects of type and concentration of stabilizer(s). *Journal of the European Ceramic Society*, **2020**, 40, 5670-5682	6	10
110	Mechanical characterization of meso-porous alumina by micro- and nano-indentation. *Materials Today Communications*, **2020**, 25, 101315	2.5	3
109	Effect of alloying elements on the microstructure and corrosion behavior of TiZr-based bulk metallic glasses. *Corrosion Science*, **2020**, 177, 108854	6.8	13
108	Revisiting the strength of micron-scale ceramic platelets. *Journal of the American Ceramic Society*, **2020**, 103, 6991-7000	3.8	5
107	Phase transformation induces plasticity with negligible damage in ceria-stabilized zirconia-based ceramics. *Acta Materialia*, **2020**, 183, 261-273	8.4	16
106	Forty years after the promise of «ceramic steel?»: Zirconia-based composites with a metal-like mechanical behavior. *Journal of the American Ceramic Society*, **2020**, 103, 1482-1513	3.8	39

105	Tetragonal phase stability maps of ceria-yttria co-doped zirconia: From powders to sintered ceramics. *Ceramics International*, **2020**, 46, 9396-9405	5.1	9
104	Double Torsion testing of thin porous zirconia supports for energy applications: Toughness and slow crack growth assessment. *Journal of the European Ceramic Society*, **2020**, 40, 3191-3199	6	6
103	Reliability of an injection-moulded two-piece zirconia implant with PEKK abutment after long-term thermo-mechanical loading. *Journal of the Mechanical Behavior of Biomedical Materials*, **2020**, 110, 103967	4.1	2
102	Influence of artificial aging on mechanical properties of commercially and non-commercially available zirconia dental implants. *Journal of the Mechanical Behavior of Biomedical Materials*, **2020**, 101, 103423	4.1	13
101	Microstructural analyses of artificial ageing in 5 commercially and non-commercially available Zirconia dental implants. *Journal of the European Ceramic Society*, **2020**, 40, 3642-3655	6	6
100	Nanostructured Zirconia-Based Ceramics and Composites in Dentistry: A State-of-the-Art Review. *Nanomaterials*, **2019**, 9,	5.4	18
99	Combined wear and ageing of ceramic-on-ceramic bearings in total hip replacement under edge loading conditions. *Journal of the Mechanical Behavior of Biomedical Materials*, **2019**, 98, 40-47	4.1	8
98	Trade-off between fracture resistance and translucency of zirconia and lithium-disilicate glass ceramics for monolithic restorations. *Acta Biomaterialia*, **2019**, 91, 24-34	10.8	69
97	Effect of grain orientation and magnesium doping on □tricalcium phosphate resorption behavior. *Acta Biomaterialia*, **2019**, 89, 391-402	10.8	22
96	Is a Zirconia Dental Implant Safe When It Is Available on the Market?. *Ceramics*, **2019**, 2, 568-577	1.7	4
95	High-translucent yttria-stabilized zirconia ceramics are wear-resistant and antagonist-friendly. *Dental Materials*, **2019**, 35, 1776-1790	5.7	24
94	Novel calcium phosphate/PCL graded samples: Design and development in view of biomedical applications. *Materials Science and Engineering C*, **2019**, 97, 336-346	8.3	13
93	Mechanical behaviour of extremely tough TZP bioceramics. *Journal of the Mechanical Behavior of Biomedical Materials*, **2019**, 90, 395-403	4.1	9
92	Slow crack growth resistance of electrically conductive zirconia-based composites with non-oxide reinforcements. *Journal of the European Ceramic Society*, **2019**, 39, 641-646	6	2
91	Can (Mg,Y)-PSZ□spinel composites be a valuable option for dental application?. *International Journal of Applied Ceramic Technology*, **2018**, 15, 873-883	2	0
90	Aging resistance, mechanical properties and translucency of different yttria-stabilized zirconia ceramics for monolithic dental crown applications. *Dental Materials*, **2018**, 34, 879-890	5.7	127
89	Resorption of calcium phosphate materials: Considerations on the in vitro evaluation. *Journal of the European Ceramic Society*, **2018**, 38, 899-914	6	13
88	Strong and tough metal/ceramic micro-laminates. *Acta Materialia*, **2018**, 144, 202-215	8.4	47

87	Impact of sandblasting on the mechanical properties and aging resistance of alumina and zirconia based ceramics. *Journal of the European Ceramic Society*, **2018**, 38, 915-925	6	19
86	Reduced bacterial adhesion on ceramics used for arthroplasty applications. *Journal of the European Ceramic Society*, **2018**, 38, 963-970	6	19
85	On the Potential of Bulk Metallic Glasses for Dental Implantology: Case Study on TiZrCuPd. *Materials*, **2018**, 11,	3.5	16
84	Dislocations and Plastic Deformation in MgO Crystals: A Review. *Crystals*, **2018**, 8, 240	2.3	36
83	Towards quantitative analysis of enamel erosion by focused ion beam tomography. *Dental Materials*, **2018**, 34, e289-e300	5.7	4
82	The in vitro evolution of resorbable brushite cements: A physico-chemical, micro-structural and mechanical study. *Acta Biomaterialia*, **2017**, 53, 515-525	10.8	11
81	Using graphene networks to build bioinspired self-monitoring ceramics. *Nature Communications*, **2017**, 8, 14425	17.4	71
80	Strain rate influence on human cortical bone toughness: A comparative study of four paired anatomical sites. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 71, 223-230	4.1	16
79	Design and Processing of Novel Ceramic Composite Structures for Use in Medical Surgery. *Key Engineering Materials*, **2017**, 750, 195-204	0.4	
78	Assessment of Novel Long-Lasting Ceria-Stabilized Zirconia-Based Ceramics with Different Surface Topographies as Implant Materials. *Advanced Functional Materials*, **2017**, 27, 1702512	15.6	10
77	Towards long lasting zirconia-based composites for dental implants: Transformation induced plasticity and its consequence on ceramic reliability. *Acta Biomaterialia*, **2017**, 48, 423-432	10.8	60
76	Slow crack growth and hydrothermal aging stability of an alumina-toughened zirconia composite made from La2O3-doped 2Y-TZP. *Journal of the European Ceramic Society*, **2017**, 37, 1865-1871	6	21
75	A testing protocol combining shocks, hydrothermal ageing and friction, applied to Zirconia Toughened Alumina (ZTA) hip implants. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 65, 600-608	4.1	22
74	Design and development of dental ceramics **2017**, 355-389		4
73	Ageing, Shocks and Wear Mechanisms in ZTA and the Long-Term Performance of Hip Joint Materials. *Materials*, **2017**, 10,	3.5	20
72	Biomedical-Grade Composite Ceramics Through a Nanopowder Engineering Approach: A Discussion of Two Successful Case Studies. *Advanced Science Letters*, **2017**, 23, 5970-5973	0.1	
71	Selective etching of injection molded zirconia-toughened alumina: Towards osseointegrated and antibacterial ceramic implants. *Acta Biomaterialia*, **2016**, 46, 308-322	10.8	26
70	Effect of loading configuration on strength values in a highly transformable zirconia-based composite. *Dental Materials*, **2016**, 32, e211-9	5.7	15

69	Effects of in vitro shocks and hydrothermal degradation on wear of ceramic hip joints: Towards better experimental simulation of in vivo ageing. *Tribology International*, **2016**, 100, 410-419	4.9	13
68	Microbial adhesion on novel yttria-stabilized tetragonal zirconia (Y-TZP) implant surfaces with nitrogen-doped hydrogenated amorphous carbon (a-C:H:N) coatings. *Clinical Oral Investigations*, **2016**, 20, 1719-32	4.2	7
67	Direct silanization of zirconia for increased biointegration. *Acta Biomaterialia*, **2016**, 46, 323-335	10.8	33
66	In vitro and in vivo evaluation of a polylactic acid-bioactive glass composite for bone fixation devices. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2016**, 104, 180-91	3.5	44
65	A new testing protocol for zirconia dental implants. *Dental Materials*, **2015**, 31, 15-25	5.7	65
64	Zirconia-based composites for biomedical applications: Role of second phases on composition, microstructure and zirconia transformability. *Journal of the European Ceramic Society*, **2015**, 35, 4039-4049	3.6	24
63	Towards long lasting zirconia-based composites for dental implants. Part I: innovative synthesis, microstructural characterization and in vitro stability. *Biomaterials*, **2015**, 50, 38-46	15.6	69
62	Mechanical behavior law of ceramic nanoparticles from transmission electron microscopy in situ nano-compression tests. *Materials Letters*, **2014**, 119, 107-110	3.3	23
61	Microstructure of a Ce0.1Zr0.9O2–MgAl2O4 Ceramic Matrix Composite for Use in Dentistry. *Journal of the American Ceramic Society*, **2014**, 97, 1602-1609	3.8	2
60	Surface Coating of Oxide Powders: A New Synthesis Method to Process Biomedical Grade Nano-Composites. *Materials*, **2014**, 7, 5012-5037	3.5	31
59	Accurate characterization of pure silicon-substituted hydroxyapatite powders synthesized by a new precipitation route. *Acta Biomaterialia*, **2013**, 9, 6992-7004	10.8	76
58	Low temperature degradation and reliability of one-piece ceramic oral implants with a porous surface. *Dental Materials*, **2013**, 29, 389-97	5.7	51
57	A Comparative Study between Melt-Derived and Sol-Gel Synthesized 45S5 Bioactive Glasses. *Key Engineering Materials*, **2013**, 541, 15-30	0.4	27
56	3D-characterization of the veneer-zirconia interface using FIB nano-tomography. *Dental Materials*, **2013**, 29, 157-65	5.7	22
55	Elaboration of Alumina-Zirconia Composites: Role of the Zirconia Content on the Microstructure and Mechanical Properties. *Materials*, **2013**, 6, 2090-2102	3.5	76
54	Optimized Slurries for Spray Drying: Different Approaches to Obtain Homogeneous and Deformable Alumina-Zirconia Granules. *Materials*, **2013**, 6, 5382-5397	3.5	21
53	Initial Bacterial Adhesion on Different Yttria-Stabilized Tetragonal Zirconia Implant Surfaces. *Materials*, **2013**, 6, 5659-5674	3.5	14
52	Composites organiques-inorganiques pour la substitution et la r□paration osseuse´: concepts, premiers r□sultats et potentialit□. *MATEC Web of Conferences*, **2013**, 7, 04013	0.3	

51	Real time TEM observation of alumina ceramic nano-particles during compression. *Journal of the European Ceramic Society*, **2012**, 32, 2067-2071	6	38
50	Transparent YAG obtained by spark plasma sintering of co-precipitated powder. Influence of dispersion route and sintering parameters on optical and microstructural characteristics. *Journal of the European Ceramic Society*, **2012**, 32, 2957-2964	6	46
49	Bioactivity modulation of Bioglass® powder by thermal treatment. *Journal of the European Ceramic Society*, **2012**, 32, 2765-2775	6	23
48	Bone micromechanical properties are compromised during long-term alendronate therapy independently of mineralization. *Journal of Bone and Mineral Research*, **2012**, 27, 825-34	6.3	84
47	Crystallization processes at the surface of polylactic acid-bioactive glass composites during immersion in simulated body fluid. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2011**, 99, 412-9	3.5	13
46	Low-temperature degradation in zirconia with a porous surface. *Acta Biomaterialia*, **2011**, 7, 2986-93	10.8	67
45	Reliability assessment in advanced nanocomposite materials for orthopaedic applications. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 303-14	4.1	50
44	Improving the Porosity Features Control of Ceramic Cellular Components through a Modified Gelcasting Process. *Advances in Science and Technology*, **2010**, 62, 147-156	0.1	
43	A new method to measure monoclinic depth profile in zirconia-based ceramics from X-ray diffraction data. *International Journal of Materials Research*, **2010**, 101, 88-94	0.5	18
42	In vitro and in vivo evaluation of an alumina-zirconia composite for arthroplasty applications. *Biomaterials*, **2010**, 31, 2043-54	15.6	77
41	Mechanical properties and cytocompatibility of poly(ε-caprolactone)-infiltrated biphasic calcium phosphate scaffolds with bimodal pore distribution. *Acta Biomaterialia*, **2010**, 6, 4369-79	10.8	66
40	The Tetragonal-Monoclinic Transformation in Zirconia: Lessons Learned and Future Trends. *Journal of the American Ceramic Society*, **2009**, 92, 1901-1920	3.8	899
39	Effect of Heating Rate on Phase and Microstructural Evolution During Pressureless Sintering of a Nanostructured Transition Alumina. *International Journal of Applied Ceramic Technology*, **2009**, 6, 420-430	2	21
38	Alumina-based nanocomposites obtained by doping with inorganic salt solutions: Application to immiscible and reactive systems. *Journal of the European Ceramic Society*, **2009**, 29, 59-66	6	37
37	Ceramics for medical applications: A picture for the next 20 years. *Journal of the European Ceramic Society*, **2009**, 29, 1245-1255	6	503
36	On the kinetics and impact of tetragonal to monoclinic transformation in an alumina/zirconia composite for arthroplasty applications. *Biomaterials*, **2009**, 30, 5279-82	15.6	107
35	A new concept of gentamicin loaded HAP/TCP bone substitute for prophylactic action: in vitro release validation. *Journal of Materials Science: Materials in Medicine*, **2008**, 19, 947-51	4.5	34
34	Effect of initial particle packing on the sintering of nanostructured transition alumina. *Journal of the European Ceramic Society*, **2008**, 28, 1121-1128	6	50

33	Fracture toughness, strength and slow crack growth in a ceria stabilized zirconia-alumina nanocomposite for medical applications. *Biomaterials*, **2008**, 29, 3636-3641	15.6	158
32	Key role of processing to avoid low temperature ageing in alumina zirconia composites for orthopaedic application. *Journal of the European Ceramic Society*, **2007**, 27, 1547-1552	6	69
31	Toughening of bio-ceramics scaffolds by polymer coating. *Journal of the European Ceramic Society*, **2007**, 27, 2679-2685	6	136
30	How do the grains slide in fine-grained zirconia polycrystals at high temperature?. *Applied Physics Letters*, **2007**, 91, 121904	3.4	2
29	Low-Temperature Degradation of Zirconia and Implications for Biomedical Implants. *Annual Review of Materials Research*, **2007**, 37, 1-32	12.8	449
28	Sintering, crystallisation and biodegradation behaviour of Bioglass-derived glass-ceramics. *Faraday Discussions*, **2007**, 136, 27-44; discussion 107-23	3.6	196
27	What future for zirconia as a biomaterial?. *Biomaterials*, **2006**, 27, 535-43	15.6	811
26	Influence of surface finish and residual stresses on the ageing sensitivity of biomedical grade zirconia. *Biomaterials*, **2006**, 27, 2186-92	15.6	194
25	Effect of cooling rate on the location and chemistry of glassy phases in silica-doped 3Y-TZP ceramics. *Journal of the European Ceramic Society*, **2005**, 25, 875-882	6	16
24	Atomic force microscopy of transformation toughening in ceria-stabilized zirconia. *Journal of the European Ceramic Society*, **2005**, 25, 3089-3096	6	38
23	Slow crack growth behaviour of hydroxyapatite ceramics. *Biomaterials*, **2005**, 26, 6106-12	15.6	59
22	Atomic Force Microscopy Study and Qualitative Analysis of Martensite Relief in Zirconia. *Journal of the American Ceramic Society*, **2005**, 88, 1261-1267	3.8	40
21	Microstructural Investigation of the Aging Behavior of (3Y-TZP)Al2O3 Composites. *Journal of the American Ceramic Society*, **2005**, 88, 1273-1280	3.8	47
20	A critical comparison of methods for the determination of the aging sensitivity in biomedical grade yttria-stabilized zirconia. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2005**, 72, 239-45	3.5	133
19	Atomic force microscopy study of the tetragonal to monoclinic transformation behavior of silica doped yttria-stabilized zirconia. *Journal of Materials Science*, **2005**, 40, 3821-3823	4.3	4
18	Improving the Durability of a Biomedical-Grade Zirconia Ceramic by the Addition of Silica. *Journal of the American Ceramic Society*, **2004**, 85, 401-407	3.8	47
17	Accelerated Aging in 3-mol%-Yttria-Stabilized Tetragonal Zirconia Ceramics Sintered in Reducing Conditions. *Journal of the American Ceramic Society*, **2004**, 87, 2282-2285	3.8	35
16	Quantitative Analysis of Crack Shielding Degradation During Cyclic Fatigue of Alumina. *Journal of the American Ceramic Society*, **2004**, 88, 172-178	3.8	11

15	Low-Temperature Aging of Y-TZP Ceramics. *Journal of the American Ceramic Society*, **2004**, 82, 2150-2154	3.8	458
14	Subcritical Crack Propagation in 3Y-TZP Ceramics: Static and Cyclic Fatigue. *Journal of the American Ceramic Society*, **2004**, 82, 3129-3138	3.8	121
13	Modeling the aging kinetics of zirconia ceramics. *Journal of the European Ceramic Society*, **2004**, 24, 3483-3489	3	95
12	Critical effect of cubic phase on aging in 3mol% yttria-stabilized zirconia ceramics for hip replacement prosthesis. *Biomaterials*, **2004**, 25, 5539-45	15.6	242
11	Martensitic transformation in zirconia: Part II. Martensite growth. *Acta Materialia*, **2004**, 52, 5709-5721	8.4	51
10	Effect of micro- and macroporosity of bone substitutes on their mechanical properties and cellular response. *Journal of Materials Science: Materials in Medicine*, **2003**, 14, 1089-97	4.5	241
9	Low-temperature ageing of zirconia-toughened alumina ceramics and its implication in biomedical implants. *Journal of the European Ceramic Society*, **2003**, 23, 2975-2982	6	136
8	Slow-Crack-Growth Behavior of Zirconia-Toughened Alumina Ceramics Processed by Different Methods. *Journal of the American Ceramic Society*, **2003**, 86, 115-120	3.8	86
7	Martensitic Relief Observation by Atomic Force Microscopy in Yttria-Stabilized Zirconia. *Journal of the American Ceramic Society*, **2003**, 86, 2225-2227	3.8	66
6	Effect of ball milling on the processing of bone substitutes with calcium phosphate powders. *Journal of Biomedical Materials Research Part B*, **2002**, 63, 619-26		12
5	Microstructure development in calcium hexaluminate. *Journal of the European Ceramic Society*, **2001**, 21, 381-387	6	95
4	Thermomechanical properties and fracture mechanisms of calcium hexaluminate. *Journal of the European Ceramic Society*, **2001**, 21, 907-917	6	66
3	Extending the Lifetime of Ceramic Orthopaedic Implants. *Advanced Materials*, **2000**, 12, 1619-1621	24	47
2	Low Temperature Ageing of 3Y - TZP: Influence of the Microstructure. *Key Engineering Materials*, **1997**, 132-136, 635-638	0.4	1
1	Crack Propagation Behavior of Y-TZP Ceramics. *Journal of the American Ceramic Society*, **1995**, 78, 1889-1894	3.8	24