Laurent Gremillard

List of Publications by Year in Descending Order

113 papers	4,781 citations	28 h-index	68 g-index
117 ext. papers	5,498 ext. citations	5.4 avg, IF	5.71 L-index

#	Paper	IF	Citations
113	One-step fabrication of single-phase hydroxyapatite coatings on Ti-alloy implants by electrostatic spray deposition: From microstructural investigation to in vitro studies. *Surface and Coatings Technology*, **2021**, 427, 127805	4.4	2
112	Is Surface Metastability of Today Ceramic Bearings a Clinical Issue?. *Journal of Composites Science*, **2021**, 5, 273	3	2
111	Direct-ink writing of strong and biocompatible titanium scaffolds with bimodal interconnected porosity. *Additive Manufacturing*, **2021**, 39, 101859	6.1	5
110	Preparation of mullite-alumina composite by reaction sintering between Algerian kaolin and amorphous aluminum hydroxide. *Ceramics International*, **2021**, 47, 16208-16220	5.1	3
109	Thermo-Mechanical Simulation of Self-Heating of a High-Power Diode Made of Ti3SiC2 (MAX) Phase-on-4H-SiC Substrate. *Journal of Thermal Science*, **2021**, 30, 939-949	1.9	
108	Design of advanced one-step hydroxyapatite coatings for biomedical applications using the electrostatic spray deposition. *Applied Surface Science*, **2021**, 541, 148462	6.7	9
107	New Trends in Ceramics for Orthopedics **2021**, 493-500		1
106	Robocasting of highly porous ceramics scaffolds with hierarchized porosity. *Additive Manufacturing*, **2021**, 38, 101776	6.1	6
105	Electrospinning of in situ synthesized silica-based and calcium phosphate bioceramics for applications in bone tissue engineering: A´review. *Acta Biomaterialia*, **2021**, 123, 123-153	10.8	13
104	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
103	Porous functionalized polymers enable generating and transporting hyperpolarized mixtures of metabolites. *Nature Communications*, **2021**, 12, 4695	17.4	4
102	Modeling of interstitials diffusion during debinding/sintering of 3D printed metallic filaments: Application to titanium alloy and its embrittlement. *Acta Materialia*, **2021**, 219, 117224	8.4	1
101	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
100	Corrosion and Low Temperature Degradation of 3Y-TZP dental ceramics under acidic conditions. *Journal of the European Ceramic Society*, **2020**, 40, 6114-6122	6	2
99	Stable and reliable ohmic contact on p-type 4H-SiC up to 1500 h of aging at 600 °C. *Microelectronics Reliability*, **2020**, 110, 113694	1.2	1
98	Microstructure and hydrothermal ageing of alumina-zirconia composites modified by laser engraving. *Journal of the European Ceramic Society*, **2020**, 40, 2077-2089	6	8
97	In vitro cyclic fatigue and hydrothermal aging lifetime assessment of yttria-stabilized zirconia dental ceramics. *Journal of the European Ceramic Society*, **2020**, 40, 4647-4654	6	3

96	Tetragonal phase stability maps of ceria-yttria co-doped zirconia: From powders to sintered ceramics. *Ceramics International*, **2020**, 46, 9396-9405	5.1	9
95	Interplay between internal stresses and matrix stiffness influences hydrothermal ageing behaviour of zirconia-toughened-alumina. *Acta Materialia*, **2020**, 185, 55-65	8.4	8
94	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
93	Hierarchical salt-ceramic composites for efficient thermochemical energy storage. *Applied Materials Today*, **2020**, 20, 100658	6.6	3
92	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
91	Fabrication and characterization of hardystonite-chitosan biocomposite scaffolds. *Ceramics International*, **2019**, 45, 8804-8814	5.1	10
90	Porosity evolution of expanded vermiculite under pressure: the effect of pre-compaction. *SN Applied Sciences*, **2019**, 1, 1	1.8	4
89	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
88	Effect of surface properties of capillary structures on the thermal behaviour of a LHP flat disk-shaped evaporator. *International Journal of Thermal Sciences*, **2019**, 142, 163-175	4.1	0
87	Effect of grain orientation and magnesium doping on tricalcium phosphate resorption behavior. *Acta Biomaterialia*, **2019**, 89, 391-402	10.8	22
86	Surface treatment methods for mitigation of hydrothermal ageing of zirconia. *Journal of the European Ceramic Society*, **2019**, 39, 4322-4329	6	7
85	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
84	Sub-surface assessment of hydrothermal ageing in zirconia-containing femoral heads for hip joint applications. *Acta Biomaterialia*, **2018**, 68, 286-295	10.8	15
83	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
82	Human primary osteoblast behaviour on microrough zirconia-toughened alumina and on selectively etched microrough zirconia-toughened alumina. *Journal of the European Ceramic Society*, **2018**, 38, 927-937	6	11
81	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
80	The influence of stresses on ageing kinetics of 3Y- and 4Y- stabilized zirconia. *Journal of the European Ceramic Society*, **2018**, 38, 753-760	6	14
79	Robocast zirconia-toughened alumina scaffolds: Processing, structural characterisation and interaction with human primary osteoblasts. *Journal of the European Ceramic Society*, **2018**, 38, 845-853	6	21

78	A fast, stepwise procedure to assess time-temperature equivalence for hydrothermal ageing of zirconia-based materials. *Journal of the European Ceramic Society*, **2018**, 38, 181-186	6	7
77	Effect of the wick characteristics on the thermal behaviour of a LHP capillary evaporator. *International Journal of Thermal Sciences*, **2018**, 133, 22-31	4.1	5
76	3-D printing of chitosan-calcium phosphate inks: rheology, interactions and characterization. *Journal of Materials Science: Materials in Medicine*, **2018**, 30, 6	4.5	27
75	Towards the prediction of hydrothermal ageing of 3Y-TZP bioceramics from processing parameters. *Acta Materialia*, **2018**, 144, 245-256	8.4	26
74	Effect of spark plasma sintering of alumina nanopowder on the mechanical properties. *Journal of the Australian Ceramic Society*, **2017**, 53, 49-55	1.5	6
73	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
72	Characterization of 100Cr6 lattice structures produced by robocasting. *Materials and Design*, **2017**, 121, 345-354	8.1	26
71	Fracture behavior of robocast HA/β-TCP scaffolds studied by X-ray tomography and finite element modeling. *Journal of the European Ceramic Society*, **2017**, 37, 1735-1745	6	20
70	Characterization of materials and their interfaces in a direct bonded copper substrate for power electronics applications. *Microelectronics Reliability*, **2017**, 79, 288-296	1.2	8
69	Modeling and in-situ evaluation of thermal gradients during sintering of large ceramic balls. *Ceramics International*, **2017**, 43, 7338-7345	5.1	6
68	Microstructural control of modular peptide release from microporous biphasic calcium phosphate. *Materials Science and Engineering C*, **2017**, 72, 268-277	8.3	6
67	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
66	Materials for hard tissue applications **2017**, 3-20		
65	1.6 Zirconia as a Biomaterial **2017**, 122-144		7
64	Ageing, Shocks and Wear Mechanisms in ZTA and the Long-Term Performance of Hip Joint Materials. *Materials*, **2017**, 10,	3.5	20
63	DESIGN, MANUFACTURING, AND CHARACTERIZATION OF COPPER CAPILLARY STRUCTURES FOR LOOP HEAT PIPES. *Heat Pipe Science and Technology an International Journal*, **2017**, 8, 27-49		2
62	Selective etching of injection molded zirconia-toughened alumina: Towards osseointegrated and antibacterial ceramic implants. *Acta Biomaterialia*, **2016**, 46, 308-322	10.8	26
61	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

60	Wear study of Total Ankle Replacement explants by microstructural analysis. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 61, 1-11	4.1	7
59	Direct silanization of zirconia for increased biointegration. *Acta Biomaterialia*, **2016**, 46, 323-335	10.8	33
58	Assessment of ultrathin yttria-stabilized zirconia foils for biomedical applications. *Journal of Materials Science*, **2015**, 50, 6197-6207	4.3	9
57	A new testing protocol for zirconia dental implants. *Dental Materials*, **2015**, 31, 15-25	5.7	65
56	Effect of different surface treatments on the hydrothermal degradation of a 3Y-TZP ceramic for dental implants. *Dental Materials*, **2014**, 30, 1136-46	5.7	32
55	Thermal shock resistance of two micro-structured alumina obtained by natural sintering and SPS. *Ceramics International*, **2014**, 40, 619-627	5.1	12
54	Accurate characterization of pure silicon-substituted hydroxyapatite powders synthesized by a new precipitation route. *Acta Biomaterialia*, **2013**, 9, 6992-7004	10.8	76
53	Degradation of alumina and zirconia toughened alumina (ZTA) hip prostheses tested under microseparation conditions in a shock device. *Tribology International*, **2013**, 63, 151-157	4.9	12
52	Combining ageing and wear to assess the durability of zirconia-based ceramic heads for total hip arthroplasty. *Acta Biomaterialia*, **2013**, 9, 7545-55	10.8	35
51	A Comparative Study between Melt-Derived and Sol-Gel Synthesized 45S5 Bioactive Glasses. *Key Engineering Materials*, **2013**, 541, 15-30	0.4	27
50	3D-characterization of the veneer-zirconia interface using FIB nano-tomography. *Dental Materials*, **2013**, 29, 157-65	5.7	22
49	Evidence for the formation of distorted nanodomains involved in the phase transformation of stabilized zirconia by coupling convergent beam electron diffraction and in situ TEM nanoindentation. *Acta Materialia*, **2013**, 61, 174-182	8.4	5
48	A global investigation into in situ nanoindentation experiments on zirconia: from the sample geometry optimization to the stress nanolocalization using convergent beam electron diffraction. *Journal of Microscopy*, **2013**, 249, 99-110	1.9	3
47	Sintering behaviour of diopside (CaO–MgO–2SiO2)–fluorapatite (9CaO–3P2O5–CaF2) bioactive glass. *Journal of Non-Crystalline Solids*, **2013**, 380, 17-24	3.9	6
46	M□anisme multiphysique de d□gradation des zircones orthop□diques´: couplage entre vieillissement hydrothermal et frottement en simulateur de hanche. *MATEC Web of Conferences*, **2013**, 7, 04007	0.3	
45	Composites organiques-inorganiques pour la substitution et la r□paration osseuse´: concepts, premiers r□ultats et potentialit□. *MATEC Web of Conferences*, **2013**, 7, 04013	0.3	
44	Effects of Ca-, Mg- and Si-doping on microstructures of alumina–zirconia composites. *Journal of the European Ceramic Society*, **2012**, 32, 2711-2721	6	25
43	Sintering behavior of lanthanide-containing glass-ceramic sealants for solid oxide fuel cells. *Journal of Materials Chemistry*, **2012**, 22, 10042		37

42	Degradation of Bioceramics **2012**, 195-252		2
41	Oxidation of β-aluminium oxynitride. *Corrosion Science*, **2011**, 53, 939-945	6.8	5
40	Zirconia as a Biomaterial **2011**, 95-108		12
39	Ice shaping properties, similar to that of antifreeze proteins, of a zirconium acetate complex. *PLoS ONE*, **2011**, 6, e26474	3.7	52
38	Low-temperature degradation in zirconia with a porous surface. *Acta Biomaterialia*, **2011**, 7, 2986-93	10.8	67
37	Reliability assessment in advanced nanocomposite materials for orthopaedic applications. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 303-14	4.1	50
36	Iron ore sinter porosity characterisation with application of 3D X-ray tomography. *Ironmaking and Steelmaking*, **2010**, 37, 313-319	1.3	21
35	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
34	Evaluation of a new press-fit in situ setting composite porous scaffold for cancellous bone repair: towards a "surgeon-friendly" bone filler?. *Acta Biomaterialia*, **2010**, 6, 3808-12	10.8	11
33	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
32	Interfaces in graded coatings on titanium-based implants. *Journal of Biomedical Materials Research - Part A*, **2009**, 88, 1010-21	5.4	26
31	The Tetragonal-Monoclinic Transformation in Zirconia: Lessons Learned and Future Trends. *Journal of the American Ceramic Society*, **2009**, 92, 1901-1920	3.8	899
30	Ceramics for medical applications: A picture for the next 20 years. *Journal of the European Ceramic Society*, **2009**, 29, 1245-1255	6	503
29	Epitaxial growth of tungsten nanoparticles on alumina and spinel surfaces. *Nanotechnology*, **2008**, 19, 215605	3.4	12
28	Zirconia ceramics **2008**, 243-265		6
27	Sintering behaviour of 45S5 bioactive glass. *Acta Biomaterialia*, **2008**, 4, 1894-903	10.8	108
26	Near-infrared radiative properties of porous zirconia ceramics. *Infrared Physics and Technology*, **2007**, 51, 44-53	2.7	66
25	Structural transformations of bioactive glass 45S5 with thermal treatments. *Acta Materialia*, **2007**, 55, 3305-3313	8.4	247

24	Preparation of porous hydroxyapatite scaffolds. *Materials Science and Engineering C*, **2007**, 27, 546-550	8.3	106
23	Toughening of bio-ceramics scaffolds by polymer coating. *Journal of the European Ceramic Society*, **2007**, 27, 2679-2685	6	136
22	How do the grains slide in fine-grained zirconia polycrystals at high temperature?. *Applied Physics Letters*, **2007**, 91, 121904	3.4	2
21	Improvement of the Mechanical Properties of Calcium Phosphate Bone Substitutes by Polycaprolactone Infiltration. *Key Engineering Materials*, **2007**, 361-363, 403-406	0.4	3
20	Preliminary Results of In Vitro Study of Cell Growth in a 45S5 Bioactive Glass as Bone Substitute Using Scanning Electron and Confocal Microscopies. *Key Engineering Materials*, **2007**, 361-363, 1111-1114	0.4	1
19	Sintering Behavior of 45S5 Bioglass . *Key Engineering Materials*, **2007**, 361-363, 265-268	0.4	1
18	Durability of Zirconia-Based Ceramics and Composites for Total Hip Replacement. *Key Engineering Materials*, **2007**, 361-363, 791-794	0.4	1
17	Low-Temperature Degradation of Zirconia and Implications for Biomedical Implants. *Annual Review of Materials Research*, **2007**, 37, 1-32	12.8	449
16	Sintering, crystallisation and biodegradation behaviour of Bioglass-derived glass-ceramics. *Faraday Discussions*, **2007**, 136, 27-44; discussion 107-23	3.6	196
15	Influence of surface finish and residual stresses on the ageing sensitivity of biomedical grade zirconia. *Biomaterials*, **2006**, 27, 2186-92	15.6	194
14	Role of titanium on the reactive spreading of lead-free solders on alumina. *Journal of Materials Research*, **2006**, 21, 3222-3233	2.5	45
13	Elaboration of self-coating alumina-based porous ceramics. *Journal of Materials Science*, **2006**, 41, 5200-5207	1.97	4
12	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
11	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
10	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
9	Wetting and strength in the tin–silver–titanium/sapphire system. *International Journal of Materials Research*, **2004**, 95, 261-265		9
8	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
7	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

6	Modeling the aging kinetics of zirconia ceramics. *Journal of the European Ceramic Society*, **2004**, 24, 3483-3489	6	95
5	Thermomechanical properties and fracture mechanisms of calcium hexaluminate. *Journal of the European Ceramic Society*, **2001**, 21, 907-917	6	66
4	Influence of Silica and Alumina Doping on the Microstructure and the Mechanical Properties of Zirconia Ceramics Used for Joint Prostheses Applications. *Key Engineering Materials*, **2001**, 206-213, 1633-1636	0.4	
3	Microstructural study of silica-doped zirconia ceramics. *Acta Materialia*, **2000**, 48, 4647-4652	8.4	58
2	Crack Propagation in TZP Ceramics. *Key Engineering Materials*, **1998**, 161-163, 563-568	0.4	1
1	Wetting in the Tin-Silver-Titanium/Sapphire System. *Ceramic Transactions*,121-128	0.1	