

Oscar Carvalho

List of Publications by Year in descending order

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112
papers

2,355
citations

218381

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276539

41
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113
all docs

113
docs citations

113
times ranked

2316
citing authors

#	ARTICLE	IF	CITATIONS
1	316L stainless steel mechanical and tribological behavior—A comparison between selective laser melting, hot pressing and conventional casting. Additive Manufacturing, 2017, 16, 81-89.	1.7	203
2	Predictive models for physical and mechanical properties of 316L stainless steel produced by selective laser melting. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 657, 43-56.	2.6	142
3	Predictive models for physical and mechanical properties of Ti6Al4V produced by Selective Laser Melting. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 663, 181-192.	2.6	101
4	Wear behavior of Ti6Al4V biomedical alloys processed by selective laser melting, hot pressing and conventional casting. Transactions of Nonferrous Metals Society of China, 2017, 27, 829-838.	1.7	101
5	Corrosion and tribocorrosion behaviour of Ti6Al4V produced by selective laser melting and hot pressing in comparison with the commercial alloy. Journal of Materials Processing Technology, 2019, 266, 239-245.	3.1	67
6	Effect of laser surface texturing on primary stability and surface properties of zirconia implants. Ceramics International, 2017, 43, 15227-15236.	2.3	61
7	Tribological behavior of Ti6Al4V cellular structures produced by Selective Laser Melting. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 69, 128-134.	1.5	58
8	Study of the tribocorrosion behaviour of Ti6Al4V – HA biocomposites. Tribology International, 2017, 107, 77-84.	3.0	56
9	Dry sliding wear behaviour of AlSi–CNTs–SiCp hybrid composites. Tribology International, 2015, 90, 148-156.	3.0	54
10	Design of Ti6Al4V-HA composites produced by hot pressing for biomedical applications. Materials and Design, 2016, 108, 488-493.	3.3	53
11	Optimization of AlSi–CNTs functionally graded material composites for engine piston rings. Materials & Design, 2015, 80, 163-173.	5.1	50
12	Novel laser surface texturing for improved primary stability of titanium implants. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 98, 26-39.	1.5	45
13	Review on current limits and potentialities of technologies for biomedical ceramic scaffolds production. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2021, 109, 377-393.	1.6	45
14	Hybrid composites – Metallic and ceramic reinforcements influence on mechanical and wear behavior. Composites Part B: Engineering, 2015, 74, 153-165.	5.9	41
15	Laser surface structuring of Ti6Al4V substrates for adhesion enhancement in Ti6Al4V-PEEK joints. Materials Science and Engineering C, 2017, 79, 177-184.	3.8	36
16	A novel approach to reduce in-service temperature in WC-Co cutting tools. Ceramics International, 2020, 46, 3002-3008.	2.3	34
17	Surface design using laser technology for Ti6Al4V-hydroxyapatite implants. Optics and Laser Technology, 2019, 109, 488-495.	2.2	32
18	Mechanical properties of hot pressed CoCrMo alloy compacts for biomedical applications. Materials and Design, 2015, 83, 829-834.	3.3	31

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19	The effect of SiCp size on high temperature damping capacity and dynamic Young's modulus of hot-pressed AlSi-CiCp MMCs. <i>Materials and Design</i> , 2016, 93, 409-417.	3.3	31
20	Tribological solutions for engine piston ring surfaces: an overview on the materials and manufacturing. <i>Materials and Manufacturing Processes</i> , 2020, 35, 498-520.	2.7	31
21	Interface analysis and wear behavior of Ni particulate reinforced aluminum-silicon composites produced by PM. <i>Composites Part B: Engineering</i> , 2015, 69, 101-110.	5.9	29
22	Novel laser textured surface designs for improved zirconia implants performance. <i>Materials Science and Engineering C</i> , 2020, 108, 110390.	3.8	29
23	Cell adhesion evaluation of laser-sintered HAp and 45S5 bioactive glass coatings on micro-textured zirconia surfaces using MC3T3-E1 osteoblast-like cells. <i>Materials Science and Engineering C</i> , 2020, 109, 110492.	3.8	29
24	Damping capacity and dynamic modulus of hot pressed AlSi composites reinforced with different SiC particle sized. <i>Composites Part B: Engineering</i> , 2016, 90, 399-405.	5.9	28
25	Evaluation of CNT Dispersion Methodology Effect on Mechanical Properties of an AlSi Composite. <i>Journal of Materials Engineering and Performance</i> , 2015, 24, 2535-2545.	1.2	27
26	Effect of sintering pressure on microstructure and mechanical properties of hot-pressed Ti6Al4V-ZrO2 materials. <i>Materials and Design</i> , 2017, 120, 394-403.	3.3	27
27	Influence of morphology and microstructure on the tribological behavior of arc deposited CrN coatings for the automotive industry. <i>Surface and Coatings Technology</i> , 2020, 397, 126047.	2.2	27
28	High temperature damping behavior and dynamic Young's modulus of AlSi-CNT-SiCp hybrid composite. <i>Composite Structures</i> , 2016, 141, 155-162.	3.1	25
29	The influence of zirconia veneer thickness on the degree of conversion of resin-matrix cements: an integrative review. <i>Clinical Oral Investigations</i> , 2021, 25, 3395-3408.	1.4	25
30	Development of a method to produce FGMs by controlling the reinforcement distribution. <i>Materials and Design</i> , 2016, 92, 233-239.	3.3	22
31	Carbon nanotube dispersion in aluminum matrix composites-Quantification and influence on strength. <i>Mechanics of Advanced Materials and Structures</i> , 2016, 23, 66-73.	1.5	22
32	Bond strength enhancement of zirconia-porcelain interfaces via Nd:YAG laser surface structuring. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2018, 81, 161-167.	1.5	22
33	Ti6Al4V laser surface preparation and functionalization using hydroxyapatite for biomedical applications. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2018, 106, 1534-1545.	1.6	22
34	The resin-matrix cement layer thickness resultant from the intracanal fitting of teeth root canal posts: an integrative review. <i>Clinical Oral Investigations</i> , 2021, 25, 5595-5612.	1.4	22
35	Mechanisms governing the tensile, fatigue, and wear behavior of carbon nanotube reinforced aluminum alloy. <i>Mechanics of Advanced Materials and Structures</i> , 2016, 23, 917-925.	1.5	21
36	HAp-functionalized zirconia surfaces via hybrid laser process for dental applications. <i>Optics and Laser Technology</i> , 2018, 106, 157-167.	2.2	21

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37	Laser surface texturing of Ti-6Al-4V by nanosecond laser: Surface characterization, Ti-oxide layer analysis and its electrical insulation performance. <i>Materials Science and Engineering C</i> , 2019, 104, 109901.	3.8	21
38	Surface modification of zirconia dental implants by laser texturing. <i>Lasers in Medical Science</i> , 2022, 37, 77-93.	1.0	21
39	Shear bond strength of veneering porcelain to zirconia: Effect of surface treatment by CNC-milling and composite layer deposition on zirconia. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 60, 547-556.	1.5	20
40	Tribological behaviour of glass-ceramics reinforced by Yttria Stabilized Zirconia. <i>Tribology International</i> , 2016, 102, 361-370.	3.0	20
41	Mechanisms governing the mechanical behavior of an AlSi/CNTs/SiCp hybrid composite. <i>Composites Part B: Engineering</i> , 2016, 90, 443-449.	5.9	20
42	Laser machining of WC-Co green compacts for cutting tools manufacturing. <i>International Journal of Refractory Metals and Hard Materials</i> , 2019, 81, 316-324.	1.7	20
43	Laser-assisted production of HAp-coated zirconia structured surfaces for biomedical applications. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 112, 104049.	1.5	20
44	Effect of Zirconia and Alumina Fillers on the Microstructure and Mechanical Strength of Dental Glass Ionomer Cements. <i>Open Dentistry Journal</i> , 2016, 10, 58-68.	0.2	19
45	Interface analysis on an eutectic AlSi alloy reinforced with Ni coated MWCNT. <i>Composites Part B: Engineering</i> , 2016, 93, 229-235.	5.9	19
46	Bond Strength of Metallic or Ceramic Orthodontic Brackets to Enamel, Acrylic, or Porcelain Surfaces. <i>Materials</i> , 2020, 13, 5197.	1.3	19
47	CNT-reinforced aluminum composites: processing and mechanical properties. <i>Ciência & Tecnologia Dos Materiais</i> , 2013, 25, 75-78.	0.5	18
48	Novel design of low modulus high strength zirconia scaffolds for biomedical applications. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 97, 375-384.	1.5	18
49	Development of novel zirconia implant's materials graded design with improved bioactive surface. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2019, 94, 110-125.	1.5	17
50	Effect of laser surface texturing on the wettability of WC-Co cutting tools. <i>International Journal of Advanced Manufacturing Technology</i> , 2020, 111, 1991-1999.	1.5	16
51	Surface modification of glass fiber-reinforced composite posts to enhance their bond strength to resin-matrix cements: an integrative review. <i>Clinical Oral Investigations</i> , 2022, 26, 95-107.	1.4	16
52	Micro-grooved surface laser texturing of zirconia: Surface characterization and artificial soft tissue adhesion evaluation. <i>Ceramics International</i> , 2020, 46, 26136-26146.	2.3	15
53	Effect of sintering stage in NiTi short-fibre-reinforced aluminium-silicon composites interface properties. <i>Journal of Composite Materials</i> , 2013, 47, 1625-1631.	1.2	14
54	Current investigations on tritiated dust and its impact on tokamak safety. <i>Nuclear Fusion</i> , 2019, 59, 086061.	1.6	14

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55	Production of a laser textured 316L stainless steel reinforced with CuCoBe + diamond composites by hot pressing: Influence of diamond particle size on the hardness and tribological behaviour. Tribology International, 2020, 146, 106056.	3.0	14
56	Improvement on Sliding Wear Behavior of Al/Cast Iron Tribopair by CNT's Reinforcement of an Al Alloy. Tribology Transactions, 2015, 58, 643-653.	1.1	13
57	On the mechanical properties of monolithic and laminated nano-ceramic resin structures obtained by laser printing. Composites Part B: Engineering, 2018, 141, 76-83.	5.9	13
58	Aunps and Ag ^{1/4} ps-functionalized zirconia surfaces by hybrid laser technology for dental implants. Ceramics International, 2020, 46, 7109-7121.	2.3	13
59	The influence of inorganic fillers on the light transmission through resin-matrix composites during the light-curing procedure: an integrative review. Clinical Oral Investigations, 2022, 26, 5575-5594.	1.4	13
60	Properties assessment of nickel particulate-reinforced aluminum composites produced by hot pressing. Journal of Composite Materials, 2016, 50, 523-531.	1.2	12
61	Study on damping capacity and dynamic Young's modulus of aluminium matrix composite reinforced with SiC particles. Ci�ncia & Tecnologia Dos Materiais, 2017, 29, e92-e96.	0.5	12
62	Evaluation of the color and translucency of glass-infiltrated zirconia based on the concept of functionally graded materials. Journal of Prosthetic Dentistry, 2019, 121, 547.e1-547.e7.	1.1	12
63	Laser Nd:YAG patterning enhance human osteoblast behavior on zirconia implants. Lasers in Medical Science, 2020, 35, 2039-2048.	1.0	12
64	Pressure and sintering temperature influence on the interface reaction of SiCp/410L stainless steel composites. Journal of Composite Materials, 2016, 50, 2005-2015.	1.2	11
65	Compressive properties and energy absorption of metal-polymer hybrid cellular structures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 794, 139921.	2.6	11
66	Influence of ns-Nd:YAG laser surface treatment on the tensile bond strength of zirconia to resin-matrix cements. Ceramics International, 2020, 46, 27822-27831.	2.3	11
67	Computational Modelling of the Bioheat Transfer Process in Human Skin Subjected to Direct Heating and/or Cooling Sources: A Systematic Review. Annals of Biomedical Engineering, 2020, 48, 1616-1639.	1.3	11
68	Influence of a DLC coating topography in the piston ring/cylinder liner tribological performance. Journal of Manufacturing Processes, 2021, 66, 483-493.	2.8	10
69	Multi-mechanical waves against Alzheimer's disease pathology: a systematic review. Translational Neurodegeneration, 2021, 10, 36.	3.6	10
70	NiTi laser textured implants with improved in vivo osseointegration: An experimental study in rats. Journal of Materials Science and Technology, 2022, 114, 120-130.	5.6	10
71	Influence of sintering pressure on the microstructure and tribological properties of low temperature fast sintered hot-pressed Y-TZP. Ceramics International, 2019, 45, 5883-5893.	2.3	9
72	Laser printing of silver-based micro-wires in ZrO2 substrate for smart implant applications. Optics and Laser Technology, 2020, 131, 106416.	2.2	9

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73	Reinforcement of a laser-textured 316L steel with CuCoBe-diamond composites through laser sintering. <i>Materials and Manufacturing Processes</i> , 2020, 35, 1032-1039.	2.7	9
74	Current Perspectives on the Biomechanical Modelling of the Human Lower Limb: A Systematic Review. <i>Archives of Computational Methods in Engineering</i> , 2021, 28, 601-636.	6.0	9
75	Tribological Characterization of Dental Restorative Materials. <i>Biotribology</i> , 2020, 23, 100140.	0.9	8
76	Laser printing of micro-electronic communication systems for smart implants applications. <i>Optics and Laser Technology</i> , 2020, 128, 106211.	2.2	8
77	Understanding drop spreading behaviour on WC-10wt%Co cutting tools – an experimental and numerical study. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2022, 637, 128268.	2.3	8
78	Laser powder bed fusion of the steels used in the plastic injection mould industry: a review of the influence of processing parameters on the final properties. <i>International Journal of Advanced Manufacturing Technology</i> , 2022, 121, 4255-4287.	1.5	8
79	Design, Modelling and Control of an Active Weight-Bearing Knee Exoskeleton with a Series Elastic Actuator. , 2019, , .		7
80	Porous Zirconia Blocks for Bone Repair: An Integrative Review on Biological and Mechanical Outcomes. <i>Ceramics</i> , 2022, 5, 161-172.	1.0	7
81	A nanoindentation study on Al ₃ Ni interface of Ni reinforced aluminum-silicon composite. <i>Mechanics of Advanced Materials and Structures</i> , 2017, 24, 871-874.	1.5	6
82	Metallic reinforcements role on aluminum silicon composites wear behavior. <i>Journal of Composite Materials</i> , 2017, 51, 2805-2812.	1.2	6
83	Electrical potential approaches to inhibit biofilm adhesion on titanium implants. <i>Materials Letters</i> , 2019, 255, 126577.	1.3	6
84	Production and tribological characterization of a textured diamond-reinforced copper-beryllium alloy. <i>Tribology International</i> , 2019, 140, 105843.	3.0	6
85	Wear Pathways of Tooth Occlusal Fissure Sealants: An Integrative Review. <i>Biotribology</i> , 2021, 27, 100190.	0.9	6
86	Pure magnesium laser surface modification using Nd:YAG laser. <i>Materials Technology</i> , 2021, 36, 811-815.	1.5	5
87	Effect of laser irradiation on the adhesion of resin-based materials to zirconia: a systematic review and meta-analysis. <i>Journal of Adhesion Science and Technology</i> , 2021, 35, 1035-1056.	1.4	5
88	Complex Fluid Flow in Microchannels and Heat Pipes with Enhanced Surfaces for Advanced Heat Conversion and Recovery Systems. <i>Energies</i> , 2022, 15, 1478.	1.6	5
89	Predictive models on the influence of laser texturing parameters on the Inconel 718 surface by using Nd: YVO4 laser. <i>Optics and Laser Technology</i> , 2022, 154, 108320.	2.2	5
90	<i>In Vitro</i> and <i>In Vivo</i> Effects of Light Therapy on Cartilage Regeneration for Knee Osteoarthritis: A Systematic Review. <i>Cartilage</i> , 2021, 13, 1700S-1719S.	1.4	4

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91	Laser surface treatment on Yttria-stabilized zirconia dental implants: Influence on cell behavior. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2022, 110, 249-258.	1.6	4
92	Assessment of an Exhaust Thermoelectric Generator Incorporating Thermal Control Applied to a Heavy Duty Vehicle. Energies, 2022, 15, 4787.	1.6	4
93	Antibiofilm effects of titanium surfaces modified by laser texturing and hot pressing sintering with silver. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2021, 109, 1588-1600.	1.6	3
94	A Preliminary Analysis of the Wear Pathways of Sliding Contacts on Temporomandibular Joint Total Joint Replacement Prostheses. Metals, 2021, 11, 685.	1.0	3
95	Osseointegration Assessment of Multi-Material Ti6Al4V-TCP Implants: An Experimental Study in Rats. Advanced Materials Technologies, 0, , 2101117.	3.0	3
96	Relationship between the inorganic content and the polymerization of the organic matrix of resin composites for dentistry: a narrative review. , 2022, 4, .	0.0	3
97	Tarnish and corrosion evaluation of a blue gold-based alloy. Materials and Corrosion - Werkstoffe Und Korrosion, 2009, 60, 355-359.	0.8	2
98	A New Tribometer for the Automotive Industry: Development and Experimental Validation. Experimental Mechanics, 2022, 62, 483-492.	1.1	2
99	Peri-implant cell response on groove and pore-textured zirconia surfaces. Journal of Oral Biosciences, 2022, 64, 100-107.	0.8	2
100	Human Gingival Fibroblast and Osteoblast Behavior on Groove-Milled Zirconia Implant Surfaces. Materials, 2022, 15, 2481.	1.3	2
101	Study of a purple gold-based alloy resistance to tarnishing in a sulphuric solution. Materials and Corrosion - Werkstoffe Und Korrosion, 2009, 60, 450-454.	0.8	1
102	Desgaste das próteses da articulação temporomandibular: uma revisão narrativa. , 2021, 3, 61-68.	0.0	1
103	Patterned Electroconductive Networks in Ag-Polyamide 6 Composites by Laser Ablation. Macromolecular Materials and Engineering, 2021, 306, 2100308.	1.7	1
104	Assessment of zirconia fluorescence after treatment with immersion in liquids, glass infiltration and aging. Ceramics International, 2021, 47, 27511-27523.	2.3	1
105	Tribological Behavior of 316L Stainless Steel Reinforced with CuCoBe-Diamond Composites by Laser Sintering and Hot Pressing: A Comparative Statistical Study. Lecture Notes in Computer Science, 2020, , 231-246.	1.0	1
106	Comparative study of tarnishing resistance of several coloured gold based alloys. Corrosion Engineering Science and Technology, 2011, 46, 271-276.	0.7	0
107	Computational Modelling of Human Lower Limb for Reproduction of Walking Dynamics with Muscles: Healthy and Pathological Cases. Mechanisms and Machine Science, 2019, , 3227-3236.	0.3	0
108	Computational Modelling of Human Lower Limb for Reproduction of Walking Dynamics with Muscles: Healthy and Pathological Cases. , 2019, , .		0

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109	Effect of lower limb orthoses on cartilage in patients with knee osteoarthritis: a narrative review. Prosthetics and Orthotics International, 2022, Publish Ahead of Print, .	0.5	0
110	Modification of Zirconia Implant Surfaces by Nd:YAG Laser Grooves: Does It Change Cell Behavior?. Biomimetics, 2022, 7, 49.	1.5	0
111	Effect of carbon nanotubes on the biotribological behavior of hot-pressed PEEK-based composites for biomedical applications. Engineering Research Express, 0, , .	0.8	0
112	Periodontal In Vitro Cells Response on Zirconia Implant Surfaces Textured with Milled Machining Micropores. World Journal of Dentistry, 2022, 13, 307-315.	0.1	0