James Calvin Earthman

List of Publications by Year
in descending order

96 papers	2,005 citations	257101 24 h-index	276539 41 g-index
103 all docs	103 docs citations	103 times ranked	1396 citing authors

#	Article	IF	Citations
1	Finite Element Study of Periodontal Ligament Properties for a Maxillary Central Incisor and a Mandibular Second Molar Under Percussion Conditions. Journal of Medical and Biological Engineering, 2022, 42, 681-691.	1.0	2
2	Hydroxyl ion stabilization of bulk nanobubbles resulting from microbubble shrinkage. Journal of Colloid and Interface Science, 2021, 584, 449-455.	5.0	36
3	Quantitative percussion diagnostics for evaluating porosity and surface roughness of cold sprayed and laser deposited materials. Journal of Materials Research and Technology, 2021, 14, 312-323.	2.6	8
4	Ten-year retrospective study of the effectiveness of quantitative percussion diagnostics as an indicator of the level of structural pathology in teeth. Journal of Prosthetic Dentistry, 2020, 123, 693-700.	1.1	4
5	Interaction of Calcium Carbonate with Nanobubbles Produced in an Alternating Magnetic Field. ACS Applied Materials & Interfaces, 2020, 12, 43714-43719.	4.0	14
6	Corrosion of Al_{0.1}CoCrFeNi High Entropy Alloy in a Molten Eutectic Salt. Journal of the Electrochemical Society, 2019, 166, C3488-C3492.	1.3	13
7	Grain size stability in a cryomilled nanocrystalline Al alloy powders containing diamantane nanoparticles. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 746, 290-299.	2.6	10
8	Quantitative percussion diagnostics as an indicator of the level of the structural pathology of teeth: Retrospective follow-up investigation of high-risk sites that remained pathological after restorative treatment. Journal of Prosthetic Dentistry, 2018, 119, 928-934.	1.1	6
9	Reliability centered additive manufacturing computational design framework. , 2018, , .		2
10	InÂvivo study of the effectiveness of quantitative percussion diagnostics as an indicator of the level of structural pathology of teeth after restoration. Journal of Prosthetic Dentistry, 2017, 117, 218-225.	1.1	7
11	InÂvivo study of the effectiveness of quantitative percussion diagnostics as an indicator of the level of the structural pathology of teeth. Journal of Prosthetic Dentistry, 2016, 116, 191-199.e1.	1.1	10
12	Static stretch affects neural stem cell differentiation in an extracellular matrix-dependent manner. Scientific Reports, 2015, 5, 8499.	1.6	78
13	Spark production by abrasion of titanium alloys in golf club heads. Fire and Materials, 2015, 39, 119-126.	0.9	1
14	Finite Element Analysis of Quantitative Percussion Diagnostics for Evaluating the Strength of Bonds Between Composite Laminates. , 2015, , 199-212.		0
15	An inÂvitro comparison of quantitative percussion diagnostics with a standard technique for determining the presence of cracks in natural teeth. Journal of Prosthetic Dentistry, 2014, 112, 267-275.	1.1	10
16	Fatigue Crack Nucleation Studies on Sulfuric Acid Anodized 7075-T73 Aluminum. Journal of Materials Engineering and Performance, 2014, 23, 2131-2138.	1.2	10
17	Analysis of â€œKissâ€•Bonds Between Composite Laminates. Jom, 2014, 66, 970-978.	0.9	7
18	Stress relaxation behavior of tessellated cartilage from the jaws of blue sharks. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 29, 68-80.	1.5	26

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19	Analysis of percussion response of dental implants: An in vitro study. Materials Science and Engineering C, 2013, 33, 2657-2663.	3.8	10
20	Evaluation of Fatigue Life of Asphalt Mixture with High RAP Content Utilizing Innovative Scanning Method. , 2013, , .		2
21	In Vivo Evaluation of Quantitative Percussion Diagnostics for Determining Implant Stability. International Journal of Oral and Maxillofacial Implants, 2013, 28, 1286-1292.	0.6	4
22	Quantitative Percussion Diagnostics and Bone Density Analysis of the Implant-Bone Interface in a Pre- and Postmortem Human Subject. International Journal of Oral and Maxillofacial Implants, 2013, 28, 1581-1588.	0.6	7
23	Scanning Laser Detection System Used to Measure Propagation of Fatigue Damage of Asphalt Mixes. Transportation Research Record, 2012, 2296, 135-143.	1.0	6
24	Inverse Hallâ€“Petch behavior in diamantane stabilized bulk nanocrystalline aluminum. Acta Materialia, 2012, 60, 5850-5857.	3.8	48
25	A comparison of the marginal adaptation of cathode-arc vapor-deposited titanium and cast base metal copings. Journal of Prosthetic Dentistry, 2011, 105, 403-409.	1.1	7
26	Thermal stability of cryomilled nanocrystalline aluminum containing diamantane nanoparticles. Journal of Materials Science, 2011, 46, 6932-6940.	1.7	19
27	Visualization of osseointegration of maxilla and mandible dental implants. International Journal of Computer Assisted Radiology and Surgery, 2010, 5, 69-76.	1.7	6
28	Influence of electrical discharged machining and surface defects on the fatigue strength of electrodeposited nanocrystalline Ni. International Journal of Fatigue, 2010, 32, 584-591.	2.8	16
29	Composite model of the shark's skeleton in bending: A novel architecture for biomimetic design of functional compression bias. Materials Science and Engineering C, 2010, 30, 1077-1084.	3.8	29
30	Grain Structure at Crack Path in Fatigued Nano-Crystalline Ni. Microscopy and Microanalysis, 2009, 15, 508-509.	0.2	0
31	Corrosion of Type 7075-T73 Aluminum in a 10% HNO3Â+ÂFe2(SO4)3 Deoxidizer Solution. Journal of Materials Engineering and Performance, 2009, 18, 196-204.	1.2	1
32	Surface Characterization of 7075-T73 Aluminum Exposed to Anodizing Pretreatment Solutions. Journal of Materials Engineering and Performance, 2008, 17, 674-681.	1.2	22
33	Biological Functionalization of a Solâ€“Gel Coating for the Mitigation of Microbialâ€induced Corrosion. Advanced Functional Materials, 2008, 18, 203-211.	7.8	39
34	Encrustation of nanostructured Ti in a simulated urinary tract environment. Materials Science and Engineering C, 2008, 28, 460-464.	3.8	6
35	Design and Evaluation of Bioepoxy-Flax Composites for Printed Circuit Boards. IEEE Transactions on Electronics Packaging Manufacturing, 2008, 31, 211-220.	1.6	34
36	Fractographs of Bending Fatigued Electrodeposited Nano-Crystalline Ni. Microscopy and Microanalysis, 2008, 14, 568-569.	0.2	0

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37	Renewable-resource Printed Wiring Board Design using Natural Fibers and a Bio-based Thermosetting Matrix. Electronics and the Environment, IEEE International Symposium on, 2007, , .	0.0	3
38	In Vivo Monitoring of Osseointegration. , 2007, , .		0
39	Reconstructive Materials and Bone Tissue Engineering in Implant Dentistry. Dental Clinics of North America, 2006, 50, 229-244.	0.8	16
40	Effect of bone density on the damping behavior of dental implants: An in vitro method. Materials Science and Engineering C, 2006, 26, 1307-1311.	3.8	26
41	Percussion Probe Analysis of Implant Stability and Structural Defects in Biological Tissues. , 2006, , .		0
42	Light scattering diagnostics for metal fatigue detection and life estimation. , 2005, , .		2
43	Lithium fluoride material properties as applied on the NIRCam instrument. , 2005, , .		7
44	Corrosion evaluation of wear tested nitinol wire. Materials Science and Engineering C, 2005, 25, 276-281.	3.8	4
45	The Effect of Heat Treatment on the Corrosion Resistance of 440C Stainless Steel in 20% HNO₃ + 2.5% Na₂Cr₂O₇ Solution. Journal of Materials Engineering and Performance, 2003, 12, 165-171.	1.2	7
46	Tissue engineering in dentistry. Clinics in Plastic Surgery, 2003, 30, 621-639.	0.7	16
47	Synthesis of Diamond Reinforced Al-Mg Nanocrystalline Composite Powder Using Ball Milling. Materials Science Forum, 2003, 416-418, 213-218.	0.3	30
48	Creep rupture mechanisms in annealed and overheated 7075 Al under multiaxial stress states. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2000, 31, 2807-2821.	1.1	24
49	Fatigue and Stress Analysis of a Novel Test Coupon Geometry Developed for Hydraulic Pressure Impulse Testing. Journal of Testing and Evaluation, 2000, 28, 359-366.	0.4	0
50	Fatigue properties of 2024-T3, 7075-T6 aluminum alloys modified using plasma-enhanced ion beams. Theoretical and Applied Fracture Mechanics, 1999, 32, 47-53.	2.1	11
51	The influence of bacteria on the passive film stability of 304 stainless steel. Electrochimica Acta, 1999, 44, 4685-4692.	2.6	79
52	Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1998, 29, 957-964.	1.1	0
53	Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1998, 29, 957-964.	1.1	1
54	Formation of cavity stringers during superplastic deformation. Acta Materialia, 1998, 46, 3557-3570.	3.8	32

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55	Characterization of Low-cycle Fatigue Damage in Inconel 718 by Laser Light Scanning. Journal of Materials Research, 1997, 12, 2048-2056.	1.2	16
56	Importance of biofilm formation for corrosion inhibition of SAE 1018 steel by axenic aerobic biofilms. Journal of Industrial Microbiology and Biotechnology, 1997, 18, 396-401.	1.4	54
57	Dislocation fiber interactions in short fiber reinforced metal matrix composites during creep and during thermal cycling. Scripta Materialia, 1997, 38, 341-348.	2.6	8
58	Tooth intrusion in implant-assisted prostheses. Journal of Prosthetic Dentistry, 1997, 77, 39-45.	1.1	60
59	Corrosion inhibition by aerobic biofilms on SAE 1018 steel. Applied Microbiology and Biotechnology, 1997, 47, 62-68.	1.7	124
60	Axenic aerobic biofilms inhibit corrosion of SAE 1018 steel through oxygen depletion. Applied Microbiology and Biotechnology, 1997, 48, 11-17.	1.7	98
61	Numerical models of creep and boundary sliding mechanisms in single-phase, dual-phase, and fully lamellar titanium aluminide. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1997, 28, 979-989.	1.1	13
62	Numerical models of creep cavitation in single phase, dual phase and fully lamellar titanium aluminide. Acta Materialia, 1997, 45, 4615-4626.	3.8	18
63	Effect of Fe on ductility and cavitation in the superplastic Zn-22 Pct Al eutectoid. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1996, 27, 863-872.	1.1	28
64	High temperature rupture of an SiC particulate reinforced Al composite under multiaxial stress states. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 214, 33-41.	2.6	3
65	Two dimensional modeling of momentum and thermal behavior during spray atomization of Î³-TiAl. Acta Materialia, 1996, 44, 2409-2420.	3.8	47
66	Damage mechanics approach for predicting high-temperature crack growth under mixed-mode loading conditions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1995, 202, 36-42.	2.6	3
67	Development of a scanning laser crack detection technique for corrosion fatigue testing of fine wire. Journal of Materials Research, 1995, 10, 372-380.	1.2	9
68	Development of a Novel Specimen Geometry for Fatigue Testing of Fine Wire. Journal of Testing and Evaluation, 1995, 23, 73-79.	0.4	5
69	Effect of Cd on superplastic flow in the Pb-62 wt% Sn eutectic. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1994, 69, 1017-1038.	0.8	52
70	Microstructure and cavitation in the superplastic Zn-22 wt% Al alloy: Effect of solution heat treatment. Philosophical Magazine Letters, 1994, 70, 7-13.	0.5	10
71	The effect of impurities on ductility and cavitation in the superplastic Zn-22%Al alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 188, 59-67.	2.6	22
72	Cavitation and cavity-induced fracture during superplastic deformation. Journal of Materials Science, 1994, 29, 5499-5514.	1.7	76

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73	Effect of environment on the rupture behavior of alloys 909 and 718. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 177, 43-53.	2.6	17
74	Novel instrumentation for quantitative determination of energy damping in materials and structures. Scripta Metallurgica Et Materialia, 1994, 31, 467-471.	1.0	9
75	High temperature deformation and fracture mechanisms in a dendritic Ni3Al alloy. Acta Metallurgica Et Materialia, 1994, 42, 679-687.	1.9	6
76	Effect of grain shape and texture on equi-biaxial creep of stress relieved and recrystallized zircaloy-4. Acta Metallurgica Et Materialia, 1994, 42, 3653-3661.	1.9	22
77	Numerical Model of Primary Creep Deformation in a Novel Double Shear Specimen. Journal of Testing and Evaluation, 1994, 22, 111-116.	0.4	8
78	Natural tooth intrusion and reversal in implant-assisted prosthesis: Evidence of and a hypothesis for the occurrence. Journal of Prosthetic Dentistry, 1993, 70, 513-520.	1.1	47
79	High temperature creep transitions in single crystalline Ni3Al(Ta, B). Journal of Materials Research, 1993, 8, 2510-2514.	1.2	3
80	Mechanisms of intergranular cavity growth in Ni3Al (Zr, B). Acta Metallurgica Et Materialia, 1992, 40, 1933-1943.	1.9	7
81	High temperature creep behavior of polycrystalline Ni3Al(Zr,B). Scripta Metallurgica Et Materialia, 1992, 26, 1823-1828.	1.0	20
82	On the mechanism of grain formation during spray atomization and deposition. Acta Metallurgica Et Materialia, 1992, 40, 3003-3016.	1.9	106
83	Directional solidification of Ni3Al. Acta Metallurgica Et Materialia, 1992, 40, 637-647.	1.9	13
84	A comparison of techniques for determining the volume fraction of particulates in metal matrix composites. Materials Characterization, 1992, 28, 173-178.	1.9	20
85	Primary dendrite arm spacings and tip radii in directionally solidified Ni3Al. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1992, 152, 240-246.	2.6	6
86	Characterization of small crack growth in 12% CrMoV steel under high temperature, low cycle fatigue conditions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1991, 132, 89-95.	2.6	6
87	High-temperature rupture of microstructurally unstable 304 stainless steel under uniaxial and triaxial stress states. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1991, 22, 2629-2636.	1.4	18
88	A Novel Specimen Geometry for Double Shear Creep Experiments. Journal of Testing and Evaluation, 1991, 19, 93-96.	0.4	10
89	The principal facet stress as a parameter for predicting creep rupture under multiaxial stresses. Acta Metallurgica, 1989, 37, 1067-1077.	2.1	76
90	Microstructural study of creep rupture in a 12% chromium ferritic steel. Acta Metallurgica, 1989, 37, 49-60.	2.1	81

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91	Creep crack growth and cavitation damage in a 12% CrMoV steel. Acta Metallurgica, 1989, 37, 2733-2741.	2.1	19
92	Deformation and damage processes in a 12%Crî—¸Moî—¸V steel under high temperature low cycle fatigue conditions in air and vacuum. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1989, 110, 103-114.	2.6	52
93	Characterizations of high temperature crack growth in copper and Cu + 1 wt% Sb under different loading conditions. Acta Metallurgica, 1987, 35, 463-472.	2.1	15
94	Simulations of stable crack propagation based on cavity growth by coupled diffusional and creep processes. Acta Metallurgica, 1987, 35, 1475-1485.	2.1	12
95	High temperature intergranular crack growth processes in copper and copper with 1 wt% antimony. Acta Metallurgica, 1985, 33, 805-817.	2.1	23
96	Finite Element Analysis of Quantitative Percussion Diagnostics for Evaluating the Strength of Bonds Between Composite Laminates. , 0, , .		0