Bryan J Mcentire

List of Publications by Year
in descending order

55	1,367	430874	377865
papers	citations	18 h-index	34 g-index

56	56	56	888
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ceramics and ceramic coatings in orthopaedics. Journal of the European Ceramic Society, 2015, 35, 4327-4369.	5.7	167
2	Surface modulation of silicon nitride ceramics for orthopaedic applications. Acta Biomaterialia, 2015, 26, 318-330.	8.3	100
3	Silicon Nitride Bioceramics Induce Chemically Driven Lysis in Porphyromonas gingivalis. Langmuir, 2016, 32, 3024-3035.	3.5	73
4	Bioactive silicon nitride: A new therapeutic material for osteoarthropathy. Scientific Reports, 2017, 7, 44848.	3.3	70
5	Human osteoblasts grow transitional Si/N apatite in quickly osteointegrated Si3N4 cervical insert. Acta Biomaterialia, 2017, 64, 411-420.	8.3	60
6	Incorporating Si₃N₄ into PEEK to Produce Antibacterial, Osteocondutive, and Radiolucent Spinal Implants. Macromolecular Bioscience, 2018, 18, e1800033.	4.1	57
7	Surface topography of silicon nitride affects antimicrobial and osseointegrative properties of tibial implants in a murine model. Journal of Biomedical Materials Research - Part A, 2017, 105, 3413-3421.	4.0	56
8	Bacteriostatic behavior of surface modulated silicon nitride in comparison to polyetheretherketone and titanium. Journal of Biomedical Materials Research - Part A, 2017, 105, 1521-1534.	4.0	55
9	Silicon nitride surface chemistry: A potent regulator of mesenchymal progenitor cell activity in bone formation. Applied Materials Today, 2017, 9, 82-95.	4.3	54
10	Silicon Nitride: A Synthetic Mineral for Vertebrate Biology. Scientific Reports, 2016, 6, 31717.	3.3	48
11	In Situ Spectroscopic Screening of Osteosarcoma Living Cells on Stoichiometry-Modulated Silicon Nitride Bioceramic Surfaces. ACS Biomaterials Science and Engineering, 2016, 2, 1121-1134.	5.2	43
12	3D-additive deposition of an antibacterial and osteogenic silicon nitride coating on orthopaedic titanium substrate. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 103, 103557.	3.1	37
13	In vitro antibacterial activity of oxide and non-oxide bioceramics for arthroplastic devices: I. In situ time-lapse Raman spectroscopy. Analyst, The, 2018, 143, 3708-3721.	3.5	31
14	Processing and Characterization of Silicon Nitride Bioceramics. Bioceramics Development and Applications, 2016, 06, .	0.3	30
15	Surface toughness of silicon nitride bioceramics: II, Comparison with commercial oxide materials. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 54, 346-359.	3.1	25
16	Silicon nitride laser cladding: A feasible technique to improve the biological response of zirconia. Materials and Design, 2020, 191, 108649.	7.0	22
17	Monitoring metabolic reactions in Staphylococcus epidermidis exposed to silicon nitride using in situ time-lapse Raman spectroscopy. Journal of Biomedical Optics, 2018, 23, 1.	2.6	22
18	In vitroantibacterial activity of oxide and non-oxide bioceramics for arthroplastic devices: II. Fourier transform infrared spectroscopy. Analyst, The, 2018, 143, 2128-2140.	3.5	20

#	Article	IF	Citations
19	The role of nitrogen off-stoichiometry in the osteogenic behavior of silicon nitride bioceramics. Materials Science and Engineering C, 2019, 105, 110053.	7.3	20
20	Silicon nitride: a potent solid-state bioceramic inactivator of ssRNA viruses. Scientific Reports, 2021, 11, 2977.	3.3	20
21	Effect of pH and monovalent cations on the Raman spectrum of water: Basics revisited and application to measure concentration gradients at water/solid interface in Si3N4 biomaterial. Chemical Physics, 2015, 463, 120-136.	1.9	18
22	In Vitro versus In Vivo Phase Instability of Zirconia-Toughened Alumina Femoral Heads: A Critical Comparative Assessment. Materials, 2017, 10, 466.	2.9	18
23	Reconciling in vivo and in vitro kinetics of the polymorphic transformation in zirconia-toughened alumina for hip joints: I. Phenomenology. Materials Science and Engineering C, 2017, 72, 252-258.	7.3	17
24	A single center retrospective clinical evaluation of anterior cervical discectomy and fusion comparing allograft spacers to silicon nitride cages. Journal of Spine Surgery, 2018, 4, 349-360.	1.2	17
25	Reconciling in vivo and in vitro kinetics of the polymorphic transformation in zirconia-toughened alumina for hip joints: II. Theory. Materials Science and Engineering C, 2017, 71, 446-451.	7.3	16
26	Reconciling in vivo and in vitro kinetics of the polymorphic transformation in zirconia-toughened alumina for hip joints: III. Molecular scale mechanisms. Materials Science and Engineering C, 2017, 71, 552-557.	7.3	16
27	Point-Defect Populations As Induced by Cation/Anion Substitution in Î²-Si₃N₄ Lattice. A Cathodoluminescence Study. Journal of Physical Chemistry C, 2015, 119, 3279-3287.	3.1	15
28	Development of a SiYAlON glaze for improved osteoconductivity of implantable medical devices. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2018, 106, 1084-1096.	3.4	15
29	Surface Functionalization of Polyethylene by Silicon Nitride Laser Cladding. Applied Sciences (Switzerland), 2020, 10, 2612.	2.5	15
30	Antifungal activity of polymethyl methacrylate/Si3N4 composites against Candida albicans. Acta Biomaterialia, 2021, 126, 259-276.	8.3	15
31	Silicon Nitride Bearings for Total Joint Arthroplasty. Lubricants, 2016, 4, 35.	2.9	14
32	Wear and surface degradation of commercial ZTA femoral heads under boundary lubrication conditions. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 65, 616-626.	3.1	14
33	Biological response of human osteosarcoma cells to Si3N4-doped Bioglasses. Materials and Design, 2018, 159, 79-89.	7.0	14
34	In situ molecular vibration insights into the antibacterial behavior of silicon nitride bioceramic versus gram-negative Escherichia coli. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2019, 223, 117299.	3.9	13
35	Surface toughness of silicon nitride bioceramics: I, Raman spectroscopy-assisted micromechanics. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 54, 328-345.	3.1	11
36	Clinical outcomes for lumbar fusion using silicon nitride versus other biomaterials. Journal of Spine Surgery, 2020, 6, 33-48.	1.2	11

#	Article	IF	Citations
37	Oxide ceramic femoral heads contribute to the oxidation of polyethylene liners in artificial hip joints. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 82, 168-182.	3.1	10
38	Bioglass functionalization of laser-patterned bioceramic surfaces and their enhanced bioactivity. Heliyon, 2018, 4, e01016.	3.2	9
39	Activity and Mechanism of Action of the Bioceramic Silicon Nitride as an Environmentally Friendly Alternative for the Control of the Grapevine Downy Mildew Pathogen Plasmopara viticola. Frontiers in Microbiology, 2020, 11, 610211.	3.5	9
40	On the molecular interaction between femoral heads and polyethylene liners in artificial hip joints: phenomenology and molecular scale phenomena. Biomedical Materials (Bristol), 2017, 12, 015005.	3.3	8
41	Burst Strength of BIOLOXÂ®delta Femoral Heads and Its Dependence on Low-Temperature Environmental Degradation. Materials, 2020, 13, 350.	2.9	8
42	Two-year results of a double-blind multicenter randomized controlled non-inferiority trial of polyetheretherketone (PEEK) versus silicon nitride spinal fusion cages in patients with symptomatic degenerative lumbar disc disorders. Journal of Spine Surgery, 2020, 6, 523-540.	1.2	8
43	Off-Stoichiometric Reactions at the Cellâ€“Substrate Biomolecular Interface of Biomaterials: In Situ and Ex Situ Monitoring of Cell Proliferation, Differentiation, and Bone Tissue Formation. International Journal of Molecular Sciences, 2019, 20, 4080.	4.1	7
44	Clinical outcomes for anterior cervical discectomy and fusion with silicon nitride spine cages: a multicenter study. Journal of Spine Surgery, 2019, 5, 504-519.	1.2	7
45	Enhanced bioactivity of Si3N4 through trench-patterning and back-filling with BioglassÂ®. Materials Science and Engineering C, 2020, 106, 110278.	7.3	7
46	Osteogenic Enhancement of Zirconia-Toughened Alumina with Silicon Nitride and BioglassÂ®. Ceramics, 2019, 2, 554-567.	2.6	6
47	Biological responses to silicon and nitrogen-rich PVD silicon nitride coatings. Materials Today Chemistry, 2021, 19, 100404.	3.5	6
48	Accelerated Cervical Fusion of Silicon Nitride versus PEEK Spacers: A Comparative Clinical Study. Journal of Spine, 2017, 06, .	0.2	6
49	Surface functionalization of PEEK with silicon nitride. Biomedical Materials (Bristol), 2021, 16, 015015.	3.3	6
50	KUSA-A1 mesenchymal stem cells response to PEEK-Si3N4 composites. Materials Today Chemistry, 2020, 17, 100316.	3.5	5
51	In toto microscopic scanning of ZTA femoral head retrievals using CAD-assisted confocal Raman spectroscopy. Materials and Design, 2017, 116, 631-637.	7.0	4
52	Antimicrobial Nitric Oxide Releasing Compounds and Scaffolds. , 2020, , 105-137.		3
53	In Vitro Comparison of Bioactive Silicon Nitride Laser Claddings on Different Substrates. Applied Sciences (Switzerland), 2020, 10, 9039.	2.5	2
54	Processing and Characterization of Silicon Nitride Bioceramics. Bioceramics Development and Applications, 2016, 6, .	0.3	2

#	Article	IF	Citations
55	Transforaminal lumbar interbody fusion with a silicon nitride cage demonstrates early radiographic fusion. Journal of Spine Surgery, 2022, 8, 29-43.	1.2	2