# 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 | Transforaminal lumbar interbody fusion with a silicon nitride cage demonstrates early radiographic fusion. Journal of Spine Surgery, 2022, 8, 29-43. | 1.2 | 2 |
| 2 | Silicon nitride: a potent solid-state bioceramic inactivator of ssRNA viruses. Scientific Reports, 2021, 11, 2977. | 3.3 | 20 |
| 3 | Biological responses to silicon and nitrogen-rich PVD silicon nitride coatings. Materials Today Chemistry, 2021, 19, 100404. | 3.5 | 6 |
| 4 | Antifungal activity of polymethyl methacrylate/Si3N4 composites against Candida albicans. Acta Biomaterialia, 2021, 126, 259-276. | 8.3 | 15 |
| 5 | Surface functionalization of PEEK with silicon nitride. Biomedical Materials (Bristol), 2021, 16, 015015. | 3.3 | 6 |
| 6 | Enhanced bioactivity of Si3N4 through trench-patterning and back-filling with BioglassÂ®. Materials Science and Engineering C, 2020, 106, 110278. | 7.3 | 7 |
| 7 | 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 |
| 8 | KUSA-A1 mesenchymal stem cells response to PEEK-Si3N4 composites. Materials Today Chemistry, 2020, 17, 100316. | 3.5 | 5 |
| 9 | In Vitro Comparison of Bioactive Silicon Nitride Laser Claddings on Different Substrates. Applied Sciences (Switzerland), 2020, 10, 9039. | 2.5 | 2 |
| 10 | Clinical outcomes for lumbar fusion using silicon nitride versus other biomaterials. Journal of Spine Surgery, 2020, 6, 33-48. | 1.2 | 11 |
| 11 | Burst Strength of BIOLOXÂ®delta Femoral Heads and Its Dependence on Low-Temperature Environmental Degradation. Materials, 2020, 13, 350. | 2.9 | 8 |
| 12 | Surface Functionalization of Polyethylene by Silicon Nitride Laser Cladding. Applied Sciences (Switzerland), 2020, 10, 2612. | 2.5 | 15 |
| 13 | Silicon nitride laser cladding: A feasible technique to improve the biological response of zirconia. Materials and Design, 2020, 191, 108649. | 7.0 | 22 |
| 14 | Antimicrobial Nitric Oxide Releasing Compounds and Scaffolds. , 2020, , 105-137. | | 3 |
| 15 | 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 |
| 16 | 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 |
| 17 | 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 |
| 18 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Osteogenic Enhancement of Zirconia-Toughened Alumina with Silicon Nitride and BioglassÂ®. Ceramics, 2019, 2, 554-567. | 2.6 | 6 |
| 20 | 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 |
| 21 | 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 |
| 22 | 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 |
| 23 | Incorporating Si<sub>3</sub>N<sub>4</sub> into PEEK to Produce Antibacterial, Osteocondutive, and Radiolucent Spinal Implants. Macromolecular Bioscience, 2018, 18, e1800033. | 4.1 | 57 |
| 24 | 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 |
| 25 | 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 |
| 26 | 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 |
| 27 | Bioglass functionalization of laser-patterned bioceramic surfaces and their enhanced bioactivity. Heliyon, 2018, 4, e01016. | 3.2 | 9 |
| 28 | Biological response of human osteosarcoma cells to Si3N4-doped Bioglasses. Materials and Design, 2018, 159, 79-89. | 7.0 | 14 |
| 29 | 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 |
| 30 | 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 |
| 31 | 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 |
| 32 | 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 |
| 33 | Bioactive silicon nitride: A new therapeutic material for osteoarthropathy. Scientific Reports, 2017, 7, 44848. | 3.3 | 70 |
| 34 | 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 |
| 35 | 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 |
| 36 | Human osteoblasts grow transitional Si/N apatite in quickly osteointegrated Si3N4 cervical insert. Acta Biomaterialia, 2017, 64, 411-420. | 8.3 | 60 |

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|---|---|---|---|
| 37 | 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 |
| 38 | 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 |
| 39 | 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 |
| 40 | 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 |
| 41 | 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 |
| 42 | In Vitro versus In Vivo Phase Instability of Zirconia-Toughened Alumina Femoral Heads: A Critical Comparative Assessment. Materials, 2017, 10, 466. | 2.9 | 18 |
| 43 | Accelerated Cervical Fusion of Silicon Nitride versus PEEK Spacers: A Comparative Clinical Study. Journal of Spine, 2017, 06, . | 0.2 | 6 |
| 44 | Processing and Characterization of Silicon Nitride Bioceramics. Bioceramics Development and Applications, 2016, 06, . | 0.3 | 30 |
| 45 | Silicon Nitride Bearings for Total Joint Arthroplasty. Lubricants, 2016, 4, 35. | 2.9 | 14 |
| 46 | 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 |
| 47 | Silicon Nitride: A Synthetic Mineral for Vertebrate Biology. Scientific Reports, 2016, 6, 31717. | 3.3 | 48 |
| 48 | 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 |
| 49 | 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 |
| 50 | Silicon Nitride Bioceramics Induce Chemically Driven Lysis in Porphyromonas gingivalis. Langmuir, 2016, 32, 3024-3035. | 3.5 | 73 |
| 51 | Processing and Characterization of Silicon Nitride Bioceramics. Bioceramics Development and Applications, 2016, 6, . | 0.3 | 2 |
| 52 | 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 |
| 53 | Point-Defect Populations As Induced by Cation/Anion Substitution in Î²-Si<sub>3</sub>N<sub>4</sub> Lattice. A Cathodoluminescence Study. Journal of Physical Chemistry C, 2015, 119, 3279-3287. | 3.1 | 15 |
| 54 | Ceramics and ceramic coatings in orthopaedics. Journal of the European Ceramic Society, 2015, 35, 4327-4369. | 5.7 | 167 |

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|---|---|---|---|
| 55 | Surface modulation of silicon nitride ceramics for orthopaedic applications. Acta Biomaterialia, 2015, 26, 318-330. | 8.3 | 100 |