# Ashley D Spear

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/4278922/publications.pdf

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| 40 | 1,045 | 516215 16 | 433756 31 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 41 | 41 | 41 | 984 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Expected earthquake damage and repair costs in reinforced concrete frame buildings. Earthquake Engineering and Structural Dynamics, 2012, 41, 1455-1475. | 2.5 | 152 |
| 2 | Effect of Laser-Matter Interaction on Molten Pool Flow and Keyhole Dynamics. Physical Review Applied, 2019, 11, . | 1.5 | 107 |
| 3 | Predicting microstructure-dependent mechanical properties in additively manufactured metals with machine- and deep-learning methods. Computational Materials Science, 2020, 175, 109599. | 1.4 | 87 |
| 4 | The third Sandia fracture challenge: predictions of ductile fracture in additively manufactured metal. International Journal of Fracture, 2019, 218, 5-61. | 1.1 | 62 |
| 5 | Three-dimensional characterization of microstructurally small fatigue-crack evolution using quantitative fractography combined with post-mortem X-ray tomography and high-energy X-ray diffraction microscopy. Acta Materialia, 2014, 76, 413-424. | 3.8 | 53 |
| 6 | A recrystallization heat-treatment to reduce deformation anisotropy of additively manufactured Inconel 718. Materials and Design, 2021, 198, 109228. | 3.3 | 53 |
| 7 | Mechanisms driving high-cycle fatigue life of as-built Inconel 718 processed by laser powder bed fusion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 761, 137993. | 2.6 | 51 |
| 8 | A machine learning framework for predicting the shear strength of carbon nanotube-polymer interfaces based on molecular dynamics simulation data. Composites Science and Technology, 2021, 207, 108627. | 3.8 | 46 |
| 9 | Modeling processâ€“structureâ€“property relationships in metal additive manufacturing: a review on physics-driven versus data-driven approaches. JPhys Materials, 2021, 4, 032002. | 1.8 | 46 |
| 10 | Predicting Microstructure-Sensitive Fatigue-Crack Path in 3D Using a Machine Learning Framework. Jom, 2019, 71, 2680-2694. | 0.9 | 41 |
| 11 | A multi-scale, multi-physics modeling framework to predict spatial variation of properties in additive-manufactured metals. Modelling and Simulation in Materials Science and Engineering, 2019, 27, 025009. | 0.8 | 39 |
| 12 | A multiscale comparison of stochastic open-cell aluminum foam produced via conventional and additive-manufacturing routes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 707, 181-192. | 2.6 | 27 |
| 13 | A method to generate conformal finiteâ€element meshes from 3D measurements of microstructurally small fatigueâ€crack propagation. Fatigue and Fracture of Engineering Materials and Structures, 2016, 39, 737-751. | 1.7 | 24 |
| 14 | Data-Driven Materials Investigations: The Next Frontier in Understanding and Predicting Fatigue Behavior. Jom, 2018, 70, 1143-1146. | 0.9 | 22 |
| 15 | Effects of laser-energy density and build orientation on the structureâ€“property relationships in as-built Inconel 718 manufactured by laser powder bed fusion. Additive Manufacturing, 2020, 36, 101425. | 1.7 | 22 |
| 16 | Generalized analytical displacement model for wind turbine towers under aerodynamic loading. Journal of Wind Engineering and Industrial Aerodynamics, 2018, 176, 120-130. | 1.7 | 20 |
| 17 | Investigating the efficacy of machine learning tools in modeling the continuous stabilization and carbonization process and predicting carbon fiber properties. Carbon, 2021, 174, 605-616. | 5.4 | 16 |
| 18 | Effect of chemical milling on low-cycle fatigue behavior of an Alâ€“Mgâ€“Si alloy. Corrosion Science, 2013, 68, 144-153. | 3.0 | 14 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | A void descriptor function to uniquely characterize pore networks and predict ductile-metal failure properties. International Journal of Fracture, 2020, 225, 47-67. | 1.1 | 13 |
| 20 | Surrogate Modeling of High-Fidelity Fracture Simulations for Real-Time Residual Strength Predictions. AIAA Journal, 2011, 49, 2770-2782. | 1.5 | 12 |
| 21 | The AFRL Additive Manufacturing Modeling Challenge: Predicting Micromechanical Fields in AM IN625 Using an FFT-Based Method with Direct Input from a 3D Microstructural Image. Integrating Materials and Manufacturing Innovation, 2021, 10, 157-176. | 1.2 | 12 |
| 22 | A convected-particle tetrahedron interpolation technique in the material-point method for the mesoscale modeling of ceramics. Computational Mechanics, 2019, 64, 563-583. | 2.2 | 11 |
| 23 | Dynamic-loading behavior and anisotropic deformation of pre- and post-heat-treated IN718 fabricated by laser powder bed fusion. Additive Manufacturing, 2020, 33, 101083. | 1.7 | 11 |
| 24 | Relating the surface topography of as-built Inconel 718 surfaces to laser powder bed fusion process parameters using multivariate regression analysis. Precision Engineering, 2022, 74, 303-315. | 1.8 | 11 |
| 25 | Data-Driven Correlation Analysis Between Observed 3D Fatigue-Crack Path and Computed Fields from High-Fidelity, Crystal-Plasticity, Finite-Element Simulations. Jom, 2018, 70, 1159-1167. | 0.9 | 10 |
| 26 | Evaluation of a modified void descriptor function to uniquely characterize pore networks and predict fracture-related properties in additively manufactured metals. Acta Materialia, 2022, 223, 117464. | 3.8 | 9 |
| 27 | Three-dimensional grain mapping of open-cell metallic foam by integrating synthetic data with experimental data from high-energy X-ray diffraction microscopy. Materials Characterization, 2018, 144, 448-460. | 1.9 | 7 |
| 28 | High-throughput feature extraction for measuring attributes of deforming open-cell foams. IEEE Transactions on Visualization and Computer Graphics, 2020, 26, 140-150. | 2.9 | 7 |
| 29 | An adaptive-remeshing framework to predict impact-induced skull fracture in infants. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1595-1605. | 1.4 | 7 |
| 30 | Investigating the effect of grain structure on compressive response of open-cell metal foam using high-fidelity crystal-plasticity modeling. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 812, 140847. | 2.6 | 7 |
| 31 | Microstructurally small fatigue crack growth in thin, aluminum-alloy, pressure vessel liner. Procedia Engineering, 2011, 10, 686-691. | 1.2 | 6 |
| 32 | The third Sandia Fracture Challenge: from theory to practice in a classroom setting. International Journal of Fracture, 2019, 218, 171-194. | 1.1 | 6 |
| 33 | A voxel-based remeshing framework for the simulation of arbitrary three-dimensional crack growth in heterogeneous materials. Engineering Fracture Mechanics, 2019, 209, 404-422. | 2.0 | 6 |
| 34 | Computational analysis of the effects of geometric irregularities and post-processing steps on the mechanical behavior of additively manufactured 316L stainless steel stents. PLoS ONE, 2020, 15, e0244463. | 1.1 | 6 |
| 35 | Convolutional neural networks for expediting the determination of minimum volume requirements for studies of microstructurally small cracks, Part I: Model implementation and predictions. Computational Materials Science, 2022, 207, 111290. | 1.4 | 6 |
| 36 | A Tool to Generate Grain-Resolved Open-Cell Metal Foam Models. Integrating Materials and Manufacturing Innovation, 2019, 8, 247-256. | 1.2 | 5 |

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| 37 | Computational analysis of the effects of geometric irregularities on the interaction of an additively manufactured 316L stainless steel stent and a coronary artery. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 125, 104878. | 1.5 | 5 |
| 38 | Determination of representative volume elements for small cracks in heterogeneous, linear-elastic domains. Engineering Fracture Mechanics, 2019, 220, 106643. | 2.0 | 3 |
| 39 | A surface-mesh gradation tool for generating gradated tetrahedral meshes of microstructures with defects. Computational Materials Science, 2021, 197, 110622. | 1.4 | 2 |
| 40 | Reconstructed and analyzed X-ray computed tomography data of investment-cast and additive-manufactured aluminum foam for visualizing ligament failure mechanisms and regions of contact during a compression test. Data in Brief, 2018, 16, 601-603. | 0.5 | 0 |