

Ashley D Spear

List of Publications by Year in descending order

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Version: 2024-02-01

40
papers

1,045
citations

516215

16
h-index

433756

31
g-index

41
all docs

41
docs citations

41
times ranked

984
citing authors

#	ARTICLE	IF	CITATIONS
1	Computational analysis of the effects of geometric irregularities on the interaction of an additively manufactured 316L stainless steel stent and a coronary artery. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2022, 125, 104878.	1.5	5
2	Evaluation of a modified void descriptor function to uniquely characterize pore networks and predict fracture-related properties in additively manufactured metals. <i>Acta Materialia</i> , 2022, 223, 117464.	3.8	9
3	Relating the surface topography of as-built Inconel 718 surfaces to laser powder bed fusion process parameters using multivariate regression analysis. <i>Precision Engineering</i> , 2022, 74, 303-315.	1.8	11
4	Convolutional neural networks for expediting the determination of minimum volume requirements for studies of microstructurally small cracks, Part I: Model implementation and predictions. <i>Computational Materials Science</i> , 2022, 207, 111290.	1.4	6
5	A recrystallization heat-treatment to reduce deformation anisotropy of additively manufactured Inconel 718. <i>Materials and Design</i> , 2021, 198, 109228.	3.3	53
6	A machine learning framework for predicting the shear strength of carbon nanotube-polymer interfaces based on molecular dynamics simulation data. <i>Composites Science and Technology</i> , 2021, 207, 108627.	3.8	46
7	Modeling processâ€“structureâ€“property relationships in metal additive manufacturing: a review on physics-driven versus data-driven approaches. <i>JPhys Materials</i> , 2021, 4, 032002.	1.8	46
8	Investigating the effect of grain structure on compressive response of open-cell metal foam using high-fidelity crystal-plasticity modeling. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 812, 140847.	2.6	7
9	Investigating the efficacy of machine learning tools in modeling the continuous stabilization and carbonization process and predicting carbon fiber properties. <i>Carbon</i> , 2021, 174, 605-616.	5.4	16
10	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. <i>Integrating Materials and Manufacturing Innovation</i> , 2021, 10, 157-176.	1.2	12
11	A surface-mesh gradation tool for generating graded tetrahedral meshes of microstructures with defects. <i>Computational Materials Science</i> , 2021, 197, 110622.	1.4	2
12	High-throughput feature extraction for measuring attributes of deforming open-cell foams. <i>IEEE Transactions on Visualization and Computer Graphics</i> , 2020, 26, 140-150.	2.9	7
13	Predicting microstructure-dependent mechanical properties in additively manufactured metals with machine- and deep-learning methods. <i>Computational Materials Science</i> , 2020, 175, 109599.	1.4	87
14	Effects of laser-energy density and build orientation on the structureâ€“property relationships in as-built Inconel 718 manufactured by laser powder bed fusion. <i>Additive Manufacturing</i> , 2020, 36, 101425.	1.7	22
15	An adaptive-remeshing framework to predict impact-induced skull fracture in infants. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020, 19, 1595-1605.	1.4	7
16	Dynamic-loading behavior and anisotropic deformation of pre- and post-heat-treated IN718 fabricated by laser powder bed fusion. <i>Additive Manufacturing</i> , 2020, 33, 101083.	1.7	11
17	A void descriptor function to uniquely characterize pore networks and predict ductile-metal failure properties. <i>International Journal of Fracture</i> , 2020, 225, 47-67.	1.1	13
18	Computational analysis of the effects of geometric irregularities and post-processing steps on the mechanical behavior of additively manufactured 316L stainless steel stents. <i>PLoS ONE</i> , 2020, 15, e0244463.	1.1	6

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19	The third Sandia fracture challenge: predictions of ductile fracture in additively manufactured metal. <i>International Journal of Fracture</i> , 2019, 218, 5-61.	1.1	62
20	The third Sandia Fracture Challenge: from theory to practice in a classroom setting. <i>International Journal of Fracture</i> , 2019, 218, 171-194.	1.1	6
21	Predicting Microstructure-Sensitive Fatigue-Crack Path in 3D Using a Machine Learning Framework. <i>Jom</i> , 2019, 71, 2680-2694.	0.9	41
22	Determination of representative volume elements for small cracks in heterogeneous, linear-elastic domains. <i>Engineering Fracture Mechanics</i> , 2019, 220, 106643.	2.0	3
23	Mechanisms driving high-cycle fatigue life of as-built Inconel 718 processed by laser powder bed fusion. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 761, 137993.	2.6	51
24	Effect of Laser-Matter Interaction on Molten Pool Flow and Keyhole Dynamics. <i>Physical Review Applied</i> , 2019, 11, .	1.5	107
25	A Tool to Generate Grain-Resolved Open-Cell Metal Foam Models. <i>Integrating Materials and Manufacturing Innovation</i> , 2019, 8, 247-256.	1.2	5
26	A convected-particle tetrahedron interpolation technique in the material-point method for the mesoscale modeling of ceramics. <i>Computational Mechanics</i> , 2019, 64, 563-583.	2.2	11
27	A voxel-based remeshing framework for the simulation of arbitrary three-dimensional crack growth in heterogeneous materials. <i>Engineering Fracture Mechanics</i> , 2019, 209, 404-422.	2.0	6
28	A multi-scale, multi-physics modeling framework to predict spatial variation of properties in additive-manufactured metals. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2019, 27, 025009.	0.8	39
29	Generalized analytical displacement model for wind turbine towers under aerodynamic loading. <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 2018, 176, 120-130.	1.7	20
30	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. <i>Data in Brief</i> , 2018, 16, 601-603.	0.5	0
31	Data-Driven Correlation Analysis Between Observed 3D Fatigue-Crack Path and Computed Fields from High-Fidelity, Crystal-Plasticity, Finite-Element Simulations. <i>Jom</i> , 2018, 70, 1159-1167.	0.9	10
32	Data-Driven Materials Investigations: The Next Frontier in Understanding and Predicting Fatigue Behavior. <i>Jom</i> , 2018, 70, 1143-1146.	0.9	22
33	Three-dimensional grain mapping of open-cell metallic foam by integrating synthetic data with experimental data from high-energy X-ray diffraction microscopy. <i>Materials Characterization</i> , 2018, 144, 448-460.	1.9	7
34	A multiscale comparison of stochastic open-cell aluminum foam produced via conventional and additive-manufacturing routes. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 707, 181-192.	2.6	27
35	A method to generate conformal finite-element meshes from 3D measurements of microstructurally small fatigue-crack propagation. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2016, 39, 737-751.	1.7	24
36	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. <i>Acta Materialia</i> , 2014, 76, 413-424.	3.8	53

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37	Effect of chemical milling on low-cycle fatigue behavior of an Al-Mg-Si alloy. Corrosion Science, 2013, 68, 144-153.	3.0	14
38	Expected earthquake damage and repair costs in reinforced concrete frame buildings. Earthquake Engineering and Structural Dynamics, 2012, 41, 1455-1475.	2.5	152
39	Surrogate Modeling of High-Fidelity Fracture Simulations for Real-Time Residual Strength Predictions. AIAA Journal, 2011, 49, 2770-2782.	1.5	12
40	Microstructurally small fatigue crack growth in thin, aluminum-alloy, pressure vessel liner. Procedia Engineering, 2011, 10, 686-691.	1.2	6