

# Allison Beese

## List of Publications by Citations

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68

papers

6,658

citations

30

h-index

77

g-index

77

ext. papers

8,586

ext. citations

6.5

avg, IF

6.5

L-index

#	Paper	IF	Citations
68	Additive manufacturing of metallic components [Process, structure and properties. <i>Progress in Materials Science</i> , <b>2018</b> , 92, 112-224	42.2	2682
67	Anisotropic tensile behavior of Ti-6Al-4V components fabricated with directed energy deposition additive manufacturing. <i>Acta Materialia</i> , <b>2015</b> , 87, 309-320	8.4	730
66	Materials for additive manufacturing. <i>CIRP Annals - Manufacturing Technology</i> , <b>2017</b> , 66, 659-681	4.9	437
65	Effect of processing parameters on microstructure and tensile properties of austenitic stainless steel 304L made by directed energy deposition additive manufacturing. <i>Acta Materialia</i> , <b>2016</b> , 110, 226-235	8.4	411
64	Functionally graded material of 304L stainless steel and inconel 625 fabricated by directed energy deposition: Characterization and thermodynamic modeling. <i>Acta Materialia</i> , <b>2016</b> , 108, 46-54	8.4	266
63	Additive manufacturing of a functionally graded material from Ti-6Al-4V to Invar: Experimental characterization and thermodynamic calculations. <i>Acta Materialia</i> , <b>2017</b> , 127, 133-142	8.4	207
62	Review of Mechanical Properties of Ti-6Al-4V Made by Laser-Based Additive Manufacturing Using Powder Feedstock. <i>Jom</i> , <b>2016</b> , 68, 724-734	2.1	174
61	Residual stress mapping in Inconel 625 fabricated through additive manufacturing: Method for neutron diffraction measurements to validate thermomechanical model predictions. <i>Materials and Design</i> , <b>2017</b> , 113, 169-177	8.1	171
60	Partially coupled anisotropic fracture model for aluminum sheets. <i>Engineering Fracture Mechanics</i> , <b>2010</b> , 77, 1128-1152	4.2	155
59	Effect of stress triaxiality and Lode angle on the kinetics of strain-induced austenite-to-martensite transformation. <i>Acta Materialia</i> , <b>2011</b> , 59, 2589-2600	8.4	113
58	Bio-inspired carbon nanotube-polymer composite yarns with hydrogen bond-mediated lateral interactions. <i>ACS Nano</i> , <b>2013</b> , 7, 3434-46	16.7	81
57	Extraordinary improvement of the graphitic structure of continuous carbon nanofibers templated with double wall carbon nanotubes. <i>ACS Nano</i> , <b>2013</b> , 7, 126-42	16.7	70
56	Effect of processing conditions on the microstructure, porosity, and mechanical properties of Ti-6Al-4V repair fabricated by directed energy deposition. <i>Journal of Materials Processing Technology</i> , <b>2019</b> , 264, 172-181	5.3	68
55	Diffraction and single-crystal elastic constants of Inconel 625 at room and elevated temperatures determined by neutron diffraction. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2016</b> , 674, 406-412	5.3	63
54	Crystallographic texture in an additively manufactured nickel-base superalloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 684, 47-53	5.3	61
53	Key factors limiting carbon nanotube yarn strength: exploring processing-structure-property relationships. <i>ACS Nano</i> , <b>2014</b> , 8, 11454-66	16.7	56
52	Advances in additive manufacturing of metal-based functionally graded materials. <i>International Materials Reviews</i> , <b>2021</b> , 66, 1-29	16.1	56

51	Quantitative relationship between anisotropic strain to failure and grain morphology in additively manufactured Ti-6Al-4V. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 706, 287-294	5.3	50
50	Characterization of a functionally graded material of Ti-6Al-4V to 304L stainless steel with an intermediate V section. <i>Journal of Alloys and Compounds</i> , <b>2018</b> , 742, 1031-1036	5.7	48
49	In situ transmission electron microscope tensile testing reveals structure-property relationships in carbon nanofibers. <i>Carbon</i> , <b>2013</b> , 60, 246-253	10.4	47
48	The desmoplakin-intermediate filament linkage regulates cell mechanics. <i>Molecular Biology of the Cell</i> , <b>2017</b> , 28, 3156-3164	3.5	46
47	Identification of the Direction-Dependency of the Martensitic Transformation in Stainless Steel Using In Situ Magnetic Permeability Measurements. <i>Experimental Mechanics</i> , <b>2011</b> , 51, 667-676	2.6	45
46	Effect of directed energy deposition processing parameters on laser deposited Inconel® 718: External morphology. <i>Journal of Laser Applications</i> , <b>2017</b> , 29, 022001	2.1	39
45	Effect of chemistry on martensitic phase transformation kinetics and resulting properties of additively manufactured stainless steel. <i>Acta Materialia</i> , <b>2017</b> , 131, 410-422	8.4	38
44	Absence of dynamic strain aging in an additively manufactured nickel-base superalloy. <i>Nature Communications</i> , <b>2018</b> , 9, 2083	17.4	38
43	Characterization of the strength of support structures used in powder bed fusion additive manufacturing of Ti-6Al-4V. <i>Additive Manufacturing</i> , <b>2017</b> , 14, 60-68	6.1	36
42	Anisotropic plasticity model coupled with Lode angle dependent strain-induced transformation kinetics law. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2012</b> , 60, 1922-1940	5	32
41	Effect of directed energy deposition processing parameters on laser deposited Inconel® 718: Microstructure, fusion zone morphology, and hardness. <i>Journal of Laser Applications</i> , <b>2017</b> , 29, 022005	2.1	31
40	Stress relaxation behavior and mechanisms in Ti-6Al-4V determined via in situ neutron diffraction: Application to additive manufacturing. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 707, 585-592	5.3	31
39	In situ scanning electron microscope peeling to quantify surface energy between multiwalled carbon nanotubes and graphene. <i>ACS Nano</i> , <b>2014</b> , 8, 124-38	16.7	31
38	Characterization of the Effects of Internal Pores on Tensile Properties of Additively Manufactured Austenitic Stainless Steel 316L. <i>Experimental Mechanics</i> , <b>2019</b> , 59, 793-804	2.6	28
37	Effect of Substrate Thickness and Preheating on the Distortion of Laser Deposited Ti-6Al-4V. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , <b>2018</b> , 140,	3.3	26
36	Stress relaxation in a nickel-base superalloy at elevated temperatures with in situ neutron diffraction characterization: Application to additive manufacturing. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 714, 75-83	5.3	26
35	Defect-Tolerant Nanocomposites through Bio-Inspired Stiffness Modulation. <i>Advanced Functional Materials</i> , <b>2014</b> , 24, 2883-2891	15.6	23
34	Impact of Interlayer Dwell Time on Microstructure and Mechanical Properties of Nickel and Titanium Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2017</b> , 48, 4411-4422	2.3	21

33	Cold Sintering Na <sub>2</sub> Mo <sub>2</sub> O <sub>7</sub> Ceramic with Poly(ether imide) (PEI) Polymer to Realize High-Performance Composites and Integrated Multilayer Circuits. <i>ACS Applied Nano Materials</i> , <b>2018</b> , 1, 3837-3844	5.6	21
32	Anisotropic multiaxial plasticity model for laser powder bed fusion additively manufactured Ti-6Al-4V. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 738, 90-97	5.3	20
31	Analysis of formation and growth of the $\beta$ phase in additively manufactured functionally graded materials. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 814, 151729	5.7	18
30	Experimental validation of Scheil-Gulliver simulations for gradient path planning in additively manufactured functionally graded materials. <i>Materialia</i> , <b>2020</b> , 11, 100689	3.2	17
29	Stress state-dependent mechanics of additively manufactured 304L stainless steel: Part 1 $\square$ characterization and modeling of the effect of stress state and texture on microstructural evolution. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 743, 811-823	5.3	13
28	Multiaxial plasticity and fracture behavior of stainless steel 316L by laser powder bed fusion: Experiments and computational modeling. <i>Acta Materialia</i> , <b>2020</b> , 199, 578-592	8.4	12
27	Experimental analysis and thermodynamic calculations of an additively manufactured functionally graded material of V to Invar 36. <i>Journal of Materials Research</i> , <b>2018</b> , 33, 1642-1649	2.5	12
26	Fracture of laser powder bed fusion additively manufactured Ti-6Al-4V under multiaxial loading: Calibration and comparison of fracture models. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 761, 137967	5.3	11
25	In situ electron microscopy tensile testing of constrained carbon nanofibers. <i>International Journal of Mechanical Sciences</i> , <b>2018</b> , 149, 452-458	5.5	11
24	Plasticity and fracture behavior of Inconel 625 manufactured by laser powder bed fusion: Comparison between as-built and stress relieved conditions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 806, 140808	5.3	11
23	Micromechanics of multiaxial plasticity of DP600: Experiments and microstructural deformation modeling. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 721, 168-178	5.3	9
22	Stress state-dependent mechanics of additively manufactured 304L stainless steel: Part 2 $\square$ Characterization and modeling of macroscopic plasticity behavior. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 743, 824-831	5.3	8
21	Unveiling dislocation characteristics in Ni <sub>3</sub> Al from stacking fault energy and ideal strength: A first-principles study via pure alias shear deformation. <i>Physical Review B</i> , <b>2020</b> , 101,	3.3	7
20	Multiaxial fracture of DP600: Experiments and finite element modeling. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 785, 139386	5.3	6
19	Influence of phase and interface properties on the stress state dependent fracture initiation behavior in DP steels through computational modeling. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 776, 138981	5.3	5
18	Microstructure and Mechanical Properties of AM Builds <b>2018</b> , 81-92		5
17	DFTTK: Density Functional Theory ToolKit for high-throughput lattice dynamics calculations. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , <b>2021</b> , 75, 102355	1.9	4
16	Combined effects of porosity and stress state on the failure behavior of laser powder bed fusion stainless steel 316L. <i>Additive Manufacturing</i> , <b>2021</b> , 39, 101862	6.1	4

15	Full Field Strain Measurement of Material Extrusion Additive Manufacturing Parts with Solid and Sparse Infill Geometries. <i>Jom</i> , <b>2019</b> , 71, 871-879	2.1	4
14	Contrasting the Role of Pores on the Stress State Dependent Fracture Behavior of Additively Manufactured Low and High Ductility Metals. <i>Materials</i> , <b>2021</b> , 14,	3.5	3
13	Impact of retained austenite on the aging response of additively manufactured 17-4PH grade stainless steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 817, 141363	5.3	3
12	Tensile behavior of stainless steel 304L to Ni-20Cr functionally graded material: Experimental characterization and computational simulations. <i>Materialia</i> , <b>2021</b> , 18, 101151	3.2	3
11	Use of ultrasound to identify microstructure-property relationships in 316 stainless steel fabricated with binder jet additive manufacturing. <i>Additive Manufacturing</i> , <b>2022</b> , 51, 102591	6.1	2
10	Isotropic Phase Transformation in Anisotropic Stainless Steel 301LN Sheets <b>2009</b> ,		2
9	Correlation analysis of materials properties by machine learning: illustrated with stacking fault energy from first-principles calculations in dilute fcc-based alloys. <i>Journal of Physics Condensed Matter</i> , <b>2021</b> , 33,	1.8	2
8	Identification of stress state dependent fracture micromechanisms in DP600 through representative volume element modeling. <i>International Journal of Mechanical Sciences</i> , <b>2021</b> , 194, 106209	5.5	2
7	Design of an additively manufactured functionally graded material of 316 stainless steel and Ti-6Al-4V with Ni-20Cr, Cr, and V intermediate compositions. <i>Additive Manufacturing</i> , <b>2022</b> , 51, 102649	6.1	1
6	Effect of processing parameters and strut dimensions on the microstructures and hardness of stainless steel 316L lattice-emulating structures made by powder bed fusion. <i>Additive Manufacturing</i> , <b>2021</b> , 40, 101943	6.1	1
5	Orientation and stress state dependent plasticity and damage initiation behavior of stainless steel 304L manufactured by laser powder bed fusion additive manufacturing. <i>Extreme Mechanics Letters</i> , <b>2021</b> , 45, 101271	3.9	1
4	Effect of processing parameters on pore structures, grain features, and mechanical properties in Ti-6Al-4V by laser powder bed fusion. <i>Additive Manufacturing</i> , <b>2022</b> , 102915	6.1	1
3	Effect of stress triaxiality and penny-shaped pores on tensile properties of laser powder bed fusion Ti-6Al-4V. <i>Additive Manufacturing</i> , <b>2021</b> , 48, 102414	6.1	0
2	Predictive Crystal Plasticity Modeling of Single Crystal Nickel Based on First-Principles Calculations. <i>Jom</i> , <b>2022</b> , 74, 1423-1434	2.1	0
1	Ultrasonic Characterization of Porosity in Components Made by Binder Jet Additive Manufacturing. <i>Materials Evaluation</i> , <b>2022</b> , 80, 37-44	2.9	0