Jeffrey W Kysar

List of Publications by Year in Descending Order

85 papers	18,617 citations	29 h-index	89 g-index
89 ext. papers	20,567 ext. citations	6.1 avg, IF	6.84 L-index

#	Paper	IF	Citations
85	A Novel 3D-Printed Head Holder for Guinea Pig Ear Surgery. *Otology and Neurotology*, **2021**, 42, e1197-e1202	2.6	1
84	Simulation assisted design for microneedle manufacturing: Computational modeling of two-photon templated electrodeposition. *Journal of Manufacturing Processes*, **2021**, 66, 211-219	5	3
83	Impact of Systemic versus Intratympanic Dexamethasone Administration on the Perilymph Proteome. *Journal of Proteome Research*, **2021**, 20, 4001-4009	5.6	3
82	Drug delivery device for the inner ear: ultra-sharp fully metallic microneedles. *Drug Delivery and Translational Research*, **2021**, 11, 214-226	6.2	14
81	Grain size dependence of polycrystalline plasticity modeling in cylindrical indentation. *Computational Mechanics*, **2021**, 68, 499-543	4	2
80	Novel 3D-printed hollow microneedles facilitate safe, reliable, and informative sampling of perilymph from guinea pigs. *Hearing Research*, **2021**, 400, 108141	3.9	18
79	Membrane curvature and connective fiber alignment in guinea pig round window membrane. *Acta Biomaterialia*, **2021**, 136, 343-362	10.8	1
78	Design optimization of a cardiovascular stent with application to a balloon expandable prosthetic heart valve. *Materials and Design*, **2021**, 209,	8.1	2
77	Facile and quantitative estimation of strain in nanobubbles with arbitrary symmetry in 2D semiconductors verified using hyperspectral nano-optical imaging. *Journal of Chemical Physics*, **2020**, 153, 024702	3.9	11
76	Inner ear delivery: Challenges and opportunities. *Laryngoscope Investigative Otolaryngology*, **2020**, 5, 122-131	2.8	26
75	Order in polycrystalline plasticity deformation fields: Short-range intermittency and long-range persistency. *International Journal of Plasticity*, **2020**, 128, 102674	7.6	6
74	3D-Printed Microneedles Create Precise Perforations in Human Round Window Membrane in Situ. *Otology and Neurotology*, **2020**, 41, 277-284	2.6	15
73	Anatomical and Functional Consequences of Microneedle Perforation of Round Window Membrane. *Otology and Neurotology*, **2020**, 41, e280-e287	2.6	11
72	Imaging strain-localized excitons in nanoscale bubbles of monolayer WSe at room temperature. *Nature Nanotechnology*, **2020**, 15, 854-860	28.7	57
71	Plane strain deformation by slip in FCC crystals. *International Journal of Plasticity*, **2020**, 133, 102842	7.6	3
70	Inner Ear Gene Delivery: Vectors and Routes. *Hearing, Balance and Communication*, **2020**, 18, 278-285	0.7	7
69	Mechanical considerations for polymeric heart valve development: Biomechanics, materials, design and manufacturing. *Biomaterials*, **2019**, 225, 119493	15.6	25

68	Plastic strain recovery in nanocrystalline copper thin films. *International Journal of Plasticity*, **2018**, 107, 27-53	7.6	2
67	In-vitro perforation of the round window membrane via direct 3-D printed microneedles. *Biomedical Microdevices*, **2018**, 20, 47	3.7	34
66	Experimental validation of plastic constitutive hardening relationship based upon the direction of the Net Burgers Density Vector. *Journal of the Mechanics and Physics of Solids*, **2018**, 111, 358-374	5	6
65	Silver/silver chloride microneedles can detect penetration through the round window membrane. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2017**, 105, 307-311	3.5	15
64	Review Article: Case studies in future trends of computational and experimental nanomechanics. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2017**, 35, 060801	2.9	9
63	The Functional Response of Mesenchymal Stem Cells to Electron-Beam Patterned Elastomeric Surfaces Presenting Micrometer to Nanoscale Heterogeneous Rigidity. *Advanced Materials*, **2017**, 29, 1702119	24	18
62	Serrated needle design facilitates precise round window membrane perforation. *Journal of Biomedical Materials Research - Part A*, **2016**, 104, 1633-7	5.4	18
61	Recoverable Slippage Mechanism in Multilayer Graphene Leads to Repeatable Energy Dissipation. *ACS Nano*, **2016**, 10, 1820-8	16.7	89
60	In Situ NANO-Indentation of Round Window Membrane. *Conference Proceedings of the Society for Experimental Mechanics*, **2016**, 17-29	0.3	2
59	Atomistically derived cohesive zone model of intergranular fracture in polycrystalline graphene. *Journal of Applied Physics*, **2016**, 119, 245107	2.5	14
58	A dual wedge microneedle for sampling of perilymph solution via round window membrane. *Biomedical Microdevices*, **2016**, 18, 24	3.7	16
57	Enhanced Glassy State Mechanical Properties of Polymer Nanocomposites via Supramolecular Interactions. *Nano Letters*, **2015**, 15, 5465-71	11.5	46
56	Microperforations significantly enhance diffusion across round window membrane. *Otology and Neurotology*, **2015**, 36, 694-700	2.6	31
55	Computational strain gradient crystal plasticity. *Journal of the Mechanics and Physics of Solids*, **2014**, 62, 31-47	5	37
54	Microanatomic analysis of the round window membrane by white light interferometry and microcomputed tomography for mechanical amplification. *Otology and Neurotology*, **2014**, 35, 672-8	2.6	16
53	Length-scale effect due to periodic variation of geometrically necessary dislocation densities. *International Journal of Plasticity*, **2013**, 41, 189-201	7.6	29
52	Nonlinear elastic behavior of two-dimensional molybdenum disulfide. *Physical Review B*, **2013**, 87,	3.3	312
51	High-strength chemical-vapor-deposited graphene and grain boundaries. *Science*, **2013**, 340, 1073-6	33.3	661

50	Monolithic integration of nanoscale tensile specimens and MEMS structures. *Nanotechnology*, **2013**, 24, 165502	3.4	15
49	Wedge indentation into elastic–plastic single crystals. 2: Simulations for face-centered cubic crystals. *International Journal of Plasticity*, **2012**, 28, 70-87	7.6	24
48	Experimental validation of multiscale modeling of indentation of suspended circular graphene membranes. *International Journal of Solids and Structures*, **2012**, 49, 3201-3209	3.1	41
47	Mechanical properties of thin glassy polymer films filled with spherical polymer-grafted nanoparticles. *Nano Letters*, **2012**, 12, 3909-14	11.5	108
46	CHAPTER 5:Microfabrication of Nanoporous Gold. *RSC Nanoscience and Nanotechnology*, **2012**, 69-96		1
45	Fabrication of crack-free blanket nanoporous gold thin films by galvanostatic dealloying. *Journal of Alloys and Compounds*, **2011**, 509, 6374-6381	5.7	39
44	Residual plastic strain recovery driven by grain boundary diffusion in nanocrystalline thin films. *Acta Materialia*, **2011**, 59, 3937-3945	8.4	20
43	Fabrication of crack-free nanoporous gold blanket thin films by potentiostatic dealloying. *Scripta Materialia*, **2010**, 63, 1005-1008	5.6	32
42	Experimental lower bounds on geometrically necessary dislocation density. *International Journal of Plasticity*, **2010**, 26, 1097-1123	7.6	141
41	Dynamic Material Response of Aluminum Single Crystal Under Microscale Laser Shock Peening. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, **2009**, 131,	3.3	9
40	Spatially Resolved Characterization of Geometrically Necessary Dislocation Dependent Deformation in Microscale Laser Shock Peening. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, **2009**, 131,	3.3	5
39	Fracture in electrophoretically deposited CdSe nanocrystal films. *Journal of Applied Physics*, **2009**, 105, 103513	2.5	17
38	Elastic and frictional properties of graphene. *Physica Status Solidi (B): Basic Research*, **2009**, 246, 2562-2567	1.5	285
37	Grain boundary response of aluminum bicrystal under micro scale laser shock peening. *International Journal of Solids and Structures*, **2009**, 46, 3323-3335	3.1	17
36	Nanoporous Metals by Alloy Corrosion: Formation and Mechanical Properties. *MRS Bulletin*, **2009**, 34, 577-586	3.2	232
35	Nonlinear elastic behavior of graphene: Ab initio calculations to continuum description. *Physical Review B*, **2009**, 80,	3.3	303
34	Comparative study of symmetric and asymmetric deformation of Al single crystal under microscale laser shock peening. *Journal of Mechanics of Materials and Structures*, **2009**, 4, 89-105	1.2	6
33	Microscale laser peen forming of single crystal. *Journal of Applied Physics*, **2008**, 103, 063525	2.5	11

32	Analytical solution of anisotropic plastic deformation induced by micro-scale laser shock peening. *Mechanics of Materials*, **2008**, 40, 100-114	3.3	28
31	Size effects on void growth in single crystals with distributed voids. *International Journal of Plasticity*, **2008**, 24, 688-701	7.6	67
30	Measurement of the elastic properties and intrinsic strength of monolayer graphene. *Science*, **2008**, 321, 385-8	33.3	14811
29	Direct comparison between experiments and computations at the atomic length scale: a case study of graphene. *Scientific Modeling and Simulation SMNS*, **2008**, 15, 143-157		6
28	Study of anisotropic character induced by microscale laser shock peening on a single crystal aluminum. *Journal of Applied Physics*, **2007**, 101, 024904	2.5	10
27	Strain gradient crystal plasticity analysis of a single crystal containing a cylindrical void. *International Journal of Solids and Structures*, **2007**, 44, 6382-6397	3.1	19
26	Cylindrical void in a rigid-ideally plastic single crystal III: Hexagonal close-packed crystal. *International Journal of Plasticity*, **2007**, 23, 592-619	7.6	24
25	Influence of ultrasonic irradiation on the microstructure of Cu/Al2O3, CeO2 nanocomposite thin films during electrocodeposition. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2007**, 447, 209-216	5.3	39
24	The mean free path of dislocations in nanoparticle and nanorod reinforced metal composites and implication for strengthening mechanisms. *Mechanics Research Communications*, **2007**, 34, 275-282	2.2	11
23	High strain gradient plasticity associated with wedge indentation into face-centered cubic single crystals: Geometrically necessary dislocation densities. *Journal of the Mechanics and Physics of Solids*, **2007**, 55, 1554-1573	5	101
22	Microfabrication and mechanical properties of nanoporous gold at the nanoscale. *Scripta Materialia* , **2007**, 56, 437-440	5.6	111
21	Deformation and fracture behavior of electrocodeposited alumina nanoparticle/copper composite films. *Journal of Materials Science*, **2007**, 42, 5256-5263	4.3	11
20	Response of Thin Films and Substrate to Micro-Scale Laser Shock Peening. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, **2007**, 129, 485-496	3.3	7
19	Numerical analysis of the radial breathing mode of armchair and zigzag single-walled carbon nanotubes under deformation. *Journal of Applied Physics*, **2006**, 100, 124305	2.5	9
18	Observation of plastic deformation in freestanding single crystal Au nanowires. *Applied Physics Letters*, **2006**, 89, 111916	3.4	4
17	Raman microprobe analysis of elastic strain and fracture in electrophoretically deposited CdSe nanocrystal films. *Nano Letters*, **2006**, 6, 175-80	11.5	32
16	Thermal vibration and apparent thermal contraction of single-walled carbon nanotubes. *Journal of the Mechanics and Physics of Solids*, **2006**, 54, 1206-1236	5	73
15	Fourier analysis of X-ray micro-diffraction profiles to characterize laser shock peened metals. *International Journal of Solids and Structures*, **2005**, 42, 3471-3485	3.1	9

14	Cylindrical void in a rigid-ideally plastic single crystal. Part I: Anisotropic slip line theory solution for face-centered cubic crystals. *International Journal of Plasticity*, **2005**, 21, 1481-1520	7.6	74
13	Spatially Resolved Characterization of Residual Stress Induced by Micro Scale Laser Shock Peening. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, **2004**, 126, 226-236	3.3	21
12	Characterization of Plastic Deformation Induced by Microscale Laser Shock Peening. *Journal of Applied Mechanics, Transactions ASME*, **2004**, 71, 713-723	2.7	53
11	Systematical Characterization of Material Response to Microscale Laser Shock Peening. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, **2004**, 126, 740-749	3.3	5
10	Spatially resolved characterization of residual stress induced by micro scale laser shock Peening **2003**,		2
9	Energy dissipation mechanisms in ductile fracture. *Journal of the Mechanics and Physics of Solids*, **2003**, 51, 795-824	5	33
8	Crack tip deformation fields in ductile single crystals. *Acta Materialia*, **2002**, 50, 2367-2380	8.4	62
7	Brittle to Ductile Transition in Intermetallic Alloys. *Materials Research Society Symposia Proceedings*, **2002**, 753, 1		
6	Continuum simulations of directional dependence of crack growth along a copper/sapphire bicrystal interface. Part II: crack tip stress/deformation analysis. *Journal of the Mechanics and Physics of Solids*, **2001**, 49, 1129-1153	5	21
5	Continuum simulations of directional dependence of crack growth along a copper/sapphire bicrystal interface. Part I: experiments and crystal plasticity background. *Journal of the Mechanics and Physics of Solids*, **2001**, 49, 1099-1128	5	51
4	Path of light in near crack tip region in anisotropic medium and under mixed-mode loading. *International Journal of Solids and Structures*, **2001**, 38, 5963-5973	3.1	3
3	Directional dependence of fracture in copper/sapphire bicrystal. *Acta Materialia*, **2000**, 48, 3509-3524	8.4	29
2	Effects of strain field on light in crack opening interferometry. *International Journal of Solids and Structures*, **1998**, 35, 33-49	3.1	8
1	Continuum aspects of directionally dependent cracking of an interface between copper and alumina crystals. *Mechanics of Materials*, **1996**, 23, 271-286	3.3	16