

# Christian F. Niordson

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

87 papers	1,662 citations	24 h-index	37 g-index
88 ext. papers	1,967 ext. citations	4.1 avg, IF	5.66 L-index

#	Paper	IF	Citations
87	A phase field formulation for hydrogen assisted cracking. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2018</b> , 342, 742-761	5.7	120
86	Strain gradient plasticity-based modeling of hydrogen environment assisted cracking. <i>Acta Materialia</i> , <b>2016</b> , 117, 321-332	8.4	80
85	On fracture in finite strain gradient plasticity. <i>International Journal of Plasticity</i> , <b>2016</b> , 80, 154-167	7.6	72
84	On lower order strain gradient plasticity theories. <i>European Journal of Mechanics, A/Solids</i> , <b>2003</b> , 22, 771-778	3.7	68
83	Size effects on void growth in single crystals with distributed voids. <i>International Journal of Plasticity</i> , <b>2008</b> , 24, 688-701	7.6	67
82	Nonlocal plasticity effects on interaction of different size voids. <i>International Journal of Plasticity</i> , <b>2004</b> , 20, 107-120	7.6	66
81	Size-effects in plane strain sheet-necking. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2004</b> , 52, 2431-2454	3.5	60
80	Strain gradient effects on cyclic plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2010</b> , 58, 542-557	5.7	55
79	Non-uniform plastic deformation of micron scale objects. <i>International Journal for Numerical Methods in Engineering</i> , <b>2003</b> , 56, 961-975	2.4	50
78	Strain gradient plasticity modeling of hydrogen diffusion to the crack tip. <i>International Journal of Hydrogen Energy</i> , <b>2016</b> , 41, 10265-10274	6.7	50
77	Plasticity size effects in voided crystals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2008</b> , 56, 114-131	5	41
76	A phase field model for elastic-gradient-plastic solids undergoing hydrogen embrittlement. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2020</b> , 143, 104093	5	40
75	The role of plastic strain gradients in the crack growth resistance of metals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2019</b> , 126, 136-150	5	38
74	Computational strain gradient crystal plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2014</b> , 62, 31-47	5	37
73	Debonding failure and size effects in micro-reinforced composites. <i>International Journal of Plasticity</i> , <b>2010</b> , 26, 149-165	7.6	36
72	A numerical basis for strain-gradient plasticity theory: Rate-independent and rate-dependent formulations. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2014</b> , 63, 113-127	5	35
71	A viscoplastic strain gradient analysis of materials with voids or inclusions. <i>International Journal of Solids and Structures</i> , <b>2006</b> , 43, 4906-4916	3.1	35

70	A finite element framework for distortion gradient plasticity with applications to bending of thin foils. <i>International Journal of Solids and Structures</i> , <b>2016</b> , 96, 288-299	3.1	34
69	A deformation mechanism map for polycrystals modeled using strain gradient plasticity and interfaces that slide and separate. <i>International Journal of Plasticity</i> , <b>2013</b> , 43, 177-195	7.6	34
68	Basic strain gradient plasticity theories with application to constrained film deformation. <i>Journal of Mechanics of Materials and Structures</i> , <b>2011</b> , 6, 395-416	1.2	33
67	Instabilities in power law gradient hardening materials. <i>International Journal of Solids and Structures</i> , <b>2005</b> , 42, 2559-2573	3.1	33
66	Length-scale effect due to periodic variation of geometrically necessary dislocation densities. <i>International Journal of Plasticity</i> , <b>2013</b> , 41, 189-201	7.6	29
65	Strain gradient plasticity effects in whisker-reinforced metals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2003</b> , 51, 1863-1883	5	27
64	Strain gradient effects on steady state crack growth in rate-sensitive materials. <i>Engineering Fracture Mechanics</i> , <b>2012</b> , 96, 61-71	4.2	26
63	Nonlocal plasticity effects on the tensile properties of a metal matrix composite. <i>European Journal of Mechanics, A/Solids</i> , <b>2001</b> , 20, 601-613	3.7	24
62	Void growth to coalescence in a non-local material. <i>European Journal of Mechanics, A/Solids</i> , <b>2008</b> , 27, 222-233	3.7	23
61	A homogenized model for size-effects in porous metals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2019</b> , 123, 222-233	5	22
60	Applications of phase field fracture in modelling hydrogen assisted failures. <i>Theoretical and Applied Fracture Mechanics</i> , <b>2020</b> , 110, 102837	3.7	20
59	Size-effects on yield surfaces for micro reinforced composites. <i>International Journal of Plasticity</i> , <b>2011</b> , 27, 1817-1832	7.6	19
58	Analysis of steady-state ductile crack growth along a laser weld. <i>International Journal of Fracture</i> , <b>2001</b> , 111, 53-69	2.3	19
57	An assessment of phase field fracture: crack initiation and growth. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2021</b> , 379, 20210021	3	19
56	Rate sensitivity of mixed mode interface toughness of dissimilar metallic materials: Studied at steady state. <i>International Journal of Solids and Structures</i> , <b>2012</b> , 49, 576-583	3.1	18
55	Size Effects on Cavitation Instabilities. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2006</b> , 73, 246-253	7	18
54	A 2D finite element implementation of the Fleck-Willis strain-gradient flow theory. <i>European Journal of Mechanics, A/Solids</i> , <b>2013</b> , 41, 134-142	3.7	17
53	Nonlocal plasticity effects on fibre debonding in a whisker-reinforced metal. <i>European Journal of Mechanics, A/Solids</i> , <b>2002</b> , 21, 239-248	3.7	17

52	On modeling micro-structural evolution using a higher order strain gradient continuum theory. <i>International Journal of Plasticity</i> , <b>2016</b> , 76, 285-298	7.6	15
51	Investigation of a gradient enriched Gurson-Tvergaard model for porous strain hardening materials. <i>European Journal of Mechanics, A/Solids</i> , <b>2019</b> , 75, 472-484	3.7	15
50	On higher-order boundary conditions at elastic-plastic boundaries in strain-gradient plasticity. <i>Philosophical Magazine</i> , <b>2008</b> , 88, 3731-3745	1.6	14
49	An investigation of back stress formulations under cyclic loading. <i>Mechanics of Materials</i> , <b>2019</b> , 130, 76-87	3.3	13
48	GetFEM. <i>ACM Transactions on Mathematical Software</i> , <b>2021</b> , 47, 1-31	2.3	13
47	Size-effects in porous metals. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>2007</b> , 15, S51-S60	2	12
46	Steady-state numerical modeling of size effects in micron scale wire drawing. <i>Journal of Manufacturing Processes</i> , <b>2017</b> , 25, 163-171	5	11
45	Strain gradient effects in periodic flat punch indenting at small scales. <i>International Journal of Solids and Structures</i> , <b>2014</b> , 51, 3549-3556	3.1	11
44	Extended FEM modeling of crack paths near inclusions. <i>International Journal for Numerical Methods in Engineering</i> , <b>2012</b> , 89, 786-804	2.4	11
43	Micromechanical modeling of unidirectional composites with uneven interfacial strengths. <i>European Journal of Mechanics, A/Solids</i> , <b>2013</b> , 42, 241-250	3.7	11
42	Size effects at a crack-tip interacting with a number of voids. <i>Philosophical Magazine</i> , <b>2008</b> , 88, 3827-3840	4.6	11
41	Homogenization of long fiber reinforced composites including fiber bending effects. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2016</b> , 94, 433-452	5	11
40	Nonlinear compressive stability of hyperelastic 2D lattices at finite volume fractions. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2020</b> , 137, 103851	5	10
39	Hardening and strengthening behavior in rate-independent strain gradient crystal plasticity. <i>European Journal of Mechanics, A/Solids</i> , <b>2018</b> , 67, 157-168	3.7	9
38	Micro-buckling of periodically layered composites in regions of stress concentration. <i>Composite Structures</i> , <b>2016</b> , 157, 424-435	5.3	8
37	A phase field model for hydrogen-assisted fatigue. <i>International Journal of Fatigue</i> , <b>2022</b> , 154, 106521	5	8
36	Steady-state crack growth in single crystals under Mode I loading. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2017</b> , 101, 209-222	5	7
35	Steady-state fracture toughness of elastic-plastic solids: Isotropic versus kinematic hardening. <i>Engineering Fracture Mechanics</i> , <b>2019</b> , 207, 254-268	4.2	6

34	Effect of superimposed compressive stresses on rolling contact fatigue initiation at hard and soft inclusions. <i>International Journal of Fatigue</i> , <b>2020</b> , 134, 105399	5	6
33	A novel numerical framework for self-similarity in plasticity: Wedge indentation in single crystals. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2018</b> , 112, 667-684	5	6
32	A new macroscopically anisotropic pressure dependent yield function for metal matrix composite based on strain gradient plasticity for the microstructure. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2013</b> , 61, 991-1009	5	6
31	A finite strain FE-Implementation of the Fleck-Willis gradient theory: Rate-independent versus visco-plastic formulation. <i>European Journal of Mechanics, A/Solids</i> , <b>2019</b> , 75, 389-398	3.7	6
30	An incremental flow theory for crystal plasticity incorporating strain gradient effects. <i>International Journal of Solids and Structures</i> , <b>2017</b> , 110-111, 239-250	3.1	5
29	A potential for higher-order phenomenological strain gradient plasticity to predict reliable response under non-proportional loading. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2019</b> , 475, 20190258	2.4	5
28	On the homogenization of metal matrix composites using strain gradient plasticity. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , <b>2014</b> , 30, 175-190	2	5
27	Internal contact modeling for finite strain topology optimization. <i>Computational Mechanics</i> , <b>2021</b> , 67, 1099-1114	4	5
26	Rolling at Small Scales. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , <b>2016</b> , 138,	3.3	4
25	Finite strain analysis of size effects in wedge indentation into a Face-Centered Cubic (FCC) single crystal. <i>European Journal of Mechanics, A/Solids</i> , <b>2019</b> , 76, 193-207	3.7	3
24	Attaining the rate-independent limit of a rate-dependent strain gradient plasticity theory. <i>Extreme Mechanics Letters</i> , <b>2016</b> , 9, 40-44	3.9	3
23	Material size effects on crack growth along patterned wafer-level Cu/Ti bonds. <i>International Journal of Mechanical Sciences</i> , <b>2013</b> , 68, 270-276	5.5	3
22	Anisotropic yield surfaces of additively manufactured metals simulated with crystal plasticity. <i>European Journal of Mechanics, A/Solids</i> , <b>2022</b> , 104506	3.7	3
21	Tunneling cracks in arbitrary oriented off-axis lamina. <i>International Journal of Fracture</i> , <b>2020</b> , 226, 161-179	2.3	3
20	Anisotropic tensile behaviour of additively manufactured Ti-6Al-4V simulated with crystal plasticity. <i>Mechanics of Materials</i> , <b>2021</b> , 162, 104034	3.3	3
19	Plastic strain recovery in nanocrystalline copper thin films. <i>International Journal of Plasticity</i> , <b>2018</b> , 107, 27-53	7.6	2
18	A homogenization method for ductile-brittle composite laminates at large deformations. <i>International Journal for Numerical Methods in Engineering</i> , <b>2018</b> , 113, 814-833	2.4	2
17	Wedge indentation of single crystalline monazite: A numerical investigation. <i>International Journal of Plasticity</i> , <b>2019</b> , 112, 36-51	7.6	2

16	Interaction of Void Spacing and Material Size Effect on Inter-Void Flow Localization. <i>Journal of Applied Mechanics, Transactions ASME</i> , <b>2021</b> , 88,	2.7	2
15	Finite element study of cyclic plasticity near a subsurface inclusion under rolling contact and macro-residual stresses. <i>International Journal of Fatigue</i> , <b>2021</b> , 143, 105981	5	2
14	Size effect on void coalescence under intense shear. <i>European Journal of Mechanics, A/Solids</i> , <b>2021</b> , 90, 104329	3.7	2
13	A steady-state modeling framework incorporating the Kuroda–Lüdergren model: demonstrated on single crystal crack growth. <i>Archive of Applied Mechanics</i> , <b>2019</b> , 89, 2133-2145	2.2	1
12	On the accuracy of the asymptotic theory for cylindrical shells. <i>Archive of Applied Mechanics</i> , <b>1999</b> , 69, 677-689	2.2	1
11	The influence of microstructure on mechanical properties of SLM 3D printed Ti-6Al-4V. <i>MATEC Web of Conferences</i> , <b>2020</b> , 321, 03005	0.3	1
10	Topology optimization of structures in transient impacts with Coulomb friction. <i>International Journal for Numerical Methods in Engineering</i> , <b>2021</b> , 122, 5053-5075	2.4	1
9	On the effect of microplasticity on crack initiation from subsurface defects in rolling contact fatigue. <i>International Journal of Fatigue</i> , <b>2022</b> , 161, 106870	5	1
8	A correction to the analysis of bending under tension tests. <i>Tribology International</i> , <b>2022</b> , 173, 107625	4.9	1
7	Strain Gradient Plasticity: Theory and Implementation. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , <b>2020</b> , 101-149	0.6	0
6	Uniaxial tensile behaviour of additively manufactured elastically isotropic truss lattices made of 316L. <i>International Journal of Solids and Structures</i> , <b>2022</b> , 111599	3.1	0
5	A special finite element method applied to off-axis tunnel cracking in laminates. <i>Engineering Fracture Mechanics</i> , <b>2022</b> , 108387	4.2	0
4	Size scale dependence of compressive instabilities in layered composites in the presence of stress gradients. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2016</b> , 139, 012041	0.4	
3	A finite strain framework for steady-state problems: Hyperelasto-viscoplasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>2021</b> , 375, 113598	5.7	
2	Numerical study of long-time growth of hydraulic fractures in a line drive. <i>Geomechanics for Energy and the Environment</i> , <b>2021</b> , 100270	3.7	
1	Determination of optimal residual stress profiles for improved rolling contact fatigue resistance. <i>MATEC Web of Conferences</i> , <b>2019</b> , 300, 06002	0.3	