

# Noel O'Dowd

## List of Publications by Year in descending order

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133  
papers

4,801  
citations

159358

30  
h-index

98622

67  
g-index

135  
all docs

135  
docs citations

135  
times ranked

1917  
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of progressive damage between thermoset and thermoplastic CFRP composites under in-situ tensile loading. <i>Journal of Composite Materials</i> , 2021, 55, 1473-1484.	1.2	6
2	Fibre Alignment and Void Assessment in Thermoplastic Carbon Fibre Reinforced Polymers Manufactured by Automated Tape Placement. <i>Polymers</i> , 2021, 13, 473.	2.0	10
3	A multiscale experimentally-based finite element model to predict microstructure and damage evolution in martensitic steels. <i>International Journal of Plasticity</i> , 2021, 139, 102966.	4.1	12
4	Experimental study of hygrothermal ageing effects on failure modes of non-crimp basalt fibre-reinforced epoxy composite. <i>Composite Structures</i> , 2021, 275, 114415.	3.1	20
5	Size-dependent bending modulus of fibre composite laminates comprising unidirectional plies. <i>International Journal of Solids and Structures</i> , 2021, 230-231, 111162.	1.3	0
6	Effective bending modulus of thin-ply composites with non-uniform fibre spacing. <i>Composite Structures</i> , 2021, 278, 114660.	3.1	1
7	Quality prediction of ultrasonically welded joints using a hybrid machine learning model. <i>Journal of Manufacturing Processes</i> , 2021, 71, 571-579.	2.8	21
8	Effective bending modulus of thin ply fibre composites with uniform fibre spacing. <i>International Journal of Solids and Structures</i> , 2020, 196-197, 26-40.	1.3	8
9	Analysis of failure modes for a non-crimp basalt fiber reinforced epoxy composite under flexural and interlaminar shear loading. <i>Composite Structures</i> , 2020, 245, 112317.	3.1	18
10	Application of Limit Load Solutions for Engineering Critical Assessment of Embedded Flaws in Evenmatch Pipeline Girth Welds. , 2020, , .		0
11	On the Manufacturing Defects of Thermoplastic Carbon/Epoxy Composites Manufactured by Automated Tape Placement. , 2020, , .		0
12	A microscale integrated approach to measure and model fibre misalignment in fibre-reinforced composites. <i>Composites Science and Technology</i> , 2019, 183, 107793.	3.8	26
13	Strain gradient crystal plasticity modelling of size effects in a hierarchical martensitic steel using the Voronoi tessellation method. <i>International Journal of Plasticity</i> , 2019, 119, 215-229.	4.1	41
14	Prediction of Liner Wrinkling During High Strain Bending of Mechanically Lined Pipe. , 2019, , .		1
15	The effect of ferrite phases on the micromechanical response and crack initiation in the intercritical heat-affected zone of a welded 9Cr martensitic steel. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2018, 41, 1245-1259.	1.7	19
16	Parameter Study of a Thermal Analysis of a Bead-on-Plate Weld. , 2018, , .		0
17	Experimental study and multiscale modelling of the high temperature deformation of tempered martensite under multiaxial loading. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 737, 383-392.	2.6	9
18	Prediction of prior austenite grain growth in the heat-affected zone of a martensitic steel during welding. <i>International Journal of Pressure Vessels and Piping</i> , 2018, 166, 94-106.	1.2	8

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19	Influence of material inhomogeneity on the mechanical response of a tempered martensite steel. Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, 2017, 231, 14-22.	0.7	2
20	A multi-scale crystal plasticity model for cyclic plasticity and low-cycle fatigue in a precipitate-strengthened steel at elevated temperature. Journal of the Mechanics and Physics of Solids, 2017, 101, 44-62.	2.3	80
21	Low Cycle Fatigue of Subsea Mechanically Lined Pipeline With Liner Imperfections. , 2017, , .		2
22	Micromechanical finite element modelling of thermo-mechanical fatigue for P91 steels. International Journal of Fatigue, 2016, 87, 192-202.	2.8	43
23	Microscale deformation of a tempered martensite ferritic steel: Modelling and experimental study of grain and sub-grain interactions. Journal of the Mechanics and Physics of Solids, 2016, 86, 42-52.	2.3	18
24	Qualification of Reeled Mechanically Lined Pipes for Fatigue Service. International Journal of Offshore and Polar Engineering, 2016, 26, 296-303.	0.3	4
25	Fully-Plastic Strain-Based J Estimation Scheme for Circumferential Surface Cracks in Pipes Subjected to Reeling. Journal of Pressure Vessel Technology, Transactions of the ASME, 2015, 137, .	0.4	12
26	Limit Load Solution and Crack Driving Force Estimation Scheme for Embedded Flaws in Pipeline Girth Welds. , 2015, , .		1
27	Methodology for Assessment of Surface Defects in Undermatched Pipeline Girth Welds. Journal of Pressure Vessel Technology, Transactions of the ASME, 2015, 137, .	0.4	13
28	Deformation Characteristics of a High Chromium, Power Plant Steel at Elevated Temperatures. , 2015, , .		6
29	Creep relaxation in the presence of residual stress. Engineering Fracture Mechanics, 2015, 138, 250-264.	2.0	13
30	Fracture mechanics analysis of heterogeneous welds: Numerical case studies involving experimental heterogeneity patterns. Engineering Failure Analysis, 2015, 58, 336-350.	1.8	14
31	Numerical micromechanical investigation of interfacial strength parameters in a carbon fibre composite material. Journal of Composite Materials, 2014, 48, 749-760.	1.2	19
32	Effects of Weld Strength Heterogeneity on Crack Driving Force in Stress and Strain Based Design Scenarios. , 2014, , .		0
33	High Temperature, Low Cycle Fatigue Characterization of P91 Weld and Heat Affected Zone Material. Journal of Pressure Vessel Technology, Transactions of the ASME, 2014, 136, .	0.4	24
34	Microstructural Modeling of P91 Martensitic Steel Under Uniaxial Loading Conditions. Journal of Pressure Vessel Technology, Transactions of the ASME, 2014, 136, .	0.4	20
35	The Role of Plasticity in the Transverse Lattice Strain Evolution of a Martensitic Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 5829-5833.	1.1	6
36	A Unified Viscoplastic Model for High Temperature Low Cycle Fatigue of Service-Aged P91 Steel. Journal of Pressure Vessel Technology, Transactions of the ASME, 2014, 136, .	0.4	20

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37	J-integral analysis of heterogeneous mismatched girth welds in clamped single-edge notched tension specimens. <i>International Journal of Pressure Vessels and Piping</i> , 2014, 119, 95-107.	1.2	26
38	Fracture Mechanics Analysis of Heterogeneous Welds: Validation of a Weld Homogenisation Approach. , 2014, 3, 1322-1329.		7
39	Multiscale modelling of mechanical response in a martensitic steel: A micromechanical and length-scale-dependent framework for precipitate hardening. <i>Acta Materialia</i> , 2014, 80, 445-456.	3.8	65
40	Multiaxial cyclic viscoplasticity model for high temperature fatigue of P91 steel. <i>Materials Science and Technology</i> , 2014, 30, 67-74.	0.8	12
41	Effects of pipe steel heterogeneity on the tensile strain capacity of a flawed pipeline girth weld. <i>Engineering Fracture Mechanics</i> , 2014, 115, 172-189.	2.0	17
42	In-situ SEM mechanical testing of miniature bonded joints. <i>International Journal of Adhesion and Adhesives</i> , 2014, 50, 57-64.	1.4	6
43	Cyclic Viscoplasticity Testing and Modeling of a Service-Aged P91 Steel. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2014, 136, .	0.4	3
44	Development of life assessment procedures for power plant headers operated under flexible loading scenarios. <i>International Journal of Fatigue</i> , 2013, 49, 50-61.	2.8	66
45	A combined computational and experimental methodology to determine the adhesion properties of stent polymer coatings. <i>Computational Materials Science</i> , 2013, 80, 104-112.	1.4	21
46	The effect of prior deformation on subsequent microplasticity and damage evolution in an austenitic stainless steel at elevated temperature. <i>Acta Materialia</i> , 2013, 61, 3575-3584.	3.8	36
47	Taguchi analysis of bonded composite single-lap joints using a combined interfaceâ€œadhesive damage model. <i>International Journal of Adhesion and Adhesives</i> , 2013, 40, 168-178.	1.4	44
48	Preface to topical special issue of computational materials science on â€œRecent advances in computational mechanics of materialsâ€œ. <i>Computational Materials Science</i> , 2013, 80, 1.	1.4	0
49	Micromechanical investigation of damage processes at composite-adhesive interfaces. <i>Composites Science and Technology</i> , 2013, 86, 61-69.	3.8	18
50	Modelling of Micro-Plasticity Evolution in Crystalline Materials. , 2013, , .		3
51	Thermomechanical Analysis of a Pressurized Pipe Under Plant Conditions. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2013, 135, .	0.4	27
52	High Temperature, Low Cycle Fatigue Characterisation of P91 Weld and Heat Affected Zone Material. , 2013, , .		2
53	Microstructural Modelling of P91 Martensitic Steel Under Uniaxial Loading Conditions. , 2013, , .		0
54	Fully-Plastic Strain-Based J Estimation Scheme for Circumferential Surface Cracks in Pipes Subjected to Reeling. , 2013, , .		0

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55	Investigating Ductile Failure at the Microscale in Engineering Steels: A Micromechanical Finite Element Model. , 2012, , .		2
56	Hot Isostatically Pressed (HIPed) Large Bore Valves for a Pressurised Water Reactor (PWR) Application. , 2012, , .		0
57	The influence of void morphology and loading conditions on deformation and failure of porous polymers: A combined finite-element and analysis of variance study. Computational Materials Science, 2012, 64, 41-46.	1.4	4
58	Investigation of strain hardening effects under in-plane shear of unidirectional composite materials. Computational Materials Science, 2012, 64, 179-182.	1.4	10
59	Study of creep relaxation under combined mechanical and residual stresses. Engineering Fracture Mechanics, 2012, 93, 132-152.	2.0	14
60	Cyclic Visco-Plasticity Testing and Modelling of a Service-Aged P91 Steel. , 2012, , .		2
61	The Effect of Prestrain on Ductile Fracture Toughness of Reeled Pipeline Steels. Journal of Pressure Vessel Technology, Transactions of the ASME, 2011, 133, .	0.4	8
62	Multiscale modelling of porous polymers using a combined finite element and D-optimal design of experiment approach. Computational Materials Science, 2011, 50, 2671-2682.	1.4	7
63	Time-of-flight neutron imaging at a continuous source: Proof of principle using a scintillator CCD imaging detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 651, 149-155.	0.7	17
64	On the evolution of lattice deformation in austenitic stainless steelsâ€”The role of work hardening at finite strains. Journal of the Mechanics and Physics of Solids, 2011, 59, 2421-2441.	2.3	65
65	Microscale prediction of deformation in an austenitic stainless steel under uniaxial loading. European Journal of Mechanics, A/Solids, 2011, 30, 748-760.	2.1	21
66	Study of Creep Relaxation Behaviour of 316H Austenitic Steels Under Mechanically Induced Residual Stress. , 2011, , .		1
67	Thermomechanical Analysis of a Pressurised Pipe Under Plant Conditions. , 2011, , .		2
68	Evaluating the Mechanical Behavior of 316 Stainless Steel at the Microscale Using Finite Element Modelling and In-Situ Neutron Scattering. , 2010, , .		3
69	Prediction of Transient Creep Response Under Combined Primary and Secondary Loading. , 2010, , .		2
70	A review of the effect of prior inelastic deformation on high temperature mechanical response of engineering alloys. International Journal of Pressure Vessels and Piping, 2010, 87, 531-542.	1.2	24
71	Evaluation of Two-Parameter Approaches to Describe Crack-Tip Fields in Engineering Structures. Journal of Pressure Vessel Technology, Transactions of the ASME, 2009, 131, .	0.4	0
72	Thermo-mechanical modelling of a single-bead-on-plate weld using the finite element method. International Journal of Pressure Vessels and Piping, 2009, 86, 110-121.	1.2	63

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73	Fracture Assessment Procedures for Steel Pipelines Using a Modified Reference Stress Solution. Journal of Pressure Vessel Technology, Transactions of the ASME, 2009, 131, .	0.4	15
74	The Effect of Pre-Strain on Ductile Fracture Toughness of Reeled Pipeline Steels. , 2009, , .		0
75	Fracture Assessment Procedures for Steel Pipelines Using a Modified Reference Stress Solution. , 2008, , .		0
76	Computational and Experimental Studies of High Temperature Crack Initiation in the Presence of Residual Stress. Journal of Pressure Vessel Technology, Transactions of the ASME, 2008, 130, .	0.4	8
77	Numerical Investigation to Examine the Effect of Introducing a Crack in a Residual Stress Field. , 2008, , .		0
78	Evaluation of Two-Parameter Approaches to Describe Crack Tip Fields in Engineering Structures. , 2007, , 3.		1
79	Computational modelling of crack initiation in a single crystal superalloy under fatigueâ€œoxidation conditions. Materials Science and Technology, 2007, 23, 1433-1438.	0.8	2
80	A Comparison of Measurement and Modelling of Plastically Induced Residual Stresses in a 316H and a Weld 347 Stainless Steel. , 2007, , .		0
81	An analytical and computational study of crack initiation under transient creep conditions. International Journal of Solids and Structures, 2007, 44, 1823-1843.	1.3	26
82	Interpretation of creep crack initiation and growth data for weldments. Engineering Fracture Mechanics, 2007, 74, 882-897.	2.0	24
83	Developing a realistic FE analysis method for the welding of a NET single-bead-on-plate test specimen. Journal of Materials Processing Technology, 2007, 192-193, 497-503.	3.1	23
84	Theoretical and numerical modelling of creep crack growth in a carbonâ€œmanganese steel. Engineering Fracture Mechanics, 2006, 73, 1158-1175.	2.0	96
85	A coupled kinetic-constitutive approach to the study of high temperature crack initiation in single crystal nickel-base superalloysâ€œ. Journal of the Mechanics and Physics of Solids, 2006, 54, 288-309.	2.3	61
86	Prediction of Creep Crack Initiation Under Transient Stress Conditions. , 2006, , 343.		2
87	Computational and Experimental Studies of High Temperature Crack Growth in the Presence of Residual Stress. , 2006, , 327.		3
88	Mechanistic Studies of High-Temperature Crack Initiation in Single Crystal Materials. Journal of ASTM International, 2006, 3, 13219.	0.2	1
89	Review of a procedure for performing constraint and attenuation-corrected fracture mechanics safety case calculations for Magnox reactor steel pressure vessels. International Journal of Pressure Vessels and Piping, 2005, 82, 496-508.	1.2	3
90	A generic approach for a linear elastic fracture mechanics analysis of components containing residual stress. International Journal of Pressure Vessels and Piping, 2005, 82, 797-806.	1.2	18

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91	Comparison of methods for obtaining crack-tip stress distributions in an elastic-plastic material. Journal of Strain Analysis for Engineering Design, 2005, 40, 431-449.	1.0	8
92	Creep Crack Initiation in a Weld Steel: Effects of Residual Stress. , 2005, , 843.		11
93	Simplified Method for Profiling Residual Stress Distributions in Plate and Pipe Components. , 2004, , 1549.		2
94	Comparison of Fine and Conventional Blanking Based on Ductile Fracture Criteria. , 2004, , 265.		2
95	Stress Intensity Factors Due to Residual Stresses in T-Plate Welds. , 2004, , 139.		5
96	Modelling of damage development and failure in notched-bar multiaxial creep tests. Fatigue and Fracture of Engineering Materials and Structures, 2004, 27, 283-295.	1.7	36
97	Stress Intensity Factors Due to Residual Stresses in T-Plate Welds. Journal of Pressure Vessel Technology, Transactions of the ASME, 2004, 126, 432-437.	0.4	8
98	Failure assessment diagram analysis of creep crack initiation in 316H stainless steel. International Journal of Pressure Vessels and Piping, 2003, 80, 541-551.	1.2	34
99	Creep crack growth prediction using a damage based approach. International Journal of Pressure Vessels and Piping, 2003, 80, 573-583.	1.2	122
100	A multiscale approach for coupled phenomena in fcc materials at high temperatures. Philosophical Magazine, 2003, 83, 3895-3916.	0.7	18
101	Measurement of residual stresses in T-plate weldments. Journal of Strain Analysis for Engineering Design, 2003, 38, 349-365.	1.0	44
102	Computational Modelling of High Temperature Steady State Crack Growth Using a Damage-Based Approach. , 2003, , 5.		6
103	Experimental Investigation of Constraint Effects on Creep Crack Growth. , 2002, , 143.		30
104	Numerical study of sliding wear caused by a loaded pin on a rotating disc. Journal of the Mechanics and Physics of Solids, 2002, 50, 449-470.	2.3	48
105	The Effect of Residual Stresses on the Fracture Resistance of Ductile Steels. , 2002, , .		0
106	A generalised sliding wear model for inhomogeneous coatings. European Physical Journal Special Topics, 2001, 11, Pr4-257-Pr4-264.	0.2	0
107	Finite element implementation of a generalised non-local rate-dependent crystallographic formulation for finite strains. International Journal of Plasticity, 2001, 17, 601-640.	4.1	172
108	Use of scaling functions to determine mechanical properties of thin coatings from microindentation tests. International Journal of Solids and Structures, 2001, 38, 335-351.	1.3	105

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109	Prediction of cleavage failure probabilities using the Weibull stress. <i>Engineering Fracture Mechanics</i> , 2000, 67, 87-100.	2.0	33
110	J estimation and defect assessment for combined residual stress and mechanical loading. <i>International Journal of Pressure Vessels and Piping</i> , 2000, 77, 321-333.	1.2	6
111	Gradient-dependent deformation of two-phase single crystals. <i>Journal of the Mechanics and Physics of Solids</i> , 2000, 48, 2333-2361.	2.3	297
112	Fracture mechanics analysis of a crack in a residual stress field. <i>International Journal of Fracture</i> , 2000, 106, 195-216.	1.1	121
113	A micromechanics investigation of sliding wear in coated components. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2000, 456, 2387-2407.	1.0	30
114	Safety analyses of water cooled components inside the JET thermonuclear fusion tokamak. <i>Fusion Engineering and Design</i> , 1999, 45, 241-256.	1.0	1
115	Weibull Stress Solutions for 2-D Cracks in elastic and Elastic-Plastic Materials. <i>International Journal of Fracture</i> , 1998, 89, 245-268.	1.1	43
116	Optimum design of forging dies using fuzzy logic in conjunction with the backward deformation method. <i>International Journal of Machine Tools and Manufacture</i> , 1998, 38, 981-1000.	6.2	22
117	Theoretical and experimental simulation of accident scenarios of the Joint European Torus cryogenic components Part 2: The Lower Hybrid Current Drive cryopump. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 1998, 212, 525-530.	1.1	1
118	Theoretical and experimental simulation of accident scenarios of the Joint European Torus cryogenic components Part 1: The in-vessel cryopump. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 1998, 212, 509-524.	1.1	1
119	Length scale effects on the geometric softening of precipitated single crystals. <i>European Physical Journal Special Topics</i> , 1998, 08, Pr8-55-Pr8-61.	0.2	6
120	Computational modelling of the cyclic deformation of aluminium and aluminium matrix composites. <i>Computational Materials Science</i> , 1996, 5, 187-194.	1.4	3
121	Effect of Thermomechanical Loading on Near Tip Constraint. <i>European Physical Journal Special Topics</i> , 1996, 06, C6-539-C6-548.	0.2	3
122	Applications of two parameter approaches in elastic-plastic fracture mechanics. <i>Engineering Fracture Mechanics</i> , 1995, 52, 445-465.	2.0	123
123	Time dependent large principal deformation of polymers. <i>Journal of the Mechanics and Physics of Solids</i> , 1995, 43, 771-792.	2.3	31
124	Crack growth in an elastic-plastic material and effects on near tip constraint. <i>Computational Materials Science</i> , 1994, 3, 207-217.	1.4	1
125	Elastic-plastic analysis of cracks on bimaterial interfaces: interfaces with structure. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1993, 162, 175-192.	2.6	14
126	Fracture toughness of alumina-niobium interfaces: Experiments and analyses. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1992, 66, 1037-1064.	0.8	79



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127	Family of crack-tip fields characterized by a triaxiality parameter <sup>II</sup> . Fracture applications. Journal of the Mechanics and Physics of Solids, 1992, 40, 939-963.	2.3	657
128	Test geometries for measuring interfacial fracture toughness. International Journal of Solids and Structures, 1992, 29, 571-589.	1.3	112
129	Family of crack-tip fields characterized by a triaxiality parameter <sup>I</sup> . Structure of fields. Journal of the Mechanics and Physics of Solids, 1991, 39, 989-1015.	2.3	955
130	Mixed-Mode Fracture Toughness of Ceramic Materials. Journal of the American Ceramic Society, 1990, 73, 1257-1267.	1.9	195
131	Failure of bimaterial interfaces. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1990, 126, 65-93.	2.6	31
132	Predicting the Effect of Compressive and Tensile Residual Stresses in Fracture Mechanics Specimens. Advanced Materials Research, 0, 89-91, 275-280.	0.3	1
133	Determination of the mechanical properties of metallic thin films and substrates from indentation tests. , 0, .		6