William Coombs

List of Publications by Year
in descending order

52 papers	802 citations	567144 15 h-index	552653 26 g-index
53 all docs	53 docs citations	53 times ranked	463 citing authors

#	Article	IF	Citations
1	iGIMP: An implicit generalised interpolation material point method for large deformations. Computers and Structures, 2017, 190, 108-125.	2.4	73
2	Overcoming volumetric locking in material point methods. Computer Methods in Applied Mechanics and Engineering, 2018, 333, 1-21.	3.4	56
3	A non-ordinary state-based peridynamics framework for anisotropic materials. Computer Methods in Applied Mechanics and Engineering, 2018, 339, 416-442.	3.4	47
4	Imposition of essential boundary conditions in the material point method. International Journal for Numerical Methods in Engineering, 2018, 113, 130-152.	1.5	42
5	On Lagrangian mechanics and the implicit material point method for large deformation elasto-plasticity. Computer Methods in Applied Mechanics and Engineering, 2020, 358, 112622.	3.4	37
6	An adaptive finite element/meshless coupled method based on local maximum entropy shape functions for linear and nonlinear problems. Computer Methods in Applied Mechanics and Engineering, 2013, 267, 111-132.	3.4	35
7	Numerical Simulation of Fracking in Shale Rocks: Current State and Future Approaches. Archives of Computational Methods in Engineering, 2017, 24, 281-317.	6.0	35
8	B-spline based boundary conditions in the material point method. Computers and Structures, 2019, 212, 257-274.	2.4	34
9	On the use of domain-based material point methods for problems involving large distortion. Computer Methods in Applied Mechanics and Engineering, 2019, 355, 1003-1025.	3.4	30
10	Reuleaux plasticity: Analytical backward Euler stress integration and consistent tangent. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1733-1743.	3.4	25
11	Physical modelling to demonstrate the feasibility of screw piles for offshore jacket-supported wind energy structures. Geotechnique, 2022, 72, 108-126.	2.2	23
12	A finite element approach for determining the full loadâ€“displacement relationship of axially loaded shallow screw anchors, incorporating installation effects. Canadian Geotechnical Journal, 2021, 58, 565-582.	1.4	23
13	Observations on Mohr-Coulomb Plasticity under Plane Strain. Journal of Engineering Mechanics - ASCE, 2013, 139, 1218-1228.	1.6	22
14	Non-associated Reuleaux plasticity: Analytical stress integration and consistent tangent for finite deformation mechanics. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1021-1037.	3.4	18
15	Algorithmic issues for three-invariant hyperplastic Critical State models. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 2297-2318.	3.4	17
16	AMPLE: A Material Point Learning Environment. Advances in Engineering Software, 2020, 139, 102748.	1.8	16
17	A unique Critical State two-surface hyperplasticity model for fine-grained particulate media. Journal of the Mechanics and Physics of Solids, 2013, 61, 175-189.	2.3	15
18	A quasiâ€static discontinuous Galerkin configurational force crack propagation method for brittle materials. International Journal for Numerical Methods in Engineering, 2018, 113, 1061-1080.	1.5	15

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19	Effects of screw pile installation on installation requirements and in-service performance using the discrete element method. Canadian Geotechnical Journal, 2021, 58, 1334-1350.	1.4	15
20	Non-conforming multipatches for NURBS-based finite element analysis of higher-order phase-field models for brittle fracture. Engineering Fracture Mechanics, 2020, 235, 107133.	2.0	14
21	NURBS plasticity: Yield surface representation and implicit stress integration for isotropic inelasticity. Computer Methods in Applied Mechanics and Engineering, 2016, 304, 342-358.	3.4	13
22	NURBS plasticity: non-associated plastic flow. Computer Methods in Applied Mechanics and Engineering, 2018, 336, 419-443.	3.4	13
23	Material point method: Overview and challenges ahead. Advances in Applied Mechanics, 2021, 54, 113-204.	1.4	13
24	Rotationally invariant distortion resistant finite-elements. Computer Methods in Applied Mechanics and Engineering, 2014, 275, 189-203.	3.4	12
25	Continuously unique anisotropic critical state hyperplasticity. International Journal for Numerical and Analytical Methods in Geomechanics, 2017, 41, 578-601.	1.7	12
26	NURBS plasticity: Yield surface evolution and implicit stress integration for isotropic hardening. Computer Methods in Applied Mechanics and Engineering, 2017, 324, 204-220.	3.4	11
27	Weak impositions of Dirichlet boundary conditions in solid mechanics: A critique of current approaches and extension to partially prescribed boundaries. Computer Methods in Applied Mechanics and Engineering, 2019, 348, 632-659.	3.4	11
28	A displacement-controlled arc-length solution scheme. Computers and Structures, 2022, 258, 106674.	2.4	11
29	Modelling Screwpile Installation Using the MPM. Procedia Engineering, 2017, 175, 124-132.	1.2	10
30	Parallel computations in nonlinear solid mechanics using adaptive finite element and meshless methods. Engineering Computations, 2016, 33, 1161-1191.	0.7	9
31	A configurational force driven cracking particle method for modelling crack propagation in 2D. Engineering Analysis With Boundary Elements, 2019, 104, 197-208.	2.0	9
32	A high-order elliptic PDE based level set reinitialisation method using a discontinuous Galerkin discretisation. Journal of Computational Physics, 2019, 379, 373-391.	1.9	9
33	An efficient and locking‐free material point method for three‐dimensional analysis with simplex elements. International Journal for Numerical Methods in Engineering, 2021, 122, 3876-3899.	1.5	9
34	An Implicit High-order Material Point Method. Procedia Engineering, 2017, 175, 8-13.	1.2	8
35	70-line 3D finite deformation elastoplastic finite-element code. , 2000, , 151-156.		7
36	Centrifuge testing to verify scaling of offshore pipeline ploughs. International Journal of Physical Modelling in Geotechnics, 2019, 19, 305-317.	0.5	7

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37	The point collocation method with a local maximum entropy approach. Computers and Structures, 2018, 201, 1-14.	2.4	6
38	Accurate configuration force evaluation via hp-adaptive discontinuous Galerkin finite element analysis. Engineering Fracture Mechanics, 2019, 216, 106370.	2.0	6
39	A posteriori discontinuous Galerkin error estimator for linear elasticity. Applied Mathematics and Computation, 2019, 344-345, 78-96.	1.4	6
40	Fast native-MATLAB stiffness assembly for SIPG linear elasticity. Computers and Mathematics With Applications, 2017, 74, 3209-3230.	1.4	5
41	Rapid non-linear finite element analysis of continuous and discontinuous Galerkin methods in MATLAB. Computers and Mathematics With Applications, 2019, 78, 3007-3026.	1.4	5
42	Modelling Seabed Ploughing Using the Material Point Method. Procedia Engineering, 2017, 175, 1-7.	1.2	3
43	An implicit boundary finite element method with extension to frictional sliding boundary conditions and elasto-plastic analyses. Computer Methods in Applied Mechanics and Engineering, 2020, 358, 112620.	3.4	3
44	A cone penetration test (CPT) approach to cable plough performance prediction based upon centrifuge model testing. Canadian Geotechnical Journal, 2021, 58, 1466-1477.	1.4	3
45	A configurational force-based material point method for crack propagation modelling in 2D. Theoretical and Applied Fracture Mechanics, 2022, 117, 103186.	2.1	3
46	Adaptive configurational forceâ€based propagation for brittle and fatigue crack analysis. International Journal for Numerical Methods in Engineering, 2022, 123, 1673-1709.	1.5	3
47	Gradient Elasto-plasticity with the Generalised Interpolation Material Point Method. Procedia Engineering, 2017, 175, 110-115.	1.2	1
48	A parabolic level set reinitialisation method using a discontinuous Galerkin discretisation. Computers and Mathematics With Applications, 2019, 78, 2944-2960.	1.4	1
49	A flexible and robust yield function for geomaterials. Computer Methods in Applied Mechanics and Engineering, 2021, 387, 114162.	3.4	1
50	An adaptive local maximum entropy point collocation method for linear elasticity. Computers and Structures, 2021, 256, 106644.	2.4	0
51	Overcoming Volumetric Locking in Three-Dimensional Material Point Analysis. Lecture Notes in Civil Engineering, 2021, , 772-778.	0.3	0
52	An open source <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si2.svg"><mml:mrow><mml:mi>h</mml:mi><mml:mi>p</mml:mi></mml:mrow></mml:math>-adaptive discontinuous Galerkin finite element solver for linear elasticity. Advances in Engineering Software, 2022, 171, 103147.	1.8	0