Ludovic Noels

List of Publications by Year
in descending order

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104	2,682	186265	206112
papers	citations	28 h-index	48 g-index

107	107	107	1908
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Micromechanics-based material networks revisited from the interaction viewpoint; robust and efficient implementation for multi-phase composites. European Journal of Mechanics, A/Solids, 2022, 91, 104384.	3.7	13
2	Interaction-based material network: A general framework for (porous) microstructured materials. Computer Methods in Applied Mechanics and Engineering, 2022, 389, 114300.	6.6	10
3	Recurrent Neural Networks (RNNs) with dimensionality reduction and break down in computational mechanics; application to multi-scale localization step. Computer Methods in Applied Mechanics and Engineering, 2022, 390, 114476.	6.6	25
4	Analysis of an open foam generated from computerized tomography scans of physical foam samples. International Journal for Numerical Methods in Engineering, 2022, 123, 4267-4295.	2.8	1
5	High temperature nanoindentation of iron: Experimental and computational study. Journal of Nuclear Materials, 2022, 567, 153815.	2.7	0
6	An incrementalâ€secant meanâ€field homogenization model enhanced with a nonâ€associated pressureâ€dependent plasticity model. International Journal for Numerical Methods in Engineering, 2022, 123, 4616-4654.	2.8	1
7	Piecewise-uniform homogenization of heterogeneous composites using a spatial decomposition based on inelastic micromechanics. Composite Structures, 2022, 295, 115836.	5.8	2
8	Ductile fracture of high strength steels with morphological anisotropy, Part I: Characterization, testing, and void nucleation law. Engineering Fracture Mechanics, 2021, 244, 107569.	4.3	13
9	Ductile fracture of high strength steels with morphological anisotropy, Part II: Nonlocal micromechanics-based modeling. Engineering Fracture Mechanics, 2021, 248, 107716.	4.3	5
10	Micro-mechanics and data-driven based reduced order models for multi-scale analyses of woven composites. Composite Structures, 2021, 270, 114058.	5.8	16
11	Tensile failure model of carbon fibre in unidirectionally reinforced epoxy composites with mean-field homogenisation. Composite Structures, 2021, 273, 114270.	5.8	7
12	Per-phase spatial correlated damage models of UD fibre reinforced composites using mean-field homogenisation; applications to notched laminate failure and yarn failure of plain woven composites. Computers and Structures, 2021, 257, 106650.	4.4	3
13	A Tutorial on Bayesian Inference to Identify Material Parameters in Solid Mechanics. Archives of Computational Methods in Engineering, 2020, 27, 361-385.	10.2	83
14	Bayesian inference of non-linear multiscale model parameters accelerated by a Deep Neural Network. Computer Methods in Applied Mechanics and Engineering, 2020, 360, 112693.	6.6	38
15	A micromechanics-based non-local damage to crack transition framework for porous elastoplastic solids. International Journal of Plasticity, 2020, 127, 102631.	8.8	27
16	A recurrent neural network-accelerated multi-scale model for elasto-plastic heterogeneous materials subjected to random cyclic and non-proportional loading paths. Computer Methods in Applied Mechanics and Engineering, 2020, 369, 113234.	6.6	97
17	A nonlocal approach of ductile failure incorporating void growth, internal necking, and shear dominated coalescence mechanisms. Journal of the Mechanics and Physics of Solids, 2020, 137, 103891.	4.8	30
18	Computational generation of open-foam representative volume elements with morphological control using distance fields. European Journal of Mechanics, A/Solids, 2019, 78, 103847.	3.7	7

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19	An inverse micro-mechanical analysis toward the stochastic homogenization of nonlinear random composites. Computer Methods in Applied Mechanics and Engineering, 2019, 348, 97-138.	6.6	17
20	Bayesian identification of Mean-Field Homogenization model parameters and uncertain matrix behavior in non-aligned short fiber composites. Composite Structures, 2019, 220, 64-80.	5.8	33
21	A micro-mechanical model of reinforced polymer failure with length scale effects and predictive capabilities. Validation on carbon fiber reinforced high-crosslinked RTM6 epoxy resin. Mechanics of Materials, 2019, 133, 193-213.	3.2	20
22	Identifying elastoplastic parameters with Bayesâ€™ theorem considering output error, input error and model uncertainty. Probabilistic Engineering Mechanics, 2019, 55, 28-41.	2.7	66
23	A finite strain incremental-secant homogenization model for elasto-plastic composites. Computer Methods in Applied Mechanics and Engineering, 2019, 347, 754-781.	6.6	7
24	3D finite element formulation for mechanicalâ€“electrophysiological coupling in axonopathy. Computer Methods in Applied Mechanics and Engineering, 2019, 346, 1025-1050.	6.6	21
25	A Bayesian Framework to Identify Random Parameter Fields Based on the Copula Theorem and Gaussian Fields: Application to Polycrystalline Materials. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	2.2	13
26	From SEM images to elastic responses: A stochastic multiscale analysis of UD fiber reinforced composites. Composite Structures, 2018, 189, 206-227.	5.8	30
27	Stochastic Multiscale Model of MEMS Stiction Accounting for High-Order Statistical Moments of Non-Gaussian Contacting Surfaces. Journal of Microelectromechanical Systems, 2018, 27, 137-155.	2.5	6
28	A damage to crack transition model accounting for stress triaxiality formulated in a hybrid nonlocal implicit discontinuous Galerkinâ€cohesive band model framework. International Journal for Numerical Methods in Engineering, 2018, 113, 374-410.	2.8	16
29	A discontinuous Galerkin method for non-linear electro-thermo-mechanical problems: application to shape memory composite materials. Meccanica, 2018, 53, 1357-1401.	2.0	5
30	A micromechanicsâ€based inverse study for stochastic order reduction of elastic UD fiber reinforced composites analyses. International Journal for Numerical Methods in Engineering, 2018, 115, 1430-1456.	2.8	6
31	Unified treatment of microscopic boundary conditions and efficient algorithms for estimating tangent operators of the homogenized behavior in the computational homogenization method. Computational Mechanics, 2017, 59, 483-505.	4.0	22
32	A coupled electro-thermal Discontinuous Galerkin method. Journal of Computational Physics, 2017, 348, 231-258.	3.8	4
33	An incremental-secant mean-field homogenization method with second statistical moments for elasto-visco-plastic composite materials. Mechanics of Materials, 2017, 114, 180-200.	3.2	46
34	A computational stochastic multiscale methodology for MEMS structures involving adhesive contact. Tribology International, 2017, 110, 401-425.	5.9	12
35	Propagation of material and surface profile uncertainties on MEMS microâ€resonators using a stochastic secondâ€order computational multiâ€scale approach. International Journal for Numerical Methods in Engineering, 2017, 111, 26-68.	2.8	9
36	A Stochastic Multi-Scale Model for Predicting MEMS Stiction Failure. Conference Proceedings of the Society for Experimental Mechanics, 2017, , 1-8.	0.5	0

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37	A stochastic multi-scale approach for the modeling of thermo-elastic damping in micro-resonators. Computer Methods in Applied Mechanics and Engineering, 2016, 310, 802-839.	6.6	12
38	A large strain hyperelastic viscoelastic-viscoplastic-damage constitutive model based on a multi-mechanism non-local damage continuum for amorphous glassy polymers. International Journal of Solids and Structures, 2016, 96, 192-216.	2.7	72
39	A study of dry stiction phenomenon in MEMS using a computational stochastic multi-scale methodology. , 2016, , .		1
40	NUMERICAL PROPERTIES OF A DISCONTINUOUS GALERKIN FOMULATION FOR ELECTRO-THERMAL COUPLED PROBLEMS. , 2016, , .		0
41	An XFEM/CZM implementation for massively parallel simulations of composites fracture. Composite Structures, 2015, 125, 542-557.	5.8	36
42	A probabilistic model for predicting the uncertainties of the humid stiction phenomenon on hard materials. Journal of Computational and Applied Mathematics, 2015, 289, 173-195.	2.0	5
43	A stochastic computational multiscale approach; Application to MEMS resonators. Computer Methods in Applied Mechanics and Engineering, 2015, 294, 141-167.	6.6	30
44	Experimental and computational micro-mechanical investigations of compressive properties of polypropylene/multi-walled carbon nanotubes nanocomposite foams. Mechanics of Materials, 2015, 91, 95-118.	3.2	15
45	A study of composite laminates failure using an anisotropic gradient-enhanced damage mean-field homogenization model. Composite Structures, 2015, 126, 246-264.	5.8	26
46	An incremental-secant mean-field homogenization method with second statistical moments for elasto-plastic composite materials. Philosophical Magazine, 2015, 95, 3348-3384.	1.6	20
47	Multiscale modelling framework for the fracture of thin brittle polycrystalline films: application to polysilicon. Computational Mechanics, 2015, 55, 73-91.	4.0	14
48	Computational homogenization of cellular materials. International Journal of Solids and Structures, 2014, 51, 2183-2203.	2.7	54
49	Elastic damage to crack transition in a coupled non-local implicit discontinuous Galerkin/extrinsic cohesive law framework. Computer Methods in Applied Mechanics and Engineering, 2014, 279, 379-409.	6.6	24
50	Quasicontinuum study of the shear behavior of defective tilt grain boundaries in Cu. Acta Materialia, 2014, 64, 419-428.	7.9	11
51	Multiscale computational modeling of deformation mechanics and intergranular fracture in nanocrystalline copper. Computational Materials Science, 2014, 90, 253-264.	3.0	6
52	A fullâ€discontinuous Galerkin formulation of nonlinear Kirchhoffâ€“Love shells: elastoâ€plastic finite deformations, parallel computation, and fracture applications. International Journal for Numerical Methods in Engineering, 2013, 93, 80-117.	2.8	34
53	Non-local Damage-Enhanced MFH for Multiscale Simulations of Composites. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 115-121.	0.5	1
54	An energy-based variational model of ferromagnetic hysteresis for finite element computations. Journal of Computational and Applied Mathematics, 2013, 246, 243-250.	2.0	27

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55	A microâ€“meso-model of intra-laminar fracture in fiber-reinforced composites based on a discontinuous Galerkin/cohesive zone method. Engineering Fracture Mechanics, 2013, 104, 162-183.	4.3	54
56	A combined incremental-secant mean-field homogenization scheme with per-phase residual strains for elasto-plastic composites. International Journal of Plasticity, 2013, 51, 80-102.	8.8	57
57	An implicit-gradient-enhanced incremental-secant mean-field homogenization scheme for elasto-plastic composites with damage. International Journal of Solids and Structures, 2013, 50, 3843-3860.	2.7	39
58	The fracture studies of polycrystalline silicon based MEMS. , 2013, , .		2
59	A two-scale model predicting the mechanical behavior of nanocrystalline solids. Journal of the Mechanics and Physics of Solids, 2013, 61, 1895-1914.	4.8	12
60	Multiscale computational homogenization methods with a gradient enhanced scheme based on the discontinuous Galerkin formulation. Computer Methods in Applied Mechanics and Engineering, 2013, 260, 63-77.	6.6	36
61	A micro-model for elasto-plastic adhesiveâ€“contact in micro-switches: Application to cyclic loading. Tribology International, 2013, 57, 137-146.	5.9	18
62	Stiction Failure in Microswitches Due to Elasto-Plastic Adhesive Contacts. Conference Proceedings of the Society for Experimental Mechanics, 2013, , 67-74.	0.5	1
63	Serial FEM/XFEM-Based Update of Preoperative Brain Images Using Intraoperative MRI. International Journal of Biomedical Imaging, 2012, 2012, 1-17.	3.9	13
64	Validation tests of the full-discontinuous Galerkin/extrinsic cohesive law framework of Kirchhoff-Love shells. International Journal of Fracture, 2012, 178, 299-322.	2.2	1
65	Imposing periodic boundary condition on arbitrary meshes by polynomial interpolation. Computational Materials Science, 2012, 55, 390-406.	3.0	195
66	A multiscale mean-field homogenization method for fiber-reinforced composites with gradient-enhanced damage models. Computer Methods in Applied Mechanics and Engineering, 2012, 233-236, 164-179.	6.6	39
67	A fracture framework for Eulerâ€“Bernoulli beams based on a full discontinuous Galerkin formulation/extrinsic cohesive law combination. International Journal for Numerical Methods in Engineering, 2011, 85, 1227-1251.	2.8	5
68	A Microâ€“Macroapproach to Predict Stiction due to Surface Contact in Microelectromechanical Systems. Journal of Microelectromechanical Systems, 2011, 20, 976-990.	2.5	24
69	A one field full discontinuous Galerkin method for Kirchhoffâ€“Love shells applied to fracture mechanics. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 3223-3241.	6.6	20
70	A scalable 3D fracture and fragmentation algorithm based on a hybrid, discontinuous Galerkin, cohesive element method. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 326-344.	6.6	118
71	Design of Microswitch Systems Avoiding Stiction due to Surface Contact. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 189-195.	0.5	0
72	Prediction of stiction in microswitch systems. , 2010, , .		0

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73	Influence of adhesive rough surface contact on microswitches. Journal of Applied Physics, 2009, 106, .	2.5	12
74	A discontinuous Galerkin formulation of nonâ€linear Kirchhoffâ€“Love shells. International Journal for Numerical Methods in Engineering, 2009, 78, 296-323.	2.8	17
75	A one-field discontinuous Galerkin formulation of non-linear Kirchhoff-Love shells. International Journal of Material Forming, 2009, 2, 877-880.	2.0	1
76	Computational biology â€" Modeling of primary blast effects on the central nervous system. NeuroImage, 2009, 47, T10-T20.	4.2	182
77	Comparative study of numerical explicit schemes for impact problems. International Journal of Impact Engineering, 2008, 35, 1688-1694.	5.0	32
78	An explicit discontinuous Galerkin method for nonâ€linear solid dynamics: Formulation, parallel implementation and scalability properties. International Journal for Numerical Methods in Engineering, 2008, 74, 1393-1420.	2.8	64
79	A first-order energy-dissipative momentum-conserving scheme for elasto-plasticity using the variational updates formulation. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 706-726.	6.6	10
80	A new discontinuous Galerkin method for Kirchhoffâ€“Love shells. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 2901-2929.	6.6	49
81	Fluidâ€“Structure Interaction Effects in the Dynamic Response of Free-Standing Plates to Uniform Shock Loading. Journal of Applied Mechanics, Transactions ASME, 2007, 74, 1042-1045.	2.2	65
82	Alternative Approaches for the Derivation of Discontinuous Galerkin Methods for Nonlinear Mechanics. Journal of Applied Mechanics, Transactions ASME, 2007, 74, 1031-1036.	2.2	19
83	Numerical simulation of the fluidâ€“structure interaction between air blast waves and free-standing plates. Computers and Structures, 2007, 85, 923-931.	4.4	65
84	A New Discontinuous Galerkin Method for Non-Linear Mechanics. , 2006, , .		2
85	Nonlinear compressibility effects in fluid-structure interaction and their implications on the air-blast loading of structures. Journal of Applied Physics, 2006, 100, 063519.	2.5	103
86	Energy conserving balance of explicit time steps to combine implicit and explicit algorithms in structural dynamics. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 2169-2192.	6.6	13
87	Simulation of crashworthiness problems with improved contact algorithms for implicit time integration. International Journal of Impact Engineering, 2006, 32, 799-825.	5.0	6
88	A virtual test facility for the efficient simulation of solid material response under strong shock and detonation wave loading. Engineering With Computers, 2006, 22, 325-347.	6.1	63
89	An energy momentum conserving algorithm using the variational formulation of visco-plastic updates. International Journal for Numerical Methods in Engineering, 2006, 65, 904-942.	2.8	18
90	A general discontinuous Galerkin method for finite hyperelasticity. Formulation and numerical applications. International Journal for Numerical Methods in Engineering, 2006, 68, 64-97.	2.8	89

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91	Simulation of complex impact problems with implicit time algorithms: Application to a turbo-engine blade loss problem. International Journal of Impact Engineering, 2005, 32, 358-386.	5.0	3
92	An energyâ€“momentum conserving algorithm for non-linear hypoelastic constitutive models. International Journal for Numerical Methods in Engineering, 2004, 59, 83-114.	2.8	26
93	Combined implicit/explicit algorithms for crashworthiness analysis. International Journal of Impact Engineering, 2004, 30, 1161-1177.	5.0	17
94	On the use of large time steps with an energy momentum conserving algorithm for non-linear hypoelastic constitutive models. International Journal of Solids and Structures, 2004, 41, 663-693.	2.7	9
95	Combined implicit/explicit time-integration algorithms for the numerical simulation of sheet metal forming. Journal of Computational and Applied Mathematics, 2004, 168, 331-339.	2.0	40
96	Combined implicit/explicit algorithms for crashworthiness analysis. International Journal of Impact Engineering, 2004, 30, 1161-1161.	5.0	2
97	A Consistent Dissipative Time Integration Scheme for Structural Dynamics: Application to Rotordynamics. , 2004, , .		2
98	A new formulation of internal forces for non-linear hypoelastic constitutive models verifying conservation laws. , 2003, , 527-531.		0
99	Combined implicit-explicit algorithms for non-linear structural dynamics. Revue Europeenne Des Elements, 2002, 11, 565-591.	0.1	6
100	Self-adapting time integration management in crash-worthiness and sheet metal forming computations. International Journal of Vehicle Design, 2002, 30, 67.	0.3	8
101	Automatic time stepping algorithms for implicit numerical simulations of non-linear dynamics. Advances in Engineering Software, 2002, 33, 589-603.	3.8	12
102	DÃƒÂ©termination automatique de la taille du pas de temps pour les schÃƒÂ©mas implicites en dynamique non linÃƒÂ©aireAutomatic time-stepping algorithms for implicit schemes in non-linear dynamics. Mecanique Et Industries, 2002, 3, 63-77.	0.2	0
103	Automatic time stepping algorithms for implicit numerical simulations of blade/casing interactions.. International Journal of Crashworthiness, 2001, 6, 351-362.	1.9	4
104	Automatic Time Stepping Algorithms for Implicit Numerical Simulations of Non-Linear Dynamics. , 0, , .		0