

# Sergio Turteltaub

## List of Publications by Year in descending order

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48  
papers

1,446  
citations

331670

21  
h-index

330143

37  
g-index

48  
all docs

48  
docs citations

48  
times ranked

997  
citing authors

#	ARTICLE	IF	CITATIONS
1	Transformation-induced plasticity in ferrous alloys. <i>Journal of the Mechanics and Physics of Solids</i> , 2005, 53, 1747-1788.	4.8	136
2	A multiscale thermomechanical model for cubic to tetragonal martensitic phase transformations. <i>International Journal of Solids and Structures</i> , 2006, 43, 4509-4545.	2.7	96
3	Damage growth triggered by interface irregularities in thermal barrier coatings. <i>Acta Materialia</i> , 2009, 57, 2624-2630.	7.9	88
4	Oxide growth and damage evolution in thermal barrier coatings. <i>Engineering Fracture Mechanics</i> , 2011, 78, 2139-2152.	4.3	78
5	Grain size effects in multiphase steels assisted by transformation-induced plasticity. <i>International Journal of Solids and Structures</i> , 2006, 43, 7322-7336.	2.7	68
6	Computational modelling of plasticity induced by martensitic phase transformations. <i>International Journal for Numerical Methods in Engineering</i> , 2005, 63, 1655-1693.	2.8	66
7	Crystallographically based model for transformation-induced plasticity in multiphase carbon steels. <i>Continuum Mechanics and Thermodynamics</i> , 2008, 19, 399-422.	2.2	65
8	Cohesive-zone modelling of crack nucleation and propagation in particulate composites. <i>Engineering Fracture Mechanics</i> , 2015, 149, 170-190.	4.3	62
9	Modelling of the effects of grain orientation on transformation-induced plasticity in multiphase carbon steels. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2006, 14, 617-636.	2.0	59
10	Microcrack nucleation in thermal barrier coating systems. <i>Engineering Fracture Mechanics</i> , 2009, 76, 813-825.	4.3	51
11	A cohesive-zone crack healing model for self-healing materials. <i>International Journal of Solids and Structures</i> , 2018, 134, 249-263.	2.7	48
12	Optimal control and optimization of functionally graded materials for thermomechanical processes. <i>International Journal of Solids and Structures</i> , 2002, 39, 3175-3197.	2.7	47
13	A three-dimensional nonlinear finite element analysis of the mechanical behavior of tissue engineered intervertebral discs under complex loads. <i>Biomaterials</i> , 2006, 27, 377-387.	11.4	44
14	Micromechanical predictions of TRIP steel behavior as a function of microstructural parameters. <i>Computational Materials Science</i> , 2007, 41, 107-116.	3.0	43
15	Functionally graded materials for prescribed field evolution. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2002, 191, 2283-2296.	6.6	41
16	Optimal material properties for transient problems. <i>Structural and Multidisciplinary Optimization</i> , 2001, 22, 157-166.	3.5	36
17	Shape optimization and optimal control for transient heat conduction problems using an isogeometric approach. <i>Computers and Structures</i> , 2017, 185, 59-74.	4.4	35
18	Optimal non-homogeneous composites for dynamic loading. <i>Structural and Multidisciplinary Optimization</i> , 2005, 30, 101-112.	3.5	31

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19	Optimal distribution of material properties for an elastic continuum with structure-dependent body force. <i>International Journal of Solids and Structures</i> , 1999, 36, 4587-4608.	2.7	26
20	Coupled thermomechanical analysis of transformation-induced plasticity in multiphase steels. <i>Mechanics of Materials</i> , 2012, 53, 1-14.	3.2	26
21	Isogeometric shape optimization for quasi-static processes. <i>International Journal for Numerical Methods in Engineering</i> , 2015, 104, 347-371.	2.8	24
22	Analysis of banded microstructures in multiphase steels assisted by transformation-induced plasticity. <i>Computational Materials Science</i> , 2014, 84, 339-349.	3.0	21
23	Analysis of grain size effects on transformation-induced plasticity based on a discrete dislocation–transformation model. <i>Journal of the Mechanics and Physics of Solids</i> , 2010, 58, 1863-1878.	4.8	20
24	Normalization approaches for the descent search direction in isogeometric shape optimization. <i>CAD Computer Aided Design</i> , 2017, 82, 68-78.	2.7	19
25	Computational investigation of porosity effects on fracture behavior of thermal barrier coatings. <i>Ceramics International</i> , 2019, 45, 20518-20527.	4.8	19
26	Numerical Investigation into the Effect of Splats and Pores on the Thermal Fracture of Air Plasma-Sprayed Thermal Barrier Coatings. <i>Journal of Thermal Spray Technology</i> , 2019, 28, 1881-1892.	3.1	19
27	Multiscale analysis of mixed-mode fracture and effective traction-separation relations for composite materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 117, 88-109.	4.8	17
28	Multiscale modeling of the effect of sub-ply voids on the failure of composite materials. <i>International Journal of Solids and Structures</i> , 2019, 165, 63-74.	2.7	17
29	Transformation-induced plasticity in multiphase steels subjected to thermomechanical loading. <i>Philosophical Magazine</i> , 2008, 88, 3369-3387.	1.6	16
30	Modelling the fracture behaviour of thermal barrier coatings containing healing particles. <i>Materials and Design</i> , 2018, 157, 75-86.	7.0	16
31	Numerical modelling of transformation-induced damage and plasticity in metals. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2007, 15, S147-S166.	2.0	16
32	An enhanced curvature-constrained design method for manufacturable variable stiffness composite laminates. <i>Computers and Structures</i> , 2020, 238, 106284.	4.4	14
33	Viscosity of Strain Gradient Effects on the Kinetics of Propagating Phase Boundaries in Solids. <i>Journal of Elasticity</i> , 1997, 46, 53-90.	1.9	12
34	A Micromechanical Study of the Deformation Behavior of TRIP-Assisted Multiphase Steels as a Function of the Microstructural Parameters of the Retained Austenite. <i>Advanced Engineering Materials</i> , 2009, 11, 153-157.	3.5	9
35	A micromechanical fracture analysis to investigate the effect of healing particles on the overall mechanical response of a self-healing particulate composite. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2019, 42, 533-545.	3.4	9
36	Thermomechanical discrete dislocation–transformation model of single-crystal shape memory alloy. <i>Mechanics of Materials</i> , 2016, 97, 1-18.	3.2	8

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37	Determination of fracture strength and fracture energy of (metallo-) ceramics by a wedge loading methodology and corresponding cohesive zone-based finite element analysis. <i>Engineering Fracture Mechanics</i> , 2018, 196, 56-70.	4.3	7
38	Energetically-consistent multiscale analysis of fracture in composites materials. <i>European Journal of Mechanics, A/Solids</i> , 2020, 84, 104079.	3.7	7
39	Analysis of banded morphology in multiphase steels based on a discrete dislocation transformation model. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2011, 19, 074006.	2.0	5
40	Generalized grain cluster method for multiscale response of multiphase materials. <i>Computational Mechanics</i> , 2015, 56, 193-219.	4.0	5
41	Residual-Based Variational Multiscale Modeling in a Discontinuous Galerkin Framework. <i>Multiscale Modeling and Simulation</i> , 2018, 16, 1333-1364.	1.6	5
42	Parametric study of multiphase TRIP steels undergoing cyclic loading. <i>Computational Materials Science</i> , 2011, 50, 1490-1498.	3.0	4
43	A discontinuous Galerkin residual-based variational multiscale method for modeling subgrid-scale behavior of the viscous Burgers equation. <i>International Journal for Numerical Methods in Fluids</i> , 2018, 88, 217-238.	1.6	4
44	Thermal cyclic behavior and lifetime prediction of self-healing thermal barrier coatings. <i>International Journal of Solids and Structures</i> , 2021, 222-223, 111034.	2.7	4
45	Adiabatic Phase Boundary Propagation in a Thermoelastic Solid. <i>Mathematics and Mechanics of Solids</i> , 1997, 2, 117-142.	2.4	2
46	Integral representations in elastostatics and their application to an alternative boundary element method. <i>International Journal for Numerical Methods in Engineering</i> , 2004, 60, 1339-1359.	2.8	1
47	Effect of austenitic crystal orientation in a multiphase steel analyzed by a discrete dislocation-transformation model. <i>International Journal of Material Forming</i> , 2009, 2, 435-438.	2.0	0
48	Elucidating the effect of cohesive zone length in fracture simulations of particulate composites. <i>Engineering Fracture Mechanics</i> , 2022, , 108431.	4.3	0