# Javier Segurado

List of Publications by Year
in descending order



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|---|---|---|---|
| 98 papers | 5,641 citations | 66343 42 h-index | 79698 73 g-index |
| 100 all docs | 100 docs citations | 100 times ranked | 3989 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A numerical approximation to the elastic properties of sphere-reinforced composites. Journal of the Mechanics and Physics of Solids, 2002, 50, 2107-2121. | 4.8 | 472 |
| 2 | Multiscale Modeling of Composite Materials: a Roadmap Towards Virtual Testing. Advanced Materials, 2011, 23, 5130-5147. | 21.0 | 298 |
| 3 | A numerical investigation of the effect of particle clustering on the mechanical properties of composites. Acta Materialia, 2003, 51, 2355-2369. | 7.9 | 284 |
| 4 | Nanostructured titanium-based materials for medical implants: Modeling and development. Materials Science and Engineering Reports, 2014, 81, 1-19. | 31.8 | 214 |
| 5 | Multiscale modeling of plasticity based on embedding the viscoplastic self-consistent formulation in implicit finite elements. International Journal of Plasticity, 2012, 28, 124-140. | 8.8 | 194 |
| 6 | Computational micromechanics of composites: The effect of particle spatial distribution. Mechanics of Materials, 2006, 38, 873-883. | 3.2 | 167 |
| 7 | Ultraâ€Highâ€Strength Nanofibrillar Al<sub>2</sub>O<sub>3</sub>â€“YAGâ€“YSZ Eutectics. Advanced Materials, 2007, 19, 2313-2318. | 21.0 | 156 |
| 8 | Evolution of microstructure, macrotexture and mechanical properties of commercially pure Ti during ECAP-conform processing and drawing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 562, 128-136. | 5.6 | 150 |
| 9 | Intraply fracture of fiber-reinforced composites: Microscopic mechanisms and modeling. Composites Science and Technology, 2012, 72, 1223-1232. | 7.8 | 133 |
| 10 | Measuring the critical resolved shear stresses in Mg alloys by instrumented nanoindentation. Acta Materialia, 2014, 71, 283-292. | 7.9 | 128 |
| 11 | A new three-dimensional interface finite element to simulate fracture in composites. International Journal of Solids and Structures, 2004, 41, 2977-2993. | 2.7 | 125 |
| 12 | Micromechanics of elasto-plastic materials reinforced with ellipsoidal inclusions. International Journal of Solids and Structures, 2007, 44, 6945-6962. | 2.7 | 123 |
| 13 | Numerical simulation of elasto-plastic deformation of composites: evolution of stress microfields and implications for homogenization models. Journal of the Mechanics and Physics of Solids, 2004, 52, 1573-1593. | 4.8 | 121 |
| 14 | Failure surface of epoxy-modified fiber-reinforced composites under transverse tension and out-of-plane shear. International Journal of Solids and Structures, 2009, 46, 2265-2274. | 2.7 | 120 |
| 15 | A computational micromechanics study of the effect of interface decohesion on the mechanical behavior of composites. Acta Materialia, 2005, 53, 4931-4942. | 7.9 | 117 |
| 16 | Three-dimensional multiparticle cell simulations of deformation and damage in sphere-reinforced composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 365, 267-274. | 5.6 | 115 |
| 17 | Processing, microstructure and mechanical properties of directionally-solidified Al2O3â€“Y3Al5O12â€“ZrO2 ternary eutectics. Journal of the European Ceramic Society, 2006, 26, 3113-3121. | 5.7 | 112 |
| 18 | Micromechanics of particle-reinforced elasto-viscoplastic composites: Finite element simulations versus affine homogenization. International Journal of Plasticity, 2007, 23, 1041-1060. | 8.8 | 108 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | An inverse optimization strategy to determine single crystal mechanical behavior from polycrystal tests: Application to AZ31 Mg alloy. International Journal of Plasticity, 2014, 57, 1-15. | 8.8 | 103 |
| 20 | Three dimensional (3D) microstructure-based modeling of interfacial decohesion in particle reinforced metal matrix composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 557, 113-118. | 5.6 | 100 |
| 21 | Application of digital image correlation at the microscale in fiber-reinforced composites. Composites Part A: Applied Science and Manufacturing, 2012, 43, 1630-1638. | 7.6 | 89 |
| 22 | Modeling cyclic deformation of inconel 718 superalloy by means of crystal plasticity and computational homogenization. International Journal of Solids and Structures, 2017, 122-123, 148-161. | 2.7 | 85 |
| 23 | Multiscale modeling of the mechanical behavior of IN718 superalloy based on micropillar compression and computational homogenization. Acta Materialia, 2015, 98, 242-253. | 7.9 | 83 |
| 24 | On the accuracy of mean-field approaches to simulate the plastic deformation of composites. Scripta Materialia, 2002, 46, 525-529. | 5.2 | 80 |
| 25 | Effect of rare earth additions on the critical resolved shear stresses of magnesium alloys. Materials Letters, 2014, 128, 199-203. | 2.6 | 78 |
| 26 | Microstructure-based fatigue life model of metallic alloys with bilinear Coffin-Manson behavior. International Journal of Fatigue, 2018, 107, 40-48. | 5.7 | 72 |
| 27 | Multiscale modelling of precipitation hardening in Alâ€“Cu alloys: Dislocation dynamics simulations and experimental validation. Acta Materialia, 2020, 188, 475-485. | 7.9 | 72 |
| 28 | Computational Homogenization of Polycrystals. Advances in Applied Mechanics, 2018, , 1-114. | 2.3 | 70 |
| 29 | Micropillar compression of LiF [111] single crystals: Effect of size, ion irradiation and misorientation. International Journal of Plasticity, 2012, 36, 50-63. | 8.8 | 69 |
| 30 | Discrete dislocation dynamics analysis of the effect of lattice orientation on void growth in single crystals. International Journal of Plasticity, 2010, 26, 806-819. | 8.8 | 68 |
| 31 | An analysis of the influence of grain size on the strength of FCC polycrystals by means of computational homogenization. Acta Materialia, 2018, 148, 72-85. | 7.9 | 58 |
| 32 | Simulation of the deformation of polycrystalline nanostructured Ti by computational homogenization. Computational Materials Science, 2013, 76, 3-11. | 3.0 | 56 |
| 33 | Fatigue crack growth of SLS polyamide 12: Effect of reinforcement and temperature. Composites Part B: Engineering, 2014, 59, 285-292. | 12.0 | 56 |
| 34 | An analysis of the size effect on void growth in single crystals using discrete dislocation dynamics. Acta Materialia, 2009, 57, 1427-1436. | 7.9 | 55 |
| 35 | Understanding size effects on the strength of single crystals through high-temperature micropillar compression. Acta Materialia, 2014, 81, 50-57. | 7.9 | 55 |
| 36 | Discrete dislocation dynamics simulations of dislocation-Î¸â€² precipitate interaction in Al-Cu alloys. Journal of the Mechanics and Physics of Solids, 2018, 118, 228-244. | 4.8 | 53 |

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|---|---|---|---|
| 37 | Crystal plasticity simulation of the effect of grain size on the fatigue behavior of polycrystalline Inconel 718. International Journal of Fatigue, 2018, 113, 236-245. | 5.7 | 51 |
| 38 | An atomistic investigation of the interaction of dislocations with Guinier-Preston zones in Al-Cu alloys. Acta Materialia, 2019, 162, 189-201. | 7.9 | 51 |
| 39 | Effect of slip transmission at grain boundaries in Al bicrystals. International Journal of Plasticity, 2020, 126, 102600. | 8.8 | 50 |
| 40 | Finite deformation of incompressible fiber-reinforced elastomers: A computational micromechanics approach. Journal of the Mechanics and Physics of Solids, 2009, 57, 1596-1613. | 4.8 | 49 |
| 41 | Monotonic loading and fatigue response of a bio-based polyamide PA11 and a petrol-based polyamide PA12 manufactured by selective laser sintering. European Polymer Journal, 2014, 59, 36-45. | 5.4 | 49 |
| 42 | Simulation of the Hall-Petch effect in FCC polycrystals by means of strain gradient crystal plasticity and FFT homogenization. Journal of the Mechanics and Physics of Solids, 2020, 134, 103755. | 4.8 | 49 |
| 43 | Temperature and stain rate effect on the deformation of nanostructured pure titanium. International Journal of Plasticity, 2015, 70, 191-205. | 8.8 | 40 |
| 44 | Origin of the reversed yield asymmetry in Mg-rare earth alloys at high temperature. Acta Materialia, 2015, 92, 265-277. | 7.9 | 39 |
| 45 | Effect of indentation size on the nucleation and propagation of tensile twinning in pure magnesium. Acta Materialia, 2015, 93, 114-128. | 7.9 | 39 |
| 46 | On the accuracy of spectral solvers for micromechanics based fatigue modeling. Computational Mechanics, 2019, 63, 365-382. | 4.0 | 39 |
| 47 | Three-dimensional dislocation dynamics analysis of size effects on void growth. Scripta Materialia, 2015, 95, 11-14. | 5.2 | 38 |
| 48 | Effect of interface fracture on the tensile deformation of fiber-reinforced elastomers. International Journal of Solids and Structures, 2009, 46, 4287-4297. | 2.7 | 31 |
| 49 | DBFFT: A displacement based FFT approach for non-linear homogenization of the mechanical behavior. International Journal of Engineering Science, 2019, 144, 103131. | 5.0 | 31 |
| 50 | Development of a thermo-mechanically coupled crystal plasticity modeling framework: Application to polycrystalline homogenization. International Journal of Plasticity, 2019, 119, 313-330. | 8.8 | 31 |
| 51 | Effect of water conditioning on the fracture behavior of PA12 composites processed by selective laser sintering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 6927-6933. | 5.6 | 30 |
| 52 | Molecular dynamics modeling and simulation of void growth in two dimensions. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 075010. | 2.0 | 30 |
| 53 | FFT based approaches in micromechanics: fundamentals, methods and applications. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 023002. | 2.0 | 29 |
| 54 | Latent hardening size effect in small-scale plasticity. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 055009. | 2.0 | 28 |

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|---|---|---|---|
| 55 | Computational study of atomic mobility for bcc phase in Tiâ€“Alâ€“Fe system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2014, 46, 205-212. | 1.6 | 28 |
| 56 | Effect of Misorientation on the Compression of Highly Anisotropic Singleâ€Crystal Micropillars. Advanced Engineering Materials, 2012, 14, 1004-1008. | 3.5 | 27 |
| 57 | Three-dimensional investigation of grain orientation effects on void growth in commercially pure titanium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 671, 221-232. | 5.6 | 27 |
| 58 | Finite deformation of porous elastomers: a computational micromechanics approach. Philosophical Magazine, 2007, 87, 5607-5627. | 1.6 | 26 |
| 59 | An algorithm for stress and mixed control in Galerkinâ€based FFT homogenization. International Journal for Numerical Methods in Engineering, 2019, 119, 797-805. | 2.8 | 25 |
| 60 | Adaptation and validation of FFT methods for homogenization of lattice based materials. Computer Methods in Applied Mechanics and Engineering, 2022, 388, 114223. | 6.6 | 20 |
| 61 | On the robustness of an inverse optimization approach based on the Levenbergâ€“Marquardt method for the mechanical behavior of polycrystals. European Journal of Mechanics, A/Solids, 2015, 53, 220-228. | 3.7 | 18 |
| 62 | An atomistically informed kinetic Monte Carlo model of grain boundary motion coupled to shear deformation. International Journal of Plasticity, 2015, 68, 98-110. | 8.8 | 18 |
| 63 | A three-dimensional misorientation axis- and inclination-dependent Kobayashiâ€“Warrenâ€“Carter grain boundary model. Journal of the Mechanics and Physics of Solids, 2019, 128, 32-53. | 4.8 | 18 |
| 64 | An FFT framework for simulating non-local ductile failure in heterogeneous materials. Computer Methods in Applied Mechanics and Engineering, 2021, 380, 113759. | 6.6 | 18 |
| 65 | Effect of printing direction and thickness on the mechanical behavior of SLM fabricated Hastelloy-X. International Journal of Plasticity, 2022, 153, 103250. | 8.8 | 17 |
| 66 | Computational issues in the simulation of two-dimensional discrete dislocation mechanics. Modelling and Simulation in Materials Science and Engineering, 2007, 15, S361-S375. | 2.0 | 16 |
| 67 | Numerical simulations of void linkage in model materials using a nonlocal ductile damage approximation. International Journal of Fracture, 2007, 148, 205-219. | 2.2 | 16 |
| 68 | A microstructures generation tool for virtual ply property screening of hybrid composites with high volume fractions of non-circular fibers â€“ VIPER. Composites Part A: Applied Science and Manufacturing, 2020, 129, 105691. | 7.6 | 16 |
| 69 | Micromechanical studies of the densification of porous molybdenum. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 333, 270-278. | 5.6 | 15 |
| 70 | Effect of grain orientation and local strains on void growth and coalescence in titanium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 760, 258-266. | 5.6 | 14 |
| 71 | A coupled model of diffusional creep of polycrystalline solids based on climb of dislocations at grain boundaries. Journal of the Mechanics and Physics of Solids, 2020, 135, 103786. | 4.8 | 14 |
| 72 | An upscaling approach for micromechanics based fatigue: from RVEs to specimens and component life prediction. International Journal of Fracture, 2020, 223, 93-108. | 2.2 | 14 |

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|---|---|---|---|
| 73 | A multiplicative finite strain crystal plasticity formulation based on additive elastic corrector rates: Theory and numerical implementation. International Journal of Plasticity, 2021, 137, 102899. | 8.8 | 14 |
| 74 | Micromechanical characterization of the material response in a PA12-SLS fabricated lattice structure and its correlation with bulk behavior. Polymer Testing, 2022, 110, 107556. | 4.8 | 14 |
| 75 | Thermostructural behaviour of Niâ€“Cr materials: modelling of bulk and nanoparticle systems. Physical Chemistry Chemical Physics, 2015, 17, 15912-15920. | 2.8 | 13 |
| 76 | Microstructure-based modelling and Digital Image Correlation measurement of strain fields in austenitic stainless steel 316L during tension loading. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 751, 99-106. | 5.6 | 13 |
| 77 | Dislocation dynamics prediction of the strength of Alâ€“Cu alloys containing shearable <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e706" altimg="si18.svg"><mml:msup><mml:mrow><mml:mi>Î</mml:mi></mml:mrow><mml:mrow><mml:mo>â€²</mml:mo><mml:mo>â€² precipitates. Journal of the Mechanics and Physics of Solids, 2021, 151, 104375. | 4.8 | 11 |
| 78 | MUESLI - a Material UnivErSal LIbrary. Advances in Engineering Software, 2017, 105, 1-8. | 3.8 | 10 |
| 79 | Dislocation dynamics in non-convex domains using finite elements with embedded discontinuities. Modelling and Simulation in Materials Science and Engineering, 2008, 16, 035008. | 2.0 | 10 |
| 80 | Particle size effects in ductile composites: An FFT homogenization study. Journal of the Mechanics and Physics of Solids, 2022, 160, 104759. | 4.8 | 8 |
| 81 | A generalized line tension model for precipitate strengthening in metallic alloys. European Journal of Mechanics, A/Solids, 2022, 93, 104540. | 3.7 | 7 |
| 82 | Strength and toughness of cellular SiC at elevated temperature. Engineering Failure Analysis, 2009, 16, 2598-2603. | 4.0 | 6 |
| 83 | A variational fast Fourier transform method for phase-transforming materials. Modelling and Simulation in Materials Science and Engineering, 2021, 29, 045001. | 2.0 | 6 |
| 84 | An FFT-based approach for Bloch wave analysis: application to polycrystals. Computational Mechanics, 2021, 68, 981-1001. | 4.0 | 6 |
| 85 | Numerical Simulations of the Creep Deformation of MMCs in 4-Point Bending Mode. Journal of Engineering Materials and Technology, Transactions of the ASME, 2003, 125, 50-55. | 1.4 | 3 |
| 86 | Finite element and homogenization modelling of materials. , 2007, , 121-147. | | 3 |
| 87 | On the Extremal Properties of Hashinâ€™s Hollow Cylinder Assemblage in Nonlinear Elasticity. Journal of Elasticity, 2012, 107, 1-10. | 1.9 | 3 |
| 88 | A 3D dislocation dynamics analysis of the size effect on the strength of [1 1 1] LiF micropillars at 300K and 600K. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 035009. | 2.0 | 3 |
| 89 | Integrated Computational Materials Engineering in Solar Plants: The Virtual Materials Design Project. Jom, 2018, 70, 1659-1669. | 1.9 | 3 |
| 90 | A stochastic solver based on the residence time algorithm for crystal plasticity models. Computational Mechanics, 0, , 1. | 4.0 | 3 |

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|---|---|---|---|
| 91 | Fitting electron density as a physically sound basis for the development of interatomic potentials of complex alloys. Physical Chemistry Chemical Physics, 2018, 20, 18647-18656. | 2.8 | 2 |
| 92 | The influence of underlying microstructure on surface stress and strain fields calculated by crystal plasticity finite element method. Materials Today Communications, 2020, 24, 101176. | 1.9 | 1 |
| 93 | Crystal-Plasticity-Finite-Element Modeling of the Quasi-Static and Dynamic Response of a Directionally Solidified Nickel-Base Superalloy. Materials, 2020, 13, 2990. | 2.9 | 1 |
| 94 | Microtesting and Crystal Plasticity Modelling of IN718 Superalloy Grains. , 2014, , . | | 1 |
| 95 | Modeling of the Densification of Porous Molybdenum by a Unit Cell Approach. Journal of the Mechanical Behavior of Materials, 2009, 19, 289-296. | 1.8 | 0 |
| 96 | Preface: special issue on computational micromechanics of materials. Meccanica, 2016, 51, 269-270. | 2.0 | 0 |
| 97 | Multiscale modeling of the small punch test in nanostructured Ti. Meccanica, 2016, 51, 443-453. | 2.0 | 0 |
| 98 | Microstructure-Based Modelling and Digital Image Correlation Measurement of (Residual) Strain Fields in Austenitic Stainless Steel 316L During Tension Loading. Structural Integrity, 2019, , 313-314. | 1.4 | 0 |