Gustavo Victor Guinea Tortuero

List of Publications by Year
in descending order

135 papers	6,432 citations	61945 43 h-index	71651 76 g-index
143 all docs	143 docs citations	143 times ranked	5050 citing authors

#	ARTICLE	IF	CITATIONS
1	The cohesive zone model: advantages, limitations and challenges. Engineering Fracture Mechanics, 2002, 69, 137-163.	2.0	896
2	Measurement of the fracture energy using three-point bend tests: Part 3â€"influence of cutting theP-Î´ tail. Materiaux Et Constructions, 1992, 25, 327-334.	0.3	187
3	Measurement of the fracture energy using three-point bend tests: Part 2â€"Influence of bulk energy dissipation. Materiaux Et Constructions, 1992, 25, 305-312.	0.3	185
4	Mixed Mode Fracture of Concrete under Proportional and Nonproportional Loading. International Journal of Fracture, 1998, 94, 267-284.	1.1	185
5	Measurement of the fracture energy using three-point bend tests: Part 1â€"Influence of experimental procedures. Materiaux Et Constructions, 1992, 25, 212-218.	0.3	183
6	Stress Intensity factor, compliance and CMOD for a General Three-Point-Bend Beam. International Journal of Fracture, 1998, 89, 103-116.	1.1	170
7	A general bilinear fit for the softening curve of concrete. Materiaux Et Constructions, 1994, 27, 99-105.	0.3	152
8	Decellularization of pericardial tissue and its impact on tensile viscoelasticity and glycosaminoglycan content. Acta Biomaterialia, 2011, 7, 1241-1248.	4.1	148
9	Size effect and boundary conditions in the Brazilian test: Experimental verification. Materials and Structures/Materiaux Et Constructions, 1999, 32, 210-217.	1.3	124
10	Failure criteria for linear elastic materials with U-notches. International Journal of Fracture, 2006, 141, 99-113.	1.1	121
11	The effect of the bond between the matrix and the aggregates on the cracking mechanism and fracture parameters of concrete. Cement and Concrete Research, 2002, 32, 1961-1970.	4.6	111
12	Fractional-order viscoelasticity applied to describe uniaxial stress relaxation of human arteries. Physics in Medicine and Biology, 2008, 53, 4543-4554.	1.6	111
13	Stretching of supercontracted fibers: a link between spinning and the variability of spider silk. Journal of Experimental Biology, 2005, 208, 25-30.	0.8	107
14	Generalizations and specializations of cohesive crack models. Engineering Fracture Mechanics, 2003, 70, 1759-1776.	2.0	106
15	Review of the splitting-test standards from a fracture mechanics point of view. Cement and Concrete Research, 2001, 31, 73-82.	4.6	105
16	Controlled supercontraction tailors the tensile behaviour of spider silk. Polymer, 2003, 44, 3733-3736.	1.8	102
17	Mechanical behaviour and rupture of normal and pathological human ascending aortic wall. Medical and Biological Engineering and Computing, 2012, 50, 559-566.	1.6	99
18	KI evaluation by the displacement extrapolation technique. Engineering Fracture Mechanics, 2000, 66, 243-255.	2.0	97

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19	Thermo-hygro-mechanical behavior of spider dragline silk: Glassy and rubbery states. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 994-999.	2.4	92
20	Advances in Micropipette Aspiration: Applications in Cell Biomechanics, Models, and Extended Studies. Biophysical Journal, 2019, 116, 587-594.	0.2	90
21	Size effect and boundary conditions in the brazilian test: theoretical analysis. Materials and Structures/Materiaux Et Constructions, 1999, 32, 437-444.	1.3	86
22	Safety and tolerability of silk fibroin hydrogels implanted into the mouse brain. Acta Biomaterialia, 2016, 45, 262-275.	4.1	86
23	Volume Constancy during Stretching of Spider Silk. Biomacromolecules, 2006, 7, 2173-2177.	2.6	83
24	Relationship between microstructure and mechanical properties in spider silk fibers: identification of two regimes in the microstructural changes. Soft Matter, 2012, 8, 6015.	1.2	82
25	Sequential origin in the high performance properties of orb spider dragline silk. Scientific Reports, 2012, 2, 782.	1.6	80
26	Fracture of model concrete: 2. Fracture energy and characteristic length. Cement and Concrete Research, 2006, 36, 1345-1353.	4.6	79
27	The effect of spinning forces on spider silk properties. Journal of Experimental Biology, 2005, 208, 2633-2639.	0.8	76
28	Cohesive cracks versus nonlocal models: Closing the gap. International Journal of Fracture, 1993, 63, 173-187.	1.1	75
29	The hidden link between supercontraction and mechanical behavior of spider silks. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 658-669.	1.5	75
30	Self-tightening of spider silk fibers induced by moisture. Polymer, 2003, 44, 5785-5788.	1.8	72
31	GENERALIZED SIZE EFFECT EQUATION FOR QUASIBRITTLE MATERIALS. Fatigue and Fracture of Engineering Materials and Structures, 1997, 20, 671-687.	1.7	69
32	Bioinspired Fibers Follow the Track of Natural Spider Silk. Macromolecules, 2011, 44, 1166-1176.	2.2	69
33	Mechanical behavior of bilayered small-diameter nanofibrous structures as biomimetic vascular grafts. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 60, 220-233.	1.5	64
34	Effect of water on <i>Bombyx mori</i> regenerated silk fibers and its application in modifying their mechanical properties. Journal of Applied Polymer Science, 2008, 109, 1793-1801.	1.3	63
35	On the measurement of concrete fracture energy using three-point bend tests. Materiaux Et Constructions, 1997, 30, 375-376.	0.3	61
36	Size effect and inverse analysis in concrete fracture. International Journal of Fracture, 1999, 95, 367-378.	1.1	59

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37	Recovery in spider silk fibers. Journal of Applied Polymer Science, 2004, 92, 3537-3541.	1.3	59
38	The effect of constraint on creep fracture assessments. International Journal of Fracture, 1997, 87, 139-149.	1.1	56
39	Mechanical Behavior of Silk During the Evolution of Orb-Web Spinning Spiders. Biomacromolecules, 2009, 10, 1904-1910.	2.6	56
40	Old Silks Endowed with New Properties. Macromolecules, 2009, 42, 8977-8982.	2.2	54
41	Minor Ampullate Silks from Nephila and Argiope Spiders: Tensile Properties and Microstructural Characterization. Biomacromolecules, 2012, 13, 2087-2098.	2.6	52
42	Similarities and Differences in the Supramolecular Organization of Silkworm and Spider Silk. Macromolecules, 2007, 40, 5360-5365.	2.2	50
43	Influence of the draw ratio on the tensile and fracture behavior of NMMO regenerated silk fibers. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 2568-2579.	2.4	47
44	Mechanical characterisation of the human thoracic descending aorta: experiments and modelling. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 185-193.	0.9	46
45	Material properties of evolutionary diverse spider silks described by variation in a single structural parameter. Scientific Reports, 2016, 6, 18991.	1.6	41
46	Persistence and variation in microstructural design during the evolution of spider silk. Scientific Reports, 2015, 5, 14820.	1.6	39
47	Production of High Performance Bioinspired Silk Fibers by Straining Flow Spinning. Biomacromolecules, 2017, 18, 1127-1133.	2.6	38
48	Correlation between processing conditions, microstructure and mechanical behavior in regenerated silkworm silk fibers. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 455-465.	2.4	37
49	Silk Fibroin: An Ancient Material for Repairing the Injured Nervous System. Pharmaceutics, 2021, 13, 429.	2.0	36
50	Finding inspiration in argiope trifasciata spider silk fibers. Jom, 2005, 57, 60-66.	0.9	35
51	Stability and mechanical evaluation of bovine pericardium cross-linked with polyurethane prepolymer in aqueous medium. Materials Science and Engineering C, 2013, 33, 2392-2398.	3.8	35
52	Cortical Reshaping and Functional Recovery Induced by Silk Fibroin Hydrogels-Encapsulated Stem Cells Implanted in Stroke Animals. Frontiers in Cellular Neuroscience, 2018, 12, 296.	1.8	34
53	Reproducibility of the tensile properties of spider (Argiope trifasciata) silk obtained by forced silking. Journal of Experimental Zoology Part A, Comparative Experimental Biology, 2005, 303A, 37-44.	1.3	33
54	Thermomechanical behavior of human carotid arteries in the passive state. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H2940-H2945.	1.5	33

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55	The apparent variability of silkworm (Bombyx mori) silk and its relationship with degumming. European Polymer Journal, 2016, 78, 129-140.	2.6	33
56	Biomaterials to Neuroprotect the Stroke Brain: A Large Opportunity for Narrow Time Windows. Cells, 2020, 9, 1074.	1.8	32
57	Structureâ€“Function Relationship of Artificial Spider Silk Fibers Produced by Straining Flow Spinning. Biomacromolecules, 2020, 21, 2116-2124.	2.6	32
58	Micromechanical modeling of brick-masonry fracture. Cement and Concrete Research, 2000, 30, 731-737.	4.6	31
59	Stress intensity factors for wedge-splitting geometry. International Journal of Fracture, 1996, 81, 113-124.	1.1	30
60	Properties of concrete produced from multicomponent blended cements. Cement and Concrete Research, 2002, 32, 1937-1942.	4.6	30
61	Mechanical properties of human coronary arteries. , 2010, 2010, 3792-5.		30
62	Identification and dynamics of polyglycine II nanocrystals in Argiope trifasciata flagelliform silk. Scientific Reports, 2013, 3, 3061.	1.6	30
63	Hydrogels-Assisted Cell Engraftment for Repairing the Stroke-Damaged Brain: Chimera or Reality. Polymers, 2018, 10, 184.	2.0	28
64	Evaluation of Neurosecretome from Mesenchymal Stem Cells Encapsulated in Silk Fibroin Hydrogels. Scientific Reports, 2019, 9, 8801.	1.6	27
65	Recovery in Viscid Line Fibers. Biomacromolecules, 2010, 11, 1174-1179.	2.6	26
66	Efficacy of supraspinatus tendon repair using mesenchymal stem cells along with a collagen I scaffold. Journal of Orthopaedic Surgery and Research, 2015, 10, 124.	0.9	26
67	Assessment of the tensile strength through size effect curves. Engineering Fracture Mechanics, 2000, 65, 189-207.	2.0	25
68	Example of microprocessing in a natural polymeric fiber: Role of reeling stress in spider silk. Journal of Materials Research, 2006, 21, 1931-1938.	1.2	23
69	Straining flow spinning: production of regenerated silk fibers under a wide range of mild coagulating chemistries. Green Chemistry, 2017, 19, 3380-3389.	4.6	23
70	Constitutive model for fiber-reinforced materials with deformable matrices. Physical Review E, 2007, 76, 041903.	0.8	22
71	Supercontraction of dragline silk spun by lynx spiders (Oxyopidae). International Journal of Biological Macromolecules, 2010, 46, 555-557.	3.6	22
72	Chronic Renal Dysfunction in Maintenance Heart Transplant Patients: The ICEBERG Study. Transplantation Proceedings, 2014, 46, 14-20.	0.3	22

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73	Comparison of cell mechanical measurements provided by Atomic Force Microscopy (AFM) and Micropipette Aspiration (MPA). Journal of the Mechanical Behavior of Biomedical Materials, 2019, 95, 103-115.	1.5	22
74	Supramolecular organization of regenerated silkworm silk fibers. International Journal of Biological Macromolecules, 2009, 44, 195-202.	3.6	21
75	Comparison of the effects of post-spinning drawing and wet stretching on regenerated silk fibers produced through straining flow spinning. Polymer, 2018, 150, 311-317.	1.8	21
76	Improved Measurement of Elastic Properties of Cells by Micropipette Aspiration and Its Application to Lymphocytes. Annals of Biomedical Engineering, 2017, 45, 1375-1385.	1.3	20
77	Enhanced Biological Response of AVS-Functionalized Ti-6Al-4V Alloy through Covalent Immobilization of Collagen. Scientific Reports, 2018, 8, 3337.	1.6	20
78	Emergence of supercontraction in regenerated silkworm (Bombyx mori) silk fibers. Scientific Reports, 2019, 9, 2398.	1.6	20
79	Brittle failure of dry spaghetti. Engineering Failure Analysis, 2004, 11, 705-714.	1.8	19
80	Fracture surfaces and tensile properties of UV-irradiated spider silk fibers. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 786-793.	2.4	19
81	Factors influencing the mechanical behaviour of healthy human descending thoracic aorta. Physiological Measurement, 2010, 31, 1553-1565.	1.2	19
82	Crack trajectories under mixed mode and non-proportional loading. International Journal of Fracture, 1996, 81, 171-193.	1.1	18
83	Basic Principles in the Design of Spider Silk Fibers. Molecules, 2021, 26, 1794.	1.7	18
84	Unexpected behavior of irradiated spider silk links conformational freedom to mechanical performance. Soft Matter, 2015, 11, 4868-4878.	1.2	17
85	Simple measurement of the apparent viscosity of a cell from only one picture: Application to cardiac stem cells. Physical Review E, 2014, 90, 052715.	0.8	16
86	Straining Flow Spinning of Artificial Silk Fibers: A Review. Biomimetics, 2018, 3, 29.	1.5	16
87	Increases of Corporal Temperature as a Risk Factor of Atherosclerotic Plaque Instability. Annals of Biomedical Engineering, 2008, 36, 66-76.	1.3	15
88	Conduits based on the combination of hyaluronic acid and silk fibroin: Characterization, in vitro studies and in vivo biocompatibility. International Journal of Biological Macromolecules, 2020, 148, 378-390.	3.6	15
89	Spider silk gut: Development and characterization of a novel strong spider silk fiber. Scientific Reports, 2014, 4, 7326.	1.6	14
90	Mechanical behaviour and formation process of silkworm silk gut. Soft Matter, 2015, 11, 8981-8991.	1.2	14

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91	Stiffness associated with quasi-concentrated loads. Materiaux Et Constructions, 1994, 27, 311-318.	0.3	13
92	Modelling the fracture of concrete: the cohesive crack. Materiaux Et Constructions, 1995, 28, 187-194.	0.3	13
93	Fracture mechanics applied to concrete. European Structural Integrity Society, 2000, 26, 183-210.	0.1	13
94	Application of the Spider Silk Standardization Initiative (S3I) methodology to the characterization of major ampullate gland silk fibers spun by spiders from Pantanos de Villa wetlands (Lima, Peru). Journal of the Mechanical Behavior of Biomedical Materials, 2020, 111, 104023.	1.5	13
95	The influence of anaesthesia on the tensile properties of spider silk. Journal of Experimental Biology, 2006, 209, 320-326.	0.8	12
96	Polymeric fibers with tunable properties: Lessons from spider silk. Materials Science and Engineering C, 2011, 31, 1184-1188.	3.8	12
97	Optimization of functionalization conditions for protein analysis by AFM. Applied Surface Science, 2014, 317, 462-468.	3.1	11
98	Insights into the production and characterization of electrospun fibers from regenerated silk fibroin. European Polymer Journal, 2014, 60, 123-134.	2.6	10
99	Regenerated Silk Fibers Obtained by Straining Flow Spinning for Guiding Axonal Elongation in Primary Cortical Neurons. ACS Biomaterials Science and Engineering, 2020, 6, 6842-6852.	2.6	10
100	Single-cell biophysical study reveals deformability and internal ordering relationship in T cells. Soft Matter, 2020, 16, 5669-5678.	1.2	10
101	Stability and activity of lactate dehydrogenase on biofunctional layers deposited by activated vapor silanization (AVS) and immersion silanization (IS). Applied Surface Science, 2017, 416, 965-970.	3.1	9
102	Straining flow spinning: Simplified model of a bioinspired process to mass produce regenerated silk fibers controllably. European Polymer Journal, 2017, 97, 26-39.	2.6	9
103	Size effect and inverse analysis in concrete fracture. , 1999, , 367-378.		8
104	Stress intensity factors for internal circular cracks in fibers under tensile loading. Engineering Fracture Mechanics, 2004, 71, 365-377.	2.0	8
105	Expression of spidroin proteins in the silk glands of golden orbâ€weaver spiders. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2022, 338, 241-253.	0.6	8
106	Improved cell adhesion to activated vapor silanization-biofunctionalized Ti-6Al-4V surfaces with ECM-derived oligopeptides. Materials Science and Engineering C, 2022, 133, 112614.	3.8	8
107	Preservation of Muscular and Elastic Artery Distensibility After an Intercontinental Cryoconserved Exchange: Theoretical Advances in Arterial Homograft Generation and Utilization. Artificial Organs, 2009, 33, 662-669.	1.0	7
108	The variability and interdependence of spider viscid line tensile properties. Journal of Experimental Biology, 2013, 216, 4722-8.	0.8	7

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109	Production of regenerated silkworm silk fibers from aqueous dopes through straining flow spinning. Textile Reseach Journal, 2019, 89, 4554-4567.	1.1	7
110	Biotechnology and Biomaterial-Based Therapeutic Strategies for Age-Related Macular Degeneration. Part I: Biomaterials-Based Drug Delivery Devices. Frontiers in Bioengineering and Biotechnology, 2020, 8, 549089.	2.0	7
111	Biotechnology and Biomaterial-Based Therapeutic Strategies for Age-Related Macular Degeneration. Part II: Cell and Tissue Engineering Therapies. Frontiers in Bioengineering and Biotechnology, 2020, 8, 588014.	2.0	7
112	Indentation hardness: A simple test that correlates with the dissipated-energy predictor for fatigue-life in bovine pericardium membranes for bioprosthetic heart valves. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 61, 55-61.	1.5	6
113	Development of a versatile procedure for the biofunctionalization of Ti-6Al-4V implants. Applied Surface Science, 2016, 387, 652-660.	3.1	6
114	Postischemic Neuroprotection of Aminoethoxydiphenyl Borate Associates Shortening of Peri-Infarct Depolarizations. International Journal of Molecular Sciences, 2022, 23, 7449.	1.8	6
115	Assessment of defect size in brittle fibers. Engineering Fracture Mechanics, 2002, 69, 1057-1066.	2.0	5
116	Probing the effect of tip pressure on fungal growth: Application to<i>Aspergillus nidulans</i>. Physical Review E, 2017, 96, 022402.	0.8	5
117	Functionalization of atomic force microscopy cantilevers and tips by activated vapour silanization. Applied Surface Science, 2019, 484, 1141-1148.	3.1	5
118	Human Stem Cell Transplantation for Retinal Degenerative Diseases: Where Are We Now?. Medicina (Lithuania), 2022, 58, 102.	0.8	5
119	Effect of atherosclerosis on thermo-mechanical properties of arterial wall and its repercussion on plaque instability. International Journal of Cardiology, 2009, 132, 444-446.	0.8	4
120	Optimal selection of biological tissue using the energy dissipated in the first loading cycle. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 95B, 414-420.	1.6	4
121	Topographical and mechanical characterization of living eukaryotic cells on opaque substrates: development of a general procedure and its application to the study of non-adherent lymphocytes. Physical Biology, 2015, 12, 026005.	0.8	4
122	Structure and properties of spider and silkworm silk for tissue scaffolds. , 2014, , 239-274.		3
123	First steps for the development of silk fibroin-based 3D biohybrid retina for age-related macular degeneration (AMD). Journal of Neural Engineering, 2020, 17, 055003.	1.8	3
124	Arterial complex elastic modulus was preserved after an intercontinental cryoconserved exchange. , 2008, 2008, 3598-601.		2
125	Structure and properties of spider and silkworm silk for tissue scaffolds**This chapter was first published as Chapter 9 â€œStructure and properties of spider and silkworm silk for tissue scaffoldsâ€•by Gustavo Guinea in Silk biomaterials for tissue engineering and regenerative medicine, ed. S. Kundu, Woodhead Publishing Limited, 2014, ISBN: 978-0-85709-699-9., , 2015, , 185-217.		2
126	Tear and decohesion of bovine pericardial tissue. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 63, 1-9.	1.5	2

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127	Association between mechanics and structure in arteries and veins: Theoretical approach to vascular graft confection. , 2009, 2009, 4258-61.		1
128	Mechanical Characterization of the Human Aorta: Experiments, Modeling andÂSimulation. Advanced Structured Materials, 2016, , 151-202.	0.3	1
129	Reproducibility of the tensile properties of spider (Argiope trifasciata) silk obtained by forced silking. , 2005, 303A, 37.		1
130	Fracture surfaces and tensile properties of UV-irradiated spider silk fibers. , 2007, 45, 786.		1
131	Decellularization of porcine esophageal tissue at three diameters and the bioscaffold modification with <scp>EETsâ€ЕCM</scp> gel. Journal of Biomedical Materials Research - Part A, 0, , .	2.1	1
132	Papers presented at the 21st meeting of the Spanish Fracture Group (Punta UmbrÃa, Spain, 24â€"26 March) Tj ETQq0 0 0 rgBT /Overlock	1.8	0
133	Spider Silk as an Inspiration for Biomimicking. Advances in Science and Technology, 2008, 58, 1-9.	0.2	0
134	The new Degree in Materials Engineering at the Technical University of Madrid (UPM). , 2010, , .		0
135	Iberian Conference on Fracture and Structural Integrity â€" CIFIEâ€™2010. International Journal of Structural Integrity, 2010, 1, .	1.8	0