Manuel Elices

List of Publications by Citations

110 papers	3,162 citations	33 h-index	53 g-index
121 ext. papers	3,485 ext. citations	4 avg, IF	5.13 L-index

#	Paper	IF	Citations
110	Local strain energy to assess the static failure of U-notches in plates under mixed mode loading. *International Journal of Fracture*, **2007**, 145, 29-45	2.3	161
109	Fracture assessment of U-notches under mixed mode loading: two procedures based on the equivalent local mode I concept. *International Journal of Fracture*, **2007**, 148, 415-433	2.3	133
108	Brittle failures from U- and V-notches in mode I and mixed, I + II, mode: a synthesis based on the strain energy density averaged on finite-size volumes. *Fatigue and Fracture of Engineering Materials and Structures*, **2009**, 32, 671-684	3	120
107	Fracture of V-notched specimens under mixed mode (I + II) loading in brittle materials. *International Journal of Fracture*, **2009**, 159, 121-135	2.3	116
106	Failure criteria for linear elastic materials with U-notches. *International Journal of Fracture*, **2006**, 141, 99-113	2.3	106
105	Effect of aggregate size on the fracture and mechanical properties of a simple concrete. *Engineering Fracture Mechanics*, **2008**, 75, 3839-3851	4.2	97
104	Effect of aggregate shape on the mechanical properties of a simple concrete. *Engineering Fracture Mechanics*, **2009**, 76, 286-298	4.2	94
103	Fracture of U-notched specimens under mixed mode: Experimental results and numerical predictions. *Engineering Fracture Mechanics*, **2009**, 76, 236-249	4.2	92
102	Nonlinear fracture of cohesive materials. *International Journal of Fracture*, **1991**, 51, 139-157	2.3	85
101	A generalised notch stress intensity factor for U-notched components loaded under mixed mode. *Engineering Fracture Mechanics*, **2008**, 75, 4819-4833	4.2	81
100	Fracture behaviour of notched round bars made of PMMA subjected to torsion at −60 °C. *Engineering Fracture Mechanics*, **2013**, 102, 271-287	4.2	78
99	KI evaluation by the displacement extrapolation technique. *Engineering Fracture Mechanics*, **2000**, 66, 243-255	4.2	78
98	Thermo-hygro-mechanical behavior of spider dragline silk: Glassy and rubbery states. *Journal of Polymer Science, Part B: Polymer Physics*, **2006**, 44, 994-999	2.6	76
97	Volume constancy during stretching of spider silk. *Biomacromolecules*, **2006**, 7, 2173-7	6.9	74
96	Fracture behaviour of notched round bars made of PMMA subjected to torsion at room temperature. *Engineering Fracture Mechanics*, **2012**, 90, 143-160	4.2	72
95	Relationship between microstructure and mechanical properties in spider silk fibers: identification of two regimes in the microstructural changes. *Soft Matter*, **2012**, 8, 6015	3.6	71
94	The hidden link between supercontraction and mechanical behavior of spider silks. *Journal of the Mechanical Behavior of Biomedical Materials*, **2011**, 4, 658-69	4.1	63

93	Safety and tolerability of silk fibroin hydrogels implanted into the mouse brain. *Acta Biomaterialia*, **2016**, 45, 262-275	10.8	63
92	Sequential origin in the high performance properties of orb spider dragline silk. *Scientific Reports*, **2012**, 2, 782	4.9	62
91	Bioinspired Fibers Follow the Track of Natural Spider Silk. *Macromolecules*, **2011**, 44, 1166-1176	5.5	61
90	Fracture of model concrete: 2. Fracture energy and characteristic length. *Cement and Concrete Research*, **2006**, 36, 1345-1353	10.3	61
89	Effect of water on Bombyx mori regenerated silk fibers and its application in modifying their mechanical properties. *Journal of Applied Polymer Science*, **2008**, 109, 1793-1801	2.9	55
88	Old Silks Endowed with New Properties. *Macromolecules*, **2009**, 42, 8977-8982	5.5	50
87	Mechanical behavior of silk during the evolution of orb-web spinning spiders. *Biomacromolecules*, **2009**, 10, 1904-10	6.9	46
86	Fracture loads for ceramic samples with rounded notches. *Engineering Fracture Mechanics*, **2006**, 73, 880-894	4.2	45
85	Similarities and Differences in the Supramolecular Organization of Silkworm and Spider Silk. *Macromolecules*, **2007**, 40, 5360-5365	5.5	44
84	Cohesive crack modelling of a simple concrete: Experimental and numerical results. *Engineering Fracture Mechanics*, **2009**, 76, 1398-1410	4.2	43
83	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	2.6	43
82	Behavior of prestressing steels after a simulated fire: Fire-induced damages. *Construction and Building Materials*, **2009**, 23, 2932-2940	6.7	42
81	Minor ampullate silks from Nephila and Argiope spiders: tensile properties and microstructural characterization. *Biomacromolecules*, **2012**, 13, 2087-98	6.9	39
80	Persistence and variation in microstructural design during the evolution of spider silk. *Scientific Reports*, **2015**, 5, 14820	4.9	35
79	Fracture assessment of graphite V-notched and U-notched specimens by using the cohesive crack model. *Fatigue and Fracture of Engineering Materials and Structures*, **2015**, 38, 563-573	3	34
78	A synthesis of Polymethylmethacrylate data from U-notched specimens and V-notches with end holes by means of local energy. *Materials & Design*, **2013**, 49, 826-833		34
77	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	2.6	30
76	Reproducibility of the tensile properties of spider (Argiope trifasciata) silk obtained by forced silking. *Journal of Experimental Zoology Part A, Comparative Experimental Biology*, **2005**, 303, 37-44		29

75	Finding inspiration in argiope trifasciata spider silk fibers. *Jom*, **2005**, 57, 60-66	2.1	28
74	Production of High Performance Bioinspired Silk Fibers by Straining Flow Spinning. *Biomacromolecules*, **2017**, 18, 1127-1133	6.9	27
73	The equivalent elastic crack: 1. Load-Y equivalences. *International Journal of Fracture*, **1993**, 61, 159-172	2.3	26
72	Material properties of evolutionary diverse spider silks described by variation in a single structural parameter. *Scientific Reports*, **2016**, 6, 18991	4.9	25
71	Measurement and modelling of residual stresses in straightened commercial eutectoid steel rods. *Acta Materialia*, **2005**, 53, 4415-4425	8.4	25
70	The apparent variability of silkworm (Bombyx mori) silk and its relationship with degumming. *European Polymer Journal*, **2016**, 78, 129-140	5.2	25
69	Identification and dynamics of polyglycine II nanocrystals in Argiope trifasciata flagelliform silk. *Scientific Reports*, **2013**, 3, 3061	4.9	24
68	Mechanical properties of human coronary arteries. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2010**, 2010, 3792-5	0.9	24
67	Failure analysis of prestressed anchor bars. *Engineering Failure Analysis*, **2012**, 24, 57-66	3.2	23
66	The equivalent elastic crack: 2. X-Y equivalences and asymptotic analysis. *International Journal of Fracture*, **1993**, 61, 231-246	2.3	23
65	Recovery in viscid line fibers. *Biomacromolecules*, **2010**, 11, 1174-9	6.9	21
64	Supercontraction of dragline silk spun by lynx spiders (Oxyopidae). *International Journal of Biological Macromolecules*, **2010**, 46, 555-7	7.9	19
63	Supramolecular organization of regenerated silkworm silk fibers. *International Journal of Biological Macromolecules*, **2009**, 44, 195-202	7.9	19
62	Example of microprocessing in a natural polymeric fiber: Role of reeling stress in spider silk. *Journal of Materials Research*, **2006**, 21, 1931-1938	2.5	19
61	Constitutive model for fiber-reinforced materials with deformable matrices. *Physical Review E*, **2007**, 76, 041903	2.4	19
60	A probabilistic model for the pearlite-induced cleavage of a plain carbon structural steel. *Engineering Fracture Mechanics*, **2005**, 72, 709-728	4.2	17
59	Factors influencing the mechanical behaviour of healthy human descending thoracic aorta. *Physiological Measurement*, **2010**, 31, 1553-65	2.9	15
58	Influencia de la presi□ y la temperatura en el comportamiento de la aorta y las car□idas humanas. *Revista Espanola De Cardiologia*, **2007**, 60, 259-267	1.5	15

57	Fracture surfaces and tensile properties of UV-irradiated spider silk fibers. *Journal of Polymer Science, Part B: Polymer Physics*, **2007**, 45, 786-793	2.6	15
56	Improved Measurement of Elastic Properties of Cells by Micropipette Aspiration and Its Application to Lymphocytes. *Annals of Biomedical Engineering*, **2017**, 45, 1375-1385	4.7	14
55	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	3.9	14
54	Increases of corporal temperature as a risk factor of atherosclerotic plaque instability. *Annals of Biomedical Engineering*, **2008**, 36, 66-76	4.7	14
53	Straining flow spinning: production of regenerated silk fibers under a wide range of mild coagulating chemistries. *Green Chemistry*, **2017**, 19, 3380-3389	10	14
52	Unexpected behavior of irradiated spider silk links conformational freedom to mechanical performance. *Soft Matter*, **2015**, 11, 4868-78	3.6	13
51	Role of Residual Stresses in Stress Relaxation of Prestressed Concrete Wires. *Journal of Materials in Civil Engineering*, **2007**, 19, 703-708	3	13
50	Simple measurement of the apparent viscosity of a cell from only one picture: Application to cardiac stem cells. *Physical Review E*, **2014**, 90, 052715	2.4	12
49	Polymeric fibers with tunable properties: Lessons from spider silk. *Materials Science and Engineering C*, **2011**, 31, 1184-1188	8.3	12
48	The influence of anaesthesia on the tensile properties of spider silk. *Journal of Experimental Biology* , **2006**, 209, 320-6	3	12
47	Emergence of supercontraction in regenerated silkworm (Bombyx mori) silk fibers. *Scientific Reports*, **2019**, 9, 2398	4.9	11
46	Enhanced Biological Response of AVS-Functionalized Ti-6Al-4V Alloy through Covalent Immobilization of Collagen. *Scientific Reports*, **2018**, 8, 3337	4.9	11
45	Effect of thermo-mechanical treatments on residual stresses measured by neutron diffraction in cold-drawn steel rods. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2006**, 435-436, 725-735	5.3	11
44	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	4.1	10
43	Mechanical behaviour and formation process of silkworm silk gut. *Soft Matter*, **2015**, 11, 8981-91	3.6	10
42	Insights into the production and characterization of electrospun fibers from regenerated silk fibroin. *European Polymer Journal*, **2014**, 60, 123-134	5.2	10
41	Straining Flow Spinning of Artificial Silk Fibers: A Review. *Biomimetics*, **2018**, 3,	3.7	10
40	The Role of Residual Stresses in the Performance and Durability of Prestressing Steel Wires. *Experimental Mechanics*, **2012**, 52, 881-893	2.6	9

39	Behaviour of steel prestressing wires under extreme conditions of strain rate and temperature. *Structural Concrete*, **2011**, 12, 255-261	2.6	9
38	Optimisation of post-drawing treatments by means of neutron diffraction. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2008**, 480, 439-448	5.3	9
37	Nonlinear fracture of cohesive materials **1991**, 139-157		9
36	Spider silk gut: development and characterization of a novel strong spider silk fiber. *Scientific Reports*, **2014**, 4, 7326	4.9	8
35	Optimization of functionalization conditions for protein analysis by AFM. *Applied Surface Science*, **2014**, 317, 462-468	6.7	8
34	Ambient and High-Temperature Stable Fracture Tests in Ceramics: Applications to Yttria-Partially-Stabilized Zirconia. *Journal of the American Ceramic Society*, **1993**, 76, 2927-2929	3.8	8
33	Straining flow spinning: Simplified model of a bioinspired process to mass produce regenerated silk fibers controllably. *European Polymer Journal*, **2017**, 97, 26-39	5.2	7
32	Thermo-mechanical treatment effects on stress relaxation and hydrogen embrittlement of cold-drawn eutectoid steels. *Metals and Materials International*, **2011**, 17, 899-910	2.4	7
31	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	6.7	6
30	Environmental effects on large diameter high-strength rods for structural applications. *Engineering Failure Analysis*, **2018**, 83, 230-238	3.2	6
29	The variability and interdependence of spider viscid line tensile properties. *Journal of Experimental Biology*, **2013**, 216, 4722-8	3	6
28	Preparation and characterization of Nephila clavipes tubuliform silk gut. *Soft Matter*, **2019**, 15, 2960-2970	3.6	5
27	Development of a versatile procedure for the biofunctionalization of Ti-6Al-4V implants. *Applied Surface Science*, **2016**, 387, 652-660	6.7	4
26	Application of the Spider Silk Standardization Initiative (SI) 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	4.1	4
25	Production of regenerated silkworm silk fibers from aqueous dopes through straining flow spinning. *Textile Reseach Journal*, **2019**, 89, 4554-4567	1.7	3
24	Functionalization of atomic force microscopy cantilevers and tips by activated vapour silanization. *Applied Surface Science*, **2019**, 484, 1141-1148	6.7	3
23	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	3	3
22	The Cohesive Crack Model Applied to Notched PMMA Specimens Obeying a Non Linear Behaviour under Torsion Loading. *Key Engineering Materials*, **2013**, 577-578, 49-52	0.4	3

21	Effect of atherosclerosis on thermo-mechanical properties of arterial wall and its repercussion on plaque instability. *International Journal of Cardiology*, **2009**, 132, 444-6	3.2	3
20	Numerical modelling of ductile spall fracture. *International Journal of Impact Engineering*, **1995**, 16, 237-251	4	3
19	The plastic growth of a cavity nucleated at a shear band. *International Journal of Solids and Structures*, **1993**, 30, 2971-2981	3.1	3
18	Basic Principles in the Design of Spider Silk Fibers. *Molecules*, **2021**, 26,	4.8	3
17	Structure and properties of spider and silkworm silk for tissue scaffolds **2014**, 239-274		2
16	Brittle or Quasi-Brittle Fracture of Engineering Materials: Recent Developments and New Challenges. *Advances in Materials Science and Engineering*, **2014**, 2014, 1-2	1.5	2
15	Influence of coiling on the stress relaxation of prestressing steel wires. *Structural Concrete*, **2011**, 12, 120-125	2.6	2
14	Damage tolerance of an anchor head in a post-tensioning anchorage system. *Engineering Failure Analysis*, **2006**, 13, 235-246	3.2	2
13	Fracture of concrete and rock editorial. *Engineering Fracture Mechanics*, **2002**, 69, 93-94	4.2	2
12	Fracture mechanics parameters of concrete: An overview. *Advanced Cement Based Materials*, **1996**, 4, 116-127		2
11	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	5.5	2
10	Tear and decohesion of bovine pericardial tissue. *Journal of the Mechanical Behavior of Biomedical Materials*, **2016**, 63, 1-9	4.1	2
9	Lessons From Spider and Silkworm Silk Guts. *Frontiers in Materials*, **2020**, 7,	4	1
8	Fracture Behavior of Notched Round Bars Made of Gray Cast Iron Subjected to Torsion. *Key Engineering Materials*, **2014**, 627, 69-72	0.4	1
7	Synchrotron strain scanning for residual stress measurement in cold-drawn steel rods. *Journal of Strain Analysis for Engineering Design*, **2011**, 46, 627-637	1.3	1
6	Reproducibility of the tensile properties of spider (Argiope trifasciata) silk obtained by forced silking **2005**, 303A, 37		1
5	Improved cell adhesion to activated vapor silanization-biofunctionalized Ti-6Al-4V surfaces with ECM-derived oligopeptides.. *Materials Science and Engineering C*, **2021**, 112614	8.3	0
4	Polymethylmethacrylate Data from U-Notched Specimens and V-Notches with End Holes: A Synthesis by Means of Local Energy. *Key Engineering Materials*, **2014**, 627, 73-76	0.4	

3	Effect of Initial Residual Stress on Stress Relaxation in Cold-Drawn Steel Rods. *Materials Science Forum*, **2010**, 652, 227-232	0.4
2	Spider Silk as an Inspiration for Biomimicking. *Advances in Science and Technology*, **2008**, 58, 1-9	0.1
1	Influencia de las condiciones de almacenamiento sobre la relajaci□n de aceros de pretensado. *Materiales De Construccion*, **2012**, 62, 531-546	1.8