Roberto B Figueiredo

List of Publications by Year
in descending order

85 papers	4,118 citations	109321 35 h-index	118850 62 g-index
85 all docs	85 docs citations	85 times ranked	1745 citing authors

#	Article	IF	Citations
1	Using finite element modeling to examine the flow processes in quasi-constrained high-pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 8198-8204.	5.6	273
2	Using finite element modeling to examine the temperature distribution in quasi-constrained high-pressure torsion. Acta Materialia, 2012, 60, 3190-3198.	7.9	271
3	Nanomaterials by severe plastic deformation: review of historical developments and recent advances. Materials Research Letters, 2022, 10, 163-256.	8.7	215
4	The processing of difficult-to-work alloys by ECAP with an emphasis on magnesium alloys. Acta Materialia, 2007, 55, 4769-4779.	7.9	179
5	Grain refinement and mechanical behavior of a magnesium alloy processed by ECAP. Journal of Materials Science, 2010, 45, 4827-4836.	3.7	179
6	An investigation of hardness homogeneity throughout disks processed by high-pressure torsion. Acta Materialia, 2011, 59, 308-316.	7.9	174
7	Principles of grain refinement and superplastic flow in magnesium alloys processed by ECAP. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 501, 105-114.	5.6	171
8	Evidence for exceptional low temperature ductility in polycrystalline magnesium processed by severe plastic deformation. Acta Materialia, 2017, 122, 322-331.	7.9	139
9	Principles of grain refinement in magnesium alloys processed by equal-channel angular pressing. Journal of Materials Science, 2009, 44, 4758-4762.	3.7	137
10	The development of superplastic ductilities and microstructural homogeneity in a magnesium ZK60 alloy processed by ECAP. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 430, 151-156.	5.6	109
11	Developing superplasticity in a magnesium AZ31 alloy by ECAP. Journal of Materials Science, 2008, 43, 7366-7371.	3.7	89
12	Development of structural heterogeneities in a magnesium alloy processed by high-pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 4500-4506.	5.6	82
13	Effect of severe plastic deformation on the biocompatibility and corrosion rate of pure magnesium. Journal of Materials Science, 2017, 52, 5992-6003.	3.7	77
14	Evolution of Strength and Homogeneity in a Magnesium AZ31 Alloy Processed by Highâ€Pressure Torsion at Different Temperatures. Advanced Engineering Materials, 2012, 14, 1018-1026.	3.5	74
15	Strategies for achieving high strain rate superplasticity in magnesium alloys processed by equal-channel angular pressing. Scripta Materialia, 2009, 61, 84-87.	5.2	73
16	Modeling the temperature rise in high-pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 593, 185-188.	5.6	68
17	Structure and mechanical properties of commercial purity titanium processed by ECAP at room temperature. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 7708-7714.	5.6	66
18	Comparing the pozzolanic behavior of sugar cane bagasse ash to amorphous and crystalline SiO2. Cement and Concrete Composites, 2016, 71, 20-25.	10.7	66

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19	The influence of grain size and strain rate on the mechanical behavior of pure magnesium. Journal of Materials Science, 2016, 51, 3013-3024.	3.7	65
20	Avoiding cracks and inhomogeneities in billets processed by ECAP. Journal of Materials Science, 2010, 45, 4561-4570.	3.7	62
21	Influence of strain rate on the characteristics of a magnesium alloy processed by high-pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 3601-3608.	5.6	62
22	Interpretation of hardness evolution in metals processed by high-pressure torsion. Journal of Materials Science, 2014, 49, 6586-6596.	3.7	59
23	Analysis of plastic flow during high-pressure torsion. Journal of Materials Science, 2012, 47, 7807-7814.	3.7	52
24	Improving the fatigue behavior of dental implants through processing commercial purity titanium by equal-channel angular pressing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 619, 312-318.	5.6	51
25	Processing Magnesium and Its Alloys by Highâ€Pressure Torsion: An Overview. Advanced Engineering Materials, 2019, 21, 1801039.	3.5	51
26	Stable and Unstable Flow in Materials Processed by Equal-Channel Angular Pressing with an Emphasis on Magnesium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 778-786.	2.2	50
27	Orientation imaging microscopy and microhardness in a ZK60 magnesium alloy processed by high-pressure torsion. Journal of Alloys and Compounds, 2017, 712, 185-193.	5.5	49
28	Influence of high-pressure torsion on microstructural evolution in an Alâ€“Znâ€“Mgâ€“Cu alloy. Journal of Materials Science, 2010, 45, 4621-4630.	3.7	48
29	Deformation mechanisms in ultrafine-grained metals with an emphasis on the Hallâ€“Petch relationship and strain rate sensitivity. Journal of Materials Research and Technology, 2021, 14, 137-159.	5.8	48
30	Twenty-five years of severe plastic deformation: recent developments in evaluating the degree of homogeneity through the thickness of disks processed by high-pressure torsion. Journal of Materials Science, 2012, 47, 7719-7725.	3.7	47
31	Effect of aging on microstructural development in an Alâ€“Mgâ€“Si alloy processed by high-pressure torsion. Journal of Materials Science, 2012, 47, 7815-7820.	3.7	47
32	Processing a twinning-induced plasticity steel by high-pressure torsion. Scripta Materialia, 2012, 67, 649-652.	5.2	45
33	Deformation Heterogeneity on the Cross-Sectional Planes of a Magnesium Alloy Processed by High-Pressure Torsion. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3013-3021.	2.2	44
34	The Effect of Highâ€Pressure Torsion on Microstructure, Hardness and Corrosion Behavior for Pure Magnesium and Different Magnesium Alloys. Advanced Engineering Materials, 2019, 21, 1801081.	3.5	42
35	Fabricating Ultrafine-Grained Materials through the Application of Severe Plastic Deformation: a Review of Developments in Brazil. Journal of Materials Research and Technology, 2012, 1, 55-62.	5.8	39
36	Structural and hardness inhomogeneities in Mgâ€“Alâ€“Zn alloys processed by high-pressure torsion. Journal of Materials Science, 2013, 48, 4661-4670.	3.7	37

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37	Development of a magnesium-alumina composite through cold consolidation of machining chips by high-pressure torsion. Journal of Alloys and Compounds, 2019, 780, 422-427.	5.5	35
38	Using Severe Plastic Deformation for the Processing of Advanced Engineering Materials. Materials Transactions, 2009, 50, 1613-1619.	1.2	34
39	Effect of temperature on the processing of a magnesium alloy by high-pressure torsion. Journal of Materials Science, 2012, 47, 7796-7806.	3.7	34
40	Achieving superplastic properties in a ZK10 magnesium alloy processed by equal-channel angular pressing. Journal of Materials Research and Technology, 2017, 6, 129-135.	5.8	34
41	Microstructure and texture evolution in a magnesium alloy during processing by high-pressure torsion. Materials Research, 2013, 16, 577-585.	1.3	33
42	Influence of Pressing Temperature on Microstructure Evolution and Mechanical Behavior of Ultrafineâ€Grained Cu Processed by Equalâ€Channel Angular Pressing. Advanced Engineering Materials, 2012, 14, 185-194.	3.5	32
43	Effect of grain size on strength and strain rate sensitivity in metals. Journal of Materials Science, 2022, 57, 5210-5229.	3.7	32
44	Cytotoxicity and Corrosion Behavior of Magnesium and Magnesium Alloys in Hank's Solution after Processing by Highâ€Pressure Torsion. Advanced Engineering Materials, 2019, 21, 1900391.	3.5	31
45	The Requirements for Superplasticity with an Emphasis on Magnesium Alloys. Advanced Engineering Materials, 2016, 18, 127-131.	3.5	30
46	A magnesium-aluminium composite produced by high-pressure torsion. Journal of Alloys and Compounds, 2019, 804, 421-426.	5.5	29
47	Developing Superplastic Ductilities in Ultrafine-Grained Metals. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 1891-1898.	2.2	28
48	Three-dimensional analysis of plastic flow during high-pressure torsion. Journal of Materials Science, 2013, 48, 4524-4532.	3.7	27
49	Finite Element Modelling of High-Pressure Torsion: An Overview. Materials Transactions, 2019, 60, 1139-1150.	1.2	26
50	The nature of grain refinement in equal-channel angular pressing: a comparison of representative fcc and hcp metals. International Journal of Materials Research, 2009, 100, 1638-1646.	0.3	25
51	Nanocrystalline body-centred cubic beta-titanium alloy processed by high-pressure torsion. International Journal of Materials Research, 2009, 100, 1662-1667.	0.3	25
52	Analysis of the creep behavior of fine-grained AZ31 magnesium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 787, 139489.	5.6	19
53	Using High-Pressure Torsion to Achieve Superplasticity in an AZ91 Magnesium Alloy. Metals, 2020, 10, 681.	2.3	19
54	Mechanical mixing of Mg and Zn using high-pressure torsion. Journal of Alloys and Compounds, 2021, 869, 159302.	5.5	19

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55	The influences of quartz content and water-to-binder ratio on the microstructure and hardness of autoclaved Portland cement pastes. Cement and Concrete Composites, 2018, 91, 138-147.	10.7	18
56	Microstructure and Hardness Evolution in Magnesium Processed by HPT. Materials Research, 2017, 20, 2-7.	1.3	17
57	Processing magnesium alloys by severe plastic deformation. IOP Conference Series: Materials Science and Engineering, 2014, 63, 012171.	0.6	16
58	Evaluating the Superplastic Flow of a Magnesium AZ31 Alloy Processed by Equal-Channel Angular Pressing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 3197-3204.	2.2	16
59	Inverse Hallâ€“Petch Behaviour in an AZ91 Alloy and in an AZ91â€“Al 2 O 3 Composite Consolidated by Highâ€Pressure Torsion. Advanced Engineering Materials, 2020, 22, 1900894.	3.5	16
60	Development of functional TiO2 coatings deposited on cementitious materials. Construction and Building Materials, 2020, 250, 118732.	7.2	13
61	Effect of creep parameters on the steady-state flow stress of pure metals processed by high-pressure torsion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 835, 142666.	5.6	13
62	Magnesium-Based Bioactive Composites Processed at Room Temperature. Materials, 2019, 12, 2609.	2.9	12
63	The Effect of Ultragrain Refinement on the Strength and Strain Rate Sensitivity of a ZK60 Magnesium Alloy. Advanced Engineering Materials, 2022, 24, 2100846.	3.5	12
64	Consolidation of magnesium and magnesium-quasicrystal composites through highâ€'pressure torsion. Letters on Materials, 2019, 9, 546-550.	0.7	11
65	Using Plane Strain Compression Test to Evaluate the Mechanical Behavior of Magnesium Processed by HPT. Metals, 2022, 12, 125.	2.3	11
66	The characteristics of superplastic flow in a magnesium alloy processed by ECAP. International Journal of Materials Research, 2009, 100, 843-846.	0.3	10
67	Effect of Numbers of Turns of Highâ€Pressure Torsion on the Development of Exceptional Ductility in Pure Magnesium. Advanced Engineering Materials, 2020, 22, 1900565.	3.5	10
68	Interface structures in Al-Nb2O5 nanocomposites processed by high-pressure torsion at room temperature. Materials Characterization, 2020, 162, 110222.	4.4	10
69	Development of segregations in a Mgâ€“Mnâ€“Nd alloy during HPT processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 802, 140423.	5.6	9
70	Corrosion Behavior in Hank's Solution of a Magnesiumâ€“Hydroxyapatite Composite Processed by Highâ€Pressure Torsion. Advanced Engineering Materials, 2020, 22, 2000765.	3.5	8
71	Mechanical Behavior and In Vitro Corrosion of Cubic Scaffolds of Pure Magnesium Processed by Severe Plastic Deformation. Metals, 2021, 11, 1791.	2.3	8
72	Achieving Microstructural Refinement in Magnesium Alloys through Severe Plastic Deformation. Materials Transactions, 2009, 50, 111-116.	1.2	7

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73	Microstructure and microtexture evolution with aging treatment in an Alâ€"Mgâ€"Si alloy severely deformed by HPT. Journal of Materials Science, 2013, 48, 4573-4581.	3.7	7
74	The effect of high-pressure torsion on the microstructure and properties of magnesium. IOP Conference Series: Materials Science and Engineering, 2017, 194, 012039.	0.6	6
75	Low Temperature Superplasticity in Ultrafine-Grained AZ31 Alloy. Defect and Diffusion Forum, 0, 385, 59-64.	0.4	6
76	Developing magnesium-based composites through high-pressure torsion. Letters on Materials, 2019, 9, 541-545.	0.7	6
77	Structural Evolution on the Cross-Section of an AZ31 Magnesium Alloy Processed by High-Pressure Torsion. Materials Science Forum, 2010, 667-669, 247-252.	0.3	4
78	Heterogeneous flow during high-pressure torsion. Materials Research, 2013, 16, 571-576.	1.3	4
79	Processing Different Magnesium Alloys through HPT. Materials Science Forum, 0, 783-786, 2617-2622.	0.3	4
80	Intrinsically Ductile Failure in a Nanocrystalline Beta Titanium Alloy. Advanced Engineering Materials, 2011, 13, 1108-1113.	3.5	3
81	Special Issue Celebrating Professor Terence G. Langdon's 80th Birthday. Advanced Engineering Materials, 2020, 22, 1901386.	3.5	3
82	Designing ultrahard aluminum nanocomposites by severe mechanochemical processing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 801, 140422.	5.6	2
83	Redox reaction in a Mg/Nb2O5 nanocomposite processed by high-pressure torsion. Materials Letters, 2021, 303, 130418.	2.6	2
84	Retrieving the configuration of grain boundary structure in polycrystalline materials by extraordinary X-ray reflection analysis. Journal of Applied Crystallography, 2020, 53, 1006-1014.	4.5	1
85	Recent Developments in the Processing of Advanced Materials Using Severe Plastic Deformation. Materials Science Forum, 0, 1016, 3-8.	0.3	1