

# Gwenaelle Proust

## List of Publications by Year in descending order

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85  
papers

2,755  
citations

185998

28  
h-index

182168

51  
g-index

89  
all docs

89  
docs citations

89  
times ranked

2259  
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling the effect of twinning and detwinning during strain-path changes of magnesium alloy AZ31. International Journal of Plasticity, 2009, 25, 861-880.	4.1	525
2	Modeling texture, twinning and hardening evolution during deformation of hexagonal materials. Acta Materialia, 2007, 55, 2137-2148.	3.8	305
3	Modeling bending of $\alpha$ -titanium with embedded polycrystal plasticity in implicit finite elements. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 564, 116-126.	2.6	153
4	Quantitative analysis of deformation twinning in zirconium. International Journal of Plasticity, 2009, 25, 454-472.	4.1	133
5	Role of starting texture and deformation modes on low-temperature shear formability and shear localization of Mg-3Al-1Zn alloy. Acta Materialia, 2015, 89, 408-422.	3.8	88
6	Elastic-plastic property closures for hexagonal close-packed polycrystalline metals using first-order bounding theories. Acta Materialia, 2007, 55, 2729-2737.	3.8	81
7	The effect of surface mechanical attrition treatment on low temperature plasma nitriding of an austenitic stainless steel. Surface and Coatings Technology, 2013, 221, 191-195.	2.2	74
8	Procedures for construction of anisotropic elastic-plastic property closures for face-centered cubic polycrystals using first-order bounding relations. Journal of the Mechanics and Physics of Solids, 2006, 54, 1744-1762.	2.3	68
9	An automated method of quantifying ferrite microstructures using electron backscatter diffraction (EBSD) data. Ultramicroscopy, 2014, 137, 40-47.	0.8	54
10	The Role of Surface Structure in Normal Contact Stiffness. Experimental Mechanics, 2016, 56, 359-368.	1.1	53
11	Three-dimensional crystal plasticity finite element simulation of nanoindentation on aluminium alloy 2024. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 579, 41-49.	2.6	49
12	Fatigue crack initiation life prediction for aluminium alloy 7075 using crystal plasticity finite element simulations. Mechanics of Materials, 2015, 81, 84-93.	1.7	49
13	Interplay between the effects of deformation mechanisms and dynamic recrystallization on the failure of Mg-3Al-1Zn. Acta Materialia, 2019, 168, 448-472.	3.8	49
14	Rethinking Timber: Investigation into the Use of Waste Macadamia Nut Shells for Additive Manufacturing. Jom, 2017, 69, 575-579.	0.9	41
15	Effects of strain rate on the microstructure evolution and mechanical response of magnesium alloy AZ31. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 684, 37-46.	2.6	41
16	Compressive performance and crack propagation in Al alloy/Ti2AlC composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 672, 247-256.	2.6	40
17	Factors that affect the properties of additively-manufactured AlSi10Mg: Porosity versus microstructure. Additive Manufacturing, 2019, 29, 100805.	1.7	40
18	Detwinning of High-Purity Zirconium: In-Situ Neutron Diffraction Experiments. Experimental Mechanics, 2010, 50, 125-133.	1.1	38

#	ARTICLE	IF	CITATIONS
19	Room temperature stress-strain hysteresis in Ti2AlC revisited. Acta Materialia, 2016, 105, 294-305.	3.8	38
20	Effects of microstructure on the mechanical properties of Ti2AlC in compression. Acta Materialia, 2018, 143, 130-140.	3.8	37
21	Automatic twin statistics from electron backscattered diffraction data. Journal of Microscopy, 2010, 238, 218-229.	0.8	36
22	A study on novel AISI 304 stainless steel matrix composites reinforced with (Nb0.75,Ti0.25)C. Wear, 2018, 398-399, 220-226.	1.5	36
23	Modelling the temperature and texture effects on the deformation mechanisms of magnesium alloy AZ31. International Journal of Mechanical Sciences, 2020, 182, 105727.	3.6	36
24	Fabrication and characterization of NiTi/Ti3SiC2 and NiTi/Ti2AlC composites. Journal of Alloys and Compounds, 2014, 610, 635-644.	2.8	35
25	A texture-based representative volume element crystal plasticity model for predicting Bauschinger effect during cyclic loading. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 608, 174-183.	2.6	35
26	Fabrication and characterization of microstructure of stainless steel matrix composites containing up to 25vol% NbC. Materials Characterization, 2016, 119, 65-74.	1.9	35
27	Interfacial electro-mechanical behaviour at rough surfaces. Extreme Mechanics Letters, 2016, 9, 422-429.	2.0	32
28	Mechanical properties and microstructure evolution of Ti2AlC under compression in 25-1100°C temperature range. Acta Materialia, 2020, 189, 154-165.	3.8	32
29	Slurry erosion, sliding wear and corrosion behavior of martensitic stainless steel composites reinforced in-situ with NbC particles. Wear, 2019, 420-421, 149-162.	1.5	31
30	Interfacial study of NiTi-Ti3SiC2 solid state diffusion bonded joints. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 622, 168-177.	2.6	30
31	Microstructure characterisation and mechanical properties of a functionally-graded NbC/high chromium white cast iron composite. Materials Characterization, 2018, 136, 196-205.	1.9	29
32	Modelling dynamic recrystallisation in magnesium alloy AZ31. International Journal of Plasticity, 2021, 142, 102995.	4.1	29
33	Stress-Dependent Electrical Contact Resistance at Fractal Rough Surfaces. Journal of Engineering Mechanics - ASCE, 2017, 143, .	1.6	28
34	Processing magnesium at room temperature. Science, 2019, 365, 30-31.	6.0	27
35	Electron Backscatter Diffraction and Transmission Kikuchi Diffraction Analysis of an Austenitic Stainless Steel Subjected to Surface Mechanical Attrition Treatment and Plasma Nitriding. Microscopy and Microanalysis, 2015, 21, 919-926.	0.2	24
36	High-Performance Metal/Carbide Composites with Far-From-Equilibrium Compositions and Controlled Microstructures. Scientific Reports, 2016, 6, 35523.	1.6	24

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37	Fatigue crack growth of aluminium alloy 7075-T651 under proportional and non-proportional mixed mode I and II loads. <i>Engineering Fracture Mechanics</i> , 2017, 174, 155-167.	2.0	22
38	Three-dimensional nanofabrication of polystyrene by focused ion beam. <i>Journal of Microscopy</i> , 2012, 248, 129-139.	0.8	21
39	Predicting the fatigue life of an AlSi10Mg alloy manufactured via laser powder bed fusion by using data from computed tomography. <i>Additive Manufacturing</i> , 2020, 32, 100899.	1.7	19
40	Integration of Microstructure-Sensitive Design with Finite Element Methods: Elastic-Plastic Case Studies in FCC Polycrystals. <i>International Journal for Multiscale Computational Engineering</i> , 2007, 5, 261-272.	0.8	17
41	Precipitation of (Ti, Zr, Nb, Ta, Hf)C high entropy carbides in a steel matrix. <i>Materialia</i> , 2020, 9, 100540.	1.3	15
42	Al-Pd interatomic potential and its application to nanoscale multilayer thin films. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 530, 73-86.	2.6	13
43	Effects of heat treatment and strain rate on the microstructure and mechanical properties of 6061 Al alloy. <i>International Journal of Damage Mechanics</i> , 2016, 25, 26-41.	2.4	13
44	Fracture toughness testing using photogrammetry and digital image correlation. <i>MethodsX</i> , 2018, 5, 1166-1177.	0.7	13
45	Thin film composites of nanocrystalline ZrO <sub>2</sub> and diamond-like carbon: Synthesis, structural properties and bone cell proliferation. <i>Acta Biomaterialia</i> , 2010, 6, 4154-4160.	4.1	12
46	Predicting mechanical properties of 316L stainless steel subjected to SMAT: A sequential DEM-FEM investigation. <i>International Journal of Mechanical Sciences</i> , 2021, 193, 106173.	3.6	12
47	Effect of manufacturing process on microstructures and mechanical properties, and design of cold-formed G450 steel channels. <i>Thin-Walled Structures</i> , 2021, 162, 107620.	2.7	11
48	Microstructure Sensitive Design with First Order Homogenization Theories and Finite Element Codes. <i>Materials Science Forum</i> , 2005, 495-497, 23-30.	0.3	10
49	Micron-scale polymer-metal cantilever actuators fabricated by focused ion beam. <i>Sensors and Actuators A: Physical</i> , 2011, 172, 462-470.	2.0	9
50	In the mix: The effect of wood composition on the 3D printability and mechanical performance of wood-plastic composites. <i>Composites Part C: Open Access</i> , 2021, 5, 100140.	1.5	9
51	Residual stress measurements of lean duplex stainless steel welded sections. <i>Journal of Constructional Steel Research</i> , 2021, 186, 106883.	1.7	9
52	Stress-dependent electrical transport and its universal scaling in granular materials. <i>Extreme Mechanics Letters</i> , 2018, 22, 83-88.	2.0	8
53	Modeling twinning, detwinning, and dynamic recrystallization of magnesium alloys. <i>MRS Bulletin</i> , 2019, 44, 873-877.	1.7	8
54	Effect of T6 treatment on additively-manufactured AlSi10Mg sliding against ceramic and steel. <i>Wear</i> , 2021, 482-483, 203961.	1.5	8

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55	Generalised Voronoi tessellation for generating microstructural finite element models with controllable grain-size distributions and grain aspect ratios. <i>International Journal for Numerical Methods in Engineering</i> , 2015, 103, 144-156.	1.5	7
56	Mini-Tensile Experiments of Clock-Rolled Zirconium Plate. <i>Experimental Mechanics</i> , 2010, 50, 65-70.	1.1	6
57	An atomistic study of dislocation-solute interaction in Mg-Al alloys. <i>IOP Conference Series: Materials Science and Engineering</i> , 2010, 10, 012177.	0.3	5
58	Discrete element simulation of surface mechanical attrition treatment with rough-surface sonotrode. <i>International Journal of Mechanical Sciences</i> , 2019, 161-162, 105060.	3.6	5
59	Microtimber: The Development of a 3D Printed Composite Panel Made from Waste Wood and Recycled Plastics. <i>Lecture Notes in Civil Engineering</i> , 2019, , 827-848.	0.3	5
60	Self-repair of cracks and defects in clay: a review of evidence, mechanisms, theories and nomenclature. <i>Acta Geotechnica</i> , 2021, 16, 3741-3760.	2.9	5
61	Characterization of Ultra-fine Grained and Nanocrystalline Materials Using Transmission Kikuchi Diffraction. <i>Journal of Visualized Experiments</i> , 2017, , .	0.2	4
62	Improving metal-ceramic systems subjected to sliding contact by reinforcing the metallic counterpart with ceramic particles. <i>Wear</i> , 2020, 452-453, 203311.	1.5	4
63	Designing Material Performance: Investigating the Use of Australian Hardwoods in 3D Printed Wood-Plastic Composites. , 2017, , .		4
64	Focused Ion Beam Fabricated Polystyrene-Platinum Thermal Microactuator. <i>Advanced Materials Research</i> , 0, 254, 86-89.	0.3	3
65	The effect of NbC morphology on the slurry erosion performance of ferrous alloys. <i>Wear</i> , 2019, 434-435, 202988.	1.5	3
66	Experimental study of a CoCrMo alloy treated by SMAT under rotating bending fatigue. <i>Procedia Structural Integrity</i> , 2022, 38, 283-291.	0.3	3
67	An Overview of the Effect of Nb in Strengthening Castrip <sup>®</sup> Steel. <i>Materials Science Forum</i> , 2013, 753, 559-562.	0.3	2
68	Static friction between rigid fractal surfaces. <i>Physical Review E</i> , 2015, 92, 032405.	0.8	2
69	Shades of Wood: The Effects of Temperature Variation on the Appearance and Physical and Mechanical Properties of 3D Printed Wood-Plastic Composites. , 2017, , .		2
70	Fabricating Wood-Like Textures on Multicurved 3D Printed Architectural Elements. <i>3D Printing and Additive Manufacturing</i> , 0, , .	1.4	2
71	Nanoengineering carbon nanotubes: The effects of electron irradiation on nanotube structure. <i>Materials Research Society Symposia Proceedings</i> , 2012, 1407, 56.	0.1	1
72	Crystal Plasticity Simulation of the Bauschinger Effect of Polycrystalline AA7075 through a Texture-Based Representative Volume Element Model. <i>Applied Mechanics and Materials</i> , 2014, 553, 22-27.	0.2	1

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73	Crystal Plasticity Finite Element Simulations of Polycrystalline Aluminium Alloy under Cyclic Loading. <i>Advanced Materials Research</i> , 0, 891-892, 1609-1614.	0.3	1
74	Electrical transport in granular metals. <i>EPJ Web of Conferences</i> , 2017, 140, 05010.	0.1	1
75	Effects of electron irradiation on single-walled carbon nanotubes. <i>IOP Conference Series: Materials Science and Engineering</i> , 2010, 10, 012180.	0.3	1
76	Fatigue crack growth of aluminium alloy 7075-T651 under non-proportional mixed mode I and II loads. <i>Frattura Ed Integrita Strutturale</i> , 2016, 10, 148-154.	0.5	1
77	EBSD and Coupled EBSD/TEM Analysis of Zirconium Deformation Mechanisms. <i>Microscopy and Microanalysis</i> , 2006, 12, 1024-1025.	0.2	0
78	Morphology of Irradiated Adjacent Single-Walled Carbon Nanotubes. <i>Applied Mechanics and Materials</i> , 0, 553, 88-93.	0.2	0
79	Stress-dependent frequency response of conductive granular materials. , 2016, , .		0
80	09.07: Observations on fracture toughness measurement: At the corners of G450 cold-formed steel channel sections subjected to Tension. <i>Ce/Papers</i> , 2017, 1, 2404-2413.	0.1	0
81	Development of (Nb <sub>0.75</sub> Ti <sub>0.25</sub> )C-Reinforced Cast Duplex Stainless Steel Composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2020, 51, 2366-2376.	1.1	0
82	Autogenous sealing of a cavity in bentonite clay: an x-ray computerised tomography study. <i>Geotechnique Letters</i> , 2021, 11, 254-262.	0.6	0
83	Predicting Twinning Effect during the Deformation of Hexagonal Close-Packed Metals. , 2011, , .		0
84	Upcycling Macadamia Nut Shells: Investigating the Effects of Particle Size and Moisture Content on the Properties of Macadamia Nutshell-Polymer Composite Filaments for 3D Printed Elements. , 2017, , .		0
85	Preface to the special issue: microstructure design in metal additive manufacturing” physical metallurgy revisited. <i>Journal of Materials Science</i> , 0, , .	1.7	0