Christophe Baley

List of Publications by Year
in descending order

125 papers	6,436 citations	53794 45 h-index	74163 75 g-index
126 all docs	126 docs citations	126 times ranked	3865 citing authors

#	Article	IF	Citations
1	Could biopolymers reinforced by randomly scattered flax fibre be used in structural applications?. Composites Science and Technology, 2007, 67, 462-470.	7.8	390
2	Towards the design of high-performance plant fibre composites. Progress in Materials Science, 2018, 97, 347-408.	32.8	295
3	Influence of chemical treatments on surface properties and adhesion of flax fibreâ€“polyester resin. Composites Part A: Applied Science and Manufacturing, 2006, 37, 1626-1637.	7.6	202
4	Effect of recycling on mechanical behaviour of biocompostable flax/poly(l-lactide) composites. Composites Part A: Applied Science and Manufacturing, 2008, 39, 1471-1478.	7.6	177
5	Effect of flax fibres individualisation on tensile failure of flax/epoxy unidirectional composite. Composites Part A: Applied Science and Manufacturing, 2013, 51, 62-70.	7.6	167
6	Relationships between micro-fibrillar angle, mechanical properties and biochemical composition of flax fibers. Industrial Crops and Products, 2013, 44, 343-351.	5.2	163
7	Environmental Impact Analysis of the Production of Flax Fibres to be Used as Composite Material Reinforcement. Journal of Biobased Materials and Bioenergy, 2011, 5, 153-165.	0.3	146
8	Study of the tensile properties of stinging nettle fibres (Urtica dioica). Materials Letters, 2008, 62, 2143-2145.	2.6	145
9	Rigidity analysis of polypropylene/vegetal fibre composites after recycling. Polymer Degradation and Stability, 2009, 94, 297-305.	5.8	145
10	Interfacial bonding of Flax fibre/Poly(l-lactide) bio-composites. Composites Science and Technology, 2010, 70, 231-239.	7.8	144
11	Transverse tensile behaviour of unidirectional plies reinforced with flax fibres. Materials Letters, 2006, 60, 2984-2987.	2.6	130
12	Influence of the sampling area of the stem on the mechanical properties of hemp fibers. Materials Letters, 2011, 65, 797-800.	2.6	125
13	Influence of the degree of retting of flax fibers on the tensile properties of single fibers and short fiber/polypropylene composites. Industrial Crops and Products, 2013, 49, 755-767.	5.2	124
14	Average tensile properties of French elementary flax fibers. Materials Letters, 2014, 122, 159-161.	2.6	105
15	Variability of mechanical properties of flax fibres for composite reinforcement. A review. Industrial Crops and Products, 2020, 145, 111984.	5.2	102
16	Improving the interfacial properties between flax fibres and PLLA by a water fibre treatment and drying cycle. Industrial Crops and Products, 2012, 39, 31-39.	5.2	100
17	Elementary flax fibre tensile properties: Correlation between stressâ€“strain behaviour and fibre composition. Industrial Crops and Products, 2014, 52, 762-769.	5.2	97
18	Effect of compaction on mechanical and thermal properties of hemp concrete. European Journal of Environmental and Civil Engineering, 2010, 14, 545-560.	2.1	92

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19	Importance of fiber preparation to optimize the surface and mechanical properties of unitary flax fiber. Industrial Crops and Products, 2010, 32, 662-667.	5.2	89
20	Influence of compactness and hemp hurd characteristics on the mechanical properties of lime and hemp concrete. European Journal of Environmental and Civil Engineering, 2009, 13, 1039-1050.	2.1	88
21	Exploring durability of interfaces in flax fibre/epoxy micro-composites. Composites Part A: Applied Science and Manufacturing, 2013, 48, 121-128.	7.6	87
22	Influence of processing temperature on mechanical performance of unidirectional polyamide 11â€“flax fibre composites. Industrial Crops and Products, 2016, 84, 151-165.	5.2	79
23	Flax (Linum usitatissimum L.) Fibers for Composite Reinforcement: Exploring the Link Between Plant Growth, Cell Walls Development, and Fiber Properties. Frontiers in Plant Science, 2019, 10, 411.	3.6	78
24	Tensile properties of elementary fibres of flax and glass: Analysis of reproducibility and scattering. Materials Letters, 2014, 130, 289-291.	2.6	71
25	Could oleaginous flax fibers be used as reinforcement for polymers?. Industrial Crops and Products, 2011, 34, 1556-1563.	5.2	70
26	Influence of the Absorbed Water on the Tensile Strength of Flax Fibers. Macromolecular Symposia, 2005, 222, 195-202.	0.7	67
27	Investigations of the use of a mussel-inspired compatibilizer to improve the matrix-fiber adhesion of a biocomposite. Polymer Testing, 2009, 28, 668-672.	4.8	67
28	A study of the yearly reproducibility of flax fiber tensile properties. Industrial Crops and Products, 2013, 50, 400-407.	5.2	67
29	Better insight into the nano-mechanical properties of flax fibre cell walls. Industrial Crops and Products, 2017, 97, 224-228.	5.2	66
30	Application of Interlaminar Tests to Marine Composites. A Literature Review. Applied Composite Materials, 2004, 11, 99-126.	2.5	64
31	Transverse Properties of Carbon Fibres by Nano-Indentation and Micro-mechanics. Applied Composite Materials, 2008, 15, 61-73.	2.5	63
32	Influence of embedded gap and overlap fiber placement defects on the microstructure and shear and compression properties of carbonâ€“epoxy laminates. Composites Part A: Applied Science and Manufacturing, 2016, 82, 198-207.	7.6	61
33	Mechanical analysis of elementary flax fibre tensile properties after different thermal cycles. Composites Part A: Applied Science and Manufacturing, 2014, 64, 159-166.	7.6	60
34	Hygroscopic expansion: A key point to describe natural fibre/polymer matrix interface bond strength. Composites Science and Technology, 2017, 151, 228-233.	7.8	60
35	Polypropylene reinforcement with flax or jute fibre; Influence of microstructure and constituents properties on the performance of composite. Composites Part B: Engineering, 2018, 139, 64-74.	12.0	59
36	Study of the fibre morphology stability in polypropylene-flax composites. Polymer Degradation and Stability, 2013, 98, 1216-1224.	5.8	58

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37	Coupled micromechanical analysis and life cycle assessment as an integrated tool for natural fibre composites development. Journal of Cleaner Production, 2014, 83, 61-69.	9.3	58
38	Mechanical and acoustic behaviour of porosity controlled randomly dispersed flax/PP biocomposite. Polymer Testing, 2016, 51, 174-180.	4.8	58
39	What is the technical and environmental interest in reusing a recycled polypropyleneâ€“hemp fibre composite?. Polymer Degradation and Stability, 2011, 96, 1732-1739.	5.8	57
40	Microstructure and tensile properties of carbonâ€“epoxy laminates produced by automated fibre placement: Influence of a caul plate on the effects of gap and overlap embedded defects. Composites Part A: Applied Science and Manufacturing, 2015, 78, 124-134.	7.6	56
41	PLLA/Flax Mat/Balsa Bio-Sandwichâ€"Environmental Impact and Simplified Life Cycle Analysis. Applied Composite Materials, 2012, 19, 363-378.	2.5	55
42	Interfacial properties of flax fibreâ€“epoxy resin systems: Existence of a complex interphase. Composites Science and Technology, 2014, 100, 152-157.	7.8	55
43	Recommended flax fibre density values for composite property predictions. Industrial Crops and Products, 2018, 114, 52-58.	5.2	54
44	Specific features of flax fibres used to manufacture composite materials. International Journal of Material Forming, 2019, 12, 1023-1052.	2.0	53
45	PLLA/Flax Mat/Balsa Bio-Sandwich Manufacture and Mechanical Properties. Applied Composite Materials, 2011, 18, 421-438.	2.5	50
46	Eighty years of composites reinforced by flax fibres: A historical review. Composites Part A: Applied Science and Manufacturing, 2021, 144, 106333.	7.6	50
47	A review on alfa fibre (Stipa tenacissima L.): From the plant architecture to the reinforcement of polymer composites. Composites Part A: Applied Science and Manufacturing, 2020, 128, 105677.	7.6	49
48	Effects of thermo mechanical processing on the mechanical properties ofÂbiocomposite flax fibers evaluated by nanoindentation. Polymer Degradation and Stability, 2010, 95, 1488-1494.	5.8	47
49	Varietal selection of flax over time: Evolution of plant architecture related to influence on the mechanical properties of fibers. Industrial Crops and Products, 2017, 97, 56-64.	5.2	46
50	Compressive and tensile behaviour of unidirectional composites reinforced by natural fibres: Influence of fibres (flax and jute), matrix and fibre volume fraction. Materials Today Communications, 2018, 16, 300-306.	1.9	46
51	Fully biodegradable composites: Use of poly-(butylene-succinate) as a matrix and to plasticize l-poly-(lactide)-flax blends. Industrial Crops and Products, 2015, 64, 251-257.	5.2	45
52	Study of lime hemp concrete (LHC) â€“ Mix design, casting process and mechanical behaviour. Cement and Concrete Composites, 2016, 67, 60-72.	10.7	45
53	Investigation of the Mechanical Properties of Flax Cell Walls during Plant Development: The Relation between Performance and Cell Wall Structure. Fibers, 2018, 6, 6.	4.0	45
54	Influence of PA11 and PP thermoplastic polymers on recycling stability of unidirectional flax fibre reinforced biocomposites. Polymer Degradation and Stability, 2017, 136, 1-9.	5.8	44

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55	Recycling of L-Poly-(lactide)-Poly-(butylene-succinate)-flax biocomposite. Polymer Degradation and Stability, 2016, 128, 77-88.	5.8	42
56	Mechanical Properties of Composites Based on Low Styrene Emission Polyester Resins for Marine Applications. Applied Composite Materials, 2006, 13, 1-22.	2.5	41
57	Influence of the morphology characters of the stem on the lodging resistance of Marylin flax. Industrial Crops and Products, 2015, 66, 27-37.	5.2	41
58	Comparison of the properties of scutched flax and flax tow for composite material reinforcement. Industrial Crops and Products, 2014, 61, 284-292.	5.2	40
59	Evolution of flax cell wall ultrastructure and mechanical properties during the retting step. Carbohydrate Polymers, 2019, 206, 48-56.	10.2	40
60	Optimization of the mechanical performance of UD flax/epoxy composites by selection of fibres along the stem. Composites Part A: Applied Science and Manufacturing, 2015, 77, 204-208.	7.6	38
61	Flax and hemp nonwoven composites: The contribution of interfacial bonding to improving tensile properties. Polymer Testing, 2018, 66, 303-311.	4.8	37
62	Monitoring of mechanical performances of flax non-woven biocomposites during a home compost degradation. Polymer Degradation and Stability, 2020, 177, 109166.	5.8	37
63	Analysis of the role of the main constitutive polysaccharides in the flax fibre mechanical behaviour. Industrial Crops and Products, 2015, 76, 1039-1048.	5.2	36
64	Evaluation of the potential of three non-woven flax fiber reinforcements: Spunlaced, needlepunched and paper process mats. Industrial Crops and Products, 2016, 83, 194-205.	5.2	36
65	Impact of the seeding rate on flax stem stability and the mechanical properties of elementary fibres. Industrial Crops and Products, 2016, 80, 17-25.	5.2	36
66	Interfacial and mechanical characterisation of biodegradable polymer-flax fibre composites. Composites Science and Technology, 2021, 201, 108529.	7.8	36
67	Seawater ageing of low styrene emission resins for marine composites: Mechanical behaviour and nano-indentation studies. Composites Part A: Applied Science and Manufacturing, 2009, 40, 1024-1032.	7.6	34
68	Application of Interlaminar Tests to Marine Composites. Relation between Glass Fibre/Polymer Interfaces and Interlaminar Properties of Marine Composites. Applied Composite Materials, 2004, 11, 77-98.	2.5	32
69	Nanoindentation contribution to mechanical characterization of vegetal fibers. Composites Part B: Engineering, 2012, 43, 2861-2866.	12.0	31
70	Influence of the scattering of flax fibres properties on flax/epoxy woven ply stiffness. Materials and Design, 2017, 122, 136-145.	7.0	31
71	Macroscopic analysis of interfacial properties of flax/PLLA biocomposites. Composites Science and Technology, 2010, 70, 1612-1620.	7.8	30
72	Plant cell walls to reinforce composite materials: Relationship between nanoindentation and tensile modulus. Materials Letters, 2016, 167, 161-164.	2.6	30

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73	Flax stems: from a specific architecture to an instructive model for bioinspired composite structures. Bioinspiration and Biomimetics, 2018, 13, 026007.	2.9	30
74	Exploring the link between flexural behaviour of hemp and flax stems and fibre stiffness. Industrial Crops and Products, 2018, 113, 179-186.	5.2	29
75	Understanding the effect of moisture variation on the hygromechanical properties of porosity-controlled nonwoven biocomposites. Polymer Testing, 2019, 78, 105944.	4.8	29
76	A multi-scale study of the interface between natural fibres and a biopolymer. Composites Part A: Applied Science and Manufacturing, 2014, 65, 161-168.	7.6	28
77	Peeling experiments for hemp retting characterization targeting biocomposites. Industrial Crops and Products, 2018, 123, 573-580.	5.2	28
78	An AFM study of the effect of chemical treatments on the surface microstructure and adhesion properties of flax fibres. Composite Interfaces, 2007, 14, 715-731.	2.3	27
79	Replacement of Glass/Unsaturated Polyester Composites by Flax/PLLA Biocomposites: Is It Justified?. Journal of Biobased Materials and Bioenergy, 2011, 5, 466-482.	0.3	27
80	The potential of flax shives as reinforcements for injection moulded polypropylene composites. Industrial Crops and Products, 2020, 148, 112324.	5.2	27
81	Role of Polysaccharides on Mechanical and Adhesion Properties of Flax Fibres in Flax/PLA Biocomposite. International Journal of Polymer Science, 2011, 2011, 1-11.	2.7	26
82	Compressive and Tensile Behaviours of PLLA Matrix Composites Reinforced with Randomly Dispersed Flax Fibres. Applied Composite Materials, 2012, 19, 171-188.	2.5	26
83	Compressive strength of flax fibre bundles within the stem and comparison with unidirectional flax/epoxy composites. Industrial Crops and Products, 2019, 130, 25-33.	5.2	25
84	Understanding the lodging stability of green flax stems; The importance of morphology and fibre stiffness. Biosystems Engineering, 2015, 137, 9-21.	4.3	24
85	Deeper insights into the moisture-induced hygroscopic and mechanical properties of hemp reinforced biocomposites. Composites Part A: Applied Science and Manufacturing, 2019, 123, 278-285.	7.6	24
86	The remarkable slenderness of flax plant and pertinent factors affecting its mechanical stability. Biosystems Engineering, 2019, 178, 1-8.	4.3	24
87	Exploring the dew retting feasibility of hemp in very contrasting European environments: Influence on the tensile mechanical properties of fibres and composites. Industrial Crops and Products, 2021, 164, 113337.	5.2	24
88	Probing cellulose/polylactic acid interactions in model biocomposite by colloidal force microscopy. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2009, 352, 47-55.	4.7	23
89	Flax/PP manufacture by automated fibre placement (AFP). Materials and Design, 2016, 94, 207-213.	7.0	23
90	High modulus carbon fibre composites: Correlation between transverse tensile and mode I interlaminar fracture properties. Materials Letters, 2008, 62, 1096-1099.	2.6	21

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91	Is the low shear modulus of flax fibres an advantage for polymer reinforcement?. Materials Letters, 2016, 185, 534-536.	2.6	20
92	Exploring the mechanical performance and in-planta architecture of secondary hemp fibres. Industrial Crops and Products, 2017, 108, 1-5.	5.2	20
93	Interfacial properties of hemp fiber/epoxy system measured by microdroplet test: Effect of relative humidity. Composites Science and Technology, 2019, 181, 107694.	7.8	20
94	Exploring two innovative recycling ways for poly-(propylene)-flax non wovens wastes. Polymer Degradation and Stability, 2017, 142, 89-101.	5.8	20
95	Measuring adhesion forces between model polysaccharide films and PLA bead to mimic molecular interactions in flax/PLA biocomposite. Journal of Materials Science, 2012, 47, 2175-2181.	3.7	17
96	Monitoring temperature effects on flax cell-wall mechanical properties within a composite material using AFM. Polymer Testing, 2018, 69, 91-99.	4.8	17
97	Main criteria of sustainable natural fibre for efficient unidirectional biocomposites. Composites Part A: Applied Science and Manufacturing, 2019, 124, 105504.	7.6	17
98	A Review of Permeability and Flow Simulation for Liquid Composite Moulding of Plant Fibre Composites. Materials, 2020, 13, 4811.	2.9	15
99	Porosity in Ocean Racing Yacht Composites: a Review. Applied Composite Materials, 2015, 22, 13-28.	2.5	14
100	Conventional or greenhouse cultivation of flax: What influence on the number and quality of flax fibers?. Industrial Crops and Products, 2018, 123, 111-117.	5.2	13
101	Influence of water ageing on the mechanical properties of flax/PLA non-woven composites. Polymer Degradation and Stability, 2022, 200, 109957.	5.8	12
102	Tensile properties of flax fibers. , 2018, , 275-300.		11
103	Oriented granulometry to quantify fibre orientation distributions in synthetic and plant fibre composite preforms. Industrial Crops and Products, 2020, 152, 112548.	5.2	11
104	About the frontier between filling and reinforcement by fine flax particles in plant fibre composites. Industrial Crops and Products, 2019, 141, 111774.	5.2	10
105	Adhesion Force Mapping of Raw and Treated Flax Fibres Using AFM Force-Volume. Journal of Scanning Probe Microscopy, 2009, 4, 66-72.	0.0	10
106	Study of plant gravitropic response: Exploring the influence of lodging and recovery on the mechanical performances of flax fibers. Industrial Crops and Products, 2019, 128, 235-238.	5.2	9
107	Investigations by AFM of Ageing Mechanisms in PLA-Flax Fibre Composites during Garden Composting. Polymers, 2021, 13, 2225.	4.5	8
108	Marine Composites Based on Low Styrene Content Resins. Influence of Lamination Procedure and Peel Plies on Interlaminar Resistance. Applied Composite Materials, 2008, 15, 87-97.	2.5	7

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109	Influence of Through-Thickness Pinning on Composite Shear Properties. Applied Composite Materials, 2012, 19, 853-864.	2.5	7
110	Characterization of Interdiffusion between PVDF and Stereoregular PMMA by Using ATR-FTIR Spectroscopy. Macromolecular Symposia, 2005, 222, 265-272.	0.7	6
111	Influence of Embedded Gap and Overlap Fiber Placement Defects on Interlaminar Properties of High Performance Composites. Materials, 2021, 14, 5332.	2.9	6
112	Flax xylem as composite material reinforcement: Microstructure and mechanical properties. Composites Part A: Applied Science and Manufacturing, 2021, 149, 106550.	7.6	6
113	Evolution of the flax cell wall composition during development and after gravitropism by synchrotron fluorescence imaging. Industrial Crops and Products, 2022, 175, 114256.	5.2	6
114	Analysis of Flax Fiber Cell-Wall Non-Cellulosic Polysaccharides Under Different Weather Conditions (Marylin Variety). Journal of Natural Fibers, 2018, 15, 539-544.	3.1	4
115	Can we predict the microstructure of a non-woven flax/PLA composite through assessment of anisotropy in tensile properties?. Composites Science and Technology, 2022, 218, 109173.	7.8	4
116	Lins olÃ©agineux d'hiver, une source de fibres cellulosiques Ã valoriser. Revue Des Composites Et Des Materiaux Avances, 2008, 18, 151-156.	0.6	3
117	Optimisation de l'usage du bÃ©ton de chanvre dans la conception d'un Ã©comatÃ©riau pour le gÃ©nie civil. Revue Des Composites Et Des Materiaux Avances, 2008, 18, 227-232.	0.6	3
118	Influence of Stem Morphology and Fibers Stiffness on the Loading Stability of Flax. RILEM Bookseries, 2016, , 49-59.	0.4	2
119	Determinant morphological features of flax plant products and their contribution in injection moulded composite reinforcement. Composites Part C: Open Access, 2020, 3, 100054.	3.2	2
120	Multiscale Structure of Plant Fibers. , 2021, , 117-134.		2
121	Colloid force measurements between cellulose and polylactic acid. Revue Des Composites Et Des Materiaux Avances, 2008, 18, 177-183.	0.6	2
122	Multi-scale mechanical characterization of flax fibres for the reinforcement of composite materials. , 2020, , 205-226.		1
123	Influence du taux de porositÃ© sur les propriÃ©tÃ©s dâ€™un composite non tissÃ© lin/PP. Materiaux Et Techniques, 2016, 104, 405.	0.9	1
124	Influence du rouissage du lin sur les propriÃ©tÃ©s mÃ©caniques des fibres et des composites injectÃ©s lin/polypropylÃ¨ne. Revue Des Composites Et Des Materiaux Avances, 2014, 24, 139-153.	0.6	0
125	Exploring the impact of Verticillium wilt disease on the mechanical properties of elementary flax (Linum usitatissimum L.) fibres. Industrial Crops and Products, 2022, 182, 114900.	5.2	0