Mark Hughes

List of Publications by Year
in descending order

99 papers	3,346 citations	117625 34 h-index	168389 53 g-index
100 all docs	100 docs citations	100 times ranked	2898 citing authors

#	Article	IF	Citations
1	The fracture behaviour and toughness of woven flax fibre reinforced epoxy composites. Composites Part A: Applied Science and Manufacturing, 2008, 39, 1644-1652.	7.6	164
2	Deformation and fracture behaviour of flax fibre reinforced thermosetting polymer matrix composites. Journal of Materials Science, 2007, 42, 2499-2511.	3.7	146
3	Defects in natural fibres: their origin, characteristics and implications for natural fibre-reinforced composites. Journal of Materials Science, 2012, 47, 599-609.	3.7	137
4	Comparison of life cycle assessment databases: A case study on building assessment. Building and Environment, 2014, 79, 20-30.	6.9	121
5	The water vapour sorption properties of thermally modified and densified wood. Journal of Materials Science, 2012, 47, 3191-3197.	3.7	120
6	RTM Hemp Fibre-Reinforced Polyester Composites. Applied Composite Materials, 2000, 7, 341-349.	2.5	110
7	Wood densification and thermal modification: hardness, set-recovery and micromorphology. Wood Science and Technology, 2016, 50, 883-894.	3.2	99
8	Acetylated microfibrillated cellulose as a toughening agent in poly(lactic acid). Journal of Applied Polymer Science, 2012, 126, E449.	2.6	88
9	Soy proteinâ€“nanocellulose composite aerogels. Cellulose, 2013, 20, 2417-2426.	4.9	85
10	Structural biocomposites from flaxâ€”Part I: Effect of bio-technical fibre modification on composite properties. Composites Part A: Applied Science and Manufacturing, 2006, 37, 393-404.	7.6	78
11	A multidisciplinary approach to sustainable building material selection: A case study in a Finnish context. Building and Environment, 2014, 82, 526-535.	6.9	77
12	Natural and artificial ageing of spruce wood as observed by FTIR-ATR and UVRR spectroscopy. Holzforschung, 2012, 66, 163-170.	1.9	72
13	Cross-linking of cellulose and poly(ethylene glycol) with citric acid. Reactive and Functional Polymers, 2015, 90, 21-24.	4.1	70
14	Forest sector circular economy development in Finland: A regional study on sustainability driven competitive advantage and an assessment of the potential for cascading recovered solid wood. Journal of Cleaner Production, 2018, 181, 483-497.	9.3	70
15	Hardness and density profile of surface densified and thermally modified Scots pine in relation to degree of densification. Journal of Materials Science, 2013, 48, 2370-2375.	3.7	64
16	Properties and set-recovery of surface densified Norway spruce and European beech. Wood Science and Technology, 2010, 44, 679-691.	3.2	63
17	An investigation into the effects of micro-compressive defects on interphase behaviour in hemp-epoxy composites using half-fringe photoelasticity. Composite Interfaces, 2000, 7, 13-29.	2.3	61
18	Mechanical processing of bast fibres: The occurrence of damage and its effect on fibre structure. Industrial Crops and Products, 2012, 39, 7-11.	5.2	61

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19	The effect of material selection on life cycle energy balance: A case study on a hypothetical building model in Finland. Building and Environment, 2015, 89, 192-202.	6.9	60
20	Surface modification of Scots pine: the effect of process parameters on the through thickness density profile. Journal of Materials Science, 2011, 46, 4780-4786.	3.7	57
21	Reducing the set-recovery of surface densified solid Scots pine wood by hydrothermal post-treatment. European Journal of Wood and Wood Products, 2013, 71, 17-23.	2.9	56
22	Micromechanics of TEMPO-Oxidized Fibrillated Cellulose Composites. ACS Applied Materials & Interfaces, 2012, 4, 331-337.	8.0	54
23	Life cycle assessment of wood construction according to the normative standards. European Journal of Wood and Wood Products, 2015, 73, 299-312.	2.9	50
24	The fracture toughness and properties of thermally modified beech and ash at different moisture contents. Wood Science and Technology, 2012, 46, 5-21.	3.2	44
25	The effect of process parameters on the hardness of surface densified Scots pine solid wood. European Journal of Wood and Wood Products, 2013, 71, 13-16.	2.9	44
26	Natural Fibre Reinforced Composites Opportunities and Challenges. Journal of Biobased Materials and Bioenergy, 2010, 4, 148-158.	0.3	43
27	Mechanical and physical properties of thermally modified Scots pine wood in high pressure reactor under saturated steam at 120, 150 and 180ÂÂ°C. European Journal of Wood and Wood Products, 2014, 72, 33-41.	2.9	42
28	Surface modification of wood using friction. Wood Science and Technology, 2009, 43, 291-299.	3.2	41
29	Various polymeric monomers derived from renewable rosin for the modification of fast-growing poplar wood. Composites Part B: Engineering, 2019, 174, 106902.	12.0	41
30	Density profile relation to hardness of viscoelastic thermal compressed (VTC) wood composite. Wood Science and Technology, 2011, 45, 693-705.	3.2	39
31	Influence of temperature of thermal treatment on surface densification of spruce. European Journal of Wood and Wood Products, 2017, 75, 113-123.	2.9	39
32	Prolonging life cycles of construction materials and combating climate change by cascading: The case of reusing timber in Finland. Resources, Conservation and Recycling, 2021, 170, 105555.	10.8	39
33	Measuring the thickness swelling and set-recovery of densified and thermally modified Scots pine solid wood. Journal of Materials Science, 2013, 48, 8530-8538.	3.7	38
34	Strain induced shifts in the Raman spectra of natural cellulose fibers. Journal of Materials Science Letters, 2000, 19, 721-723.	0.5	37
35	The combined effects of boron and oil heat treatment on the properties of beech and Scots pine wood. Part 2: Water absorption, compression strength, color changes, and decay resistance. Journal of Materials Science, 2011, 46, 608-615.	3.7	35
36	The toughness of hygrothermally modified wood. Holzforschung, 2015, 69, 851-862.	1.9	35

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37	Toward energy efficiency through an optimized use of wood: The development of natural hydrophobic coatings that retain moisture-buffering ability. Energy and Buildings, 2015, 105, 37-42.	6.7	34
38	Structural biocomposites from flax â€“ Part II: The use of PEG and PVA as interfacial compatibilising agents. Composites Part A: Applied Science and Manufacturing, 2007, 38, 1403-1413.	7.6	33
39	The effect of log heating temperature on the peeling process and veneer quality: beech, birch, and spruce case studies. European Journal of Wood and Wood Products, 2013, 71, 163-171.	2.9	33
40	Toughening mechanisms in poly(lactic) acid reinforced with TEMPO-oxidized cellulose. Journal of Materials Science, 2012, 47, 5517-5523.	3.7	31
41	The influence of lathe check depth and orientation on the bond quality of phenol-formaldehyde â€“ bonded birch plywood. Holzforschung, 2013, 67, 779-786.	1.9	31
42	Phenol-formaldehyde resins with suitable bonding strength synthesized from â€œless-reactiveâ€• hardwood lignin fractions. Holzforschung, 2020, 74, 175-183.	1.9	30
43	Micromorphological studies of surface densified wood. Journal of Materials Science, 2014, 49, 2027-2034.	3.7	29
44	Determining the physical properties of flax fibre for industrial applications: the influence of agronomic practice. Annals of Applied Biology, 2006, 149, 15-25.	2.5	28
45	The combined effects of boron and oil heat treatment on beech and Scots pine wood properties. Part 1: Boron leaching, thermogravimetric analysis, and chemical composition. Journal of Materials Science, 2011, 46, 598-607.	3.7	28
46	Assessing the susceptibility of hemp fibre to the formation of dislocations during processing. Industrial Crops and Products, 2016, 85, 382-388.	5.2	27
47	Thermodynamic characteristics of surface densified solid Scots pine wood. European Journal of Wood and Wood Products, 2012, 70, 727-734.	2.9	24
48	Measuring the thermal properties of green wood by the transient plane source (TPS) technique. Holzforschung, 2013, 67, 437-445.	1.9	24
49	Building material naturalness: Perceptions from Finland, Norway and Slovenia. Indoor and Built Environment, 2017, 26, 92-107.	2.8	23
50	Sensory and Emotional Perception of Wooden Surfaces through Fingertip Touch. Frontiers in Psychology, 2017, 8, 367.	2.1	23
51	XPS and the mediumâ€dependent surface adaptation of cellulose in wood. Surface and Interface Analysis, 2012, 44, 899-903.	1.8	22
52	The influence of extractives on the sorption characteristics of Scots pine (Pinus sylvestris L.). Journal of Materials Science, 2017, 52, 10840-10852.	3.7	21
53	The influence of felling season and log-soaking temperature on the wetting and phenol formaldehyde adhesive bonding characteristics of birch veneer. Holzforschung, 2014, 68, 965-970.	1.9	19
54	The effect of temperature and moisture content on the fracture behaviour of spruce and birch. Holzforschung, 2016, 70, 369-376.	1.9	18

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55	Water vapour sorption behaviour of thermally modified wood. International Wood Products Journal, 2013, 4, 191-196.	1.1	17
56	Surface densification of acetylated wood. European Journal of Wood and Wood Products, 2016, 74, 829-835.	2.9	17
57	Mechanical behavior, structure, and reinforcement processes of TEMPOâ€oxidized cellulose reinforced poly(lactic) acid. Polymer Composites, 2013, 34, 173-179.	4.6	16
58	Design strategies to increase the reuse of wood materials in buildings: Lessons from architectural practice. Journal of Cleaner Production, 2022, 368, 133083.	9.3	16
59	A study by X-ray photoelectron spectroscopy (XPS) of the chemistry of the surface of Scots pine (Pinus sylvestris L.) modified by friction. Holzforschung, 2012, 66, .	1.9	15
60	Mid-infrared absorption properties of green wood. Wood Science and Technology, 2013, 47, 1231-1241.	3.2	14
61	Simultaneous drying and densification of silver birch (Betula pendula L.) veneers: analysis of morphology, thickness swelling, and density profile. Wood Science and Technology, 2014, 48, 325-336.	3.2	14
62	Thermal properties enhancement of poplar wood by substituting poly(furfuryl alcohol) for the matrix. Polymer Composites, 2020, 41, 1066-1073.	4.6	14
63	Estimating the material stock in wooden residential houses in Finland. Waste Management, 2021, 135, 318-326.	7.4	14
64	The influence of log soaking temperature on surface quality and integrity performance of birch (Betula pendula Roth) veneer. Wood Science and Technology, 2016, 50, 463-474.	3.2	13
65	Simultaneous measurement of lathe check depth and the grain angle of birch (Betula pendula Roth) veneers using laser trans-illumination imaging. Wood Science and Technology, 2015, 49, 591-605.	3.2	12
66	Effect of Log Soaking and the Temperature of Peeling on the Properties of Rotary-Cut Birch (Betula) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	1.0	12
67	Ultrastructural evaluation of compression wood-like properties of common juniper (Juniperus) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	1.9	11
68	Greenhouse gas emission from construction stage of wooden buildings. International Wood Products Journal, 2014, 5, 217-223.	1.1	10
69	The potential for cascading wood from demolished buildings: the condition of recovered wood through a case study in Finland. International Wood Products Journal, 2016, 7, 137-143.	1.1	10
70	The cellular level mode I fracture behaviour of spruce and birch in the RT crack propagation system. Holzforschung, 2016, 70, 157-165.	1.9	10
71	The effect of elevated temperature and high moisture content on the fracture behaviour of thermally modified spruce. Journal of Materials Science, 2016, 51, 1437-1444.	3.7	10
72	The structure of dislocations in hemp (Cannabis sativa L.) fibres and implications for mechanical behaviour. BioResources, 2020, 15, 2579-2595.	1.0	10

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73	Experiments on the effective compliance in the radialâ€"tangential plane of Norway spruce. Composite Structures, 2013, 102, 287-293.	5.8	9
74	Colorimetric Behavior and Seasonal Characteristic of Xylem Sap Obtained by Mechanical Compression from Silver Birch (Betula pendula). ACS Sustainable Chemistry and Engineering, 2013, 1, 1075-1082.	6.7	9
75	Analysing density profile characteristics of surface densified solid wood using computational approach. International Wood Products Journal, 2013, 4, 144-149.	1.1	9
76	The Effect of Hydrothermal Treatment on the Color Stability and Chemical Properties of Birch Veneer Surfaces. BioResources, 2015, 10, 6610-6623.	1.0	9
77	The potential for cascading wood from demolished buildings: potential flows and possible applications through a case study in Finland. International Wood Products Journal, 2017, 8, 208-215.	1.1	9
78	Rational production of veneer by IR-heating of green wood during peeling: Modeling experiments. Holzforschung, 2013, 67, 53-58.	1.9	8
79	The effect of hydration on the micromechanics of regenerated cellulose fibres from ionic liquid solutions of varying draw ratios. Carbohydrate Polymers, 2016, 151, 1110-1114.	10.2	8
80	Surface modification of birch veneer by peroxide bleaching. Wood Science and Technology, 2017, 51, 85-95.	3.2	8
81	Kink bands in bast fibres and their effects on mechanical properties. Plastics, Rubber and Composites, 2011, 40, 307-310.	2.0	7
82	Factors influencing properties of parallel laminated binderless bonded plywood manufactured from rotary cut birch (Betula pendulaL.). International Wood Products Journal, 2014, 5, 11-17.	1.1	7
83	Chemical characteristics of squeezable sap of hydrothermally treated silver birch logs (Betula) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T Wood Science and Technology, 2015, 49, 289-302.	3.2	7
84	The fracture behavior of birch and spruce in the radial-tangential crack propagation direction at the scale of the growth ring. Holzforschung, 2013, 67, 673-681.	1.9	6
85	The anisotropic temperature rise on wood surfaces during adsorption measured by thermal imaging. Wood Science and Technology, 2018, 52, 167-180.	3.2	6
86	Spruce fiber properties after high-temperature thermomechanical pulping (HT-TMP). Holzforschung, 2014, 68, 195-201.	1.9	5
87	Quantifying the sensation of temperature: A new method for evaluating the thermal behaviour of building materials. Energy and Buildings, 2019, 195, 26-32.	6.7	5
88	The fiberâ€matrix interface in Ioncell cellulose fiber composites and its implications for the mechanical performance. Journal of Applied Polymer Science, 2021, 138, 50306.	2.6	5
89	The impact of fibre processing on the mechanical properties of epoxy matrix composites and wood-based particleboard reinforced with hemp (Cannabis sativa L.) fibre. Journal of Materials Science, 2022, 57, 1738-1754.	3.7	5
90	Comparison of the accuracy of two on-line industrial veneer moisture content and density measurement systems. European Journal of Wood and Wood Products, 2015, 73, 61-68.	2.9	4

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91	Estimating the spread rate of urea formaldehyde adhesive on birch (Betula pendula Roth) veneer using fluorescence. European Journal of Wood and Wood Products, 2015, 73, 69-75.	2.9	4
92	A dynamic modelling approach for simulating climate change impact on energy and hygrothermal performances of wood buildings. Building Simulation, 2018, 11, 497-506.	5.6	4
93	Evaluation of natural weathering and thermal degradation behavior of furfurylated bamboo strips at different weight percent gain. European Journal of Wood and Wood Products, 2022, 80, 289-299.	2.9	4
94	Potential error in density profile measurements for wood composites. European Journal of Wood and Wood Products, 2011, 69, 167-169.	2.9	3
95	Estimating birch veneer (Betula pendula Roth) moisture content using infrared technology. European Journal of Wood and Wood Products, 2015, 73, 617-625.	2.9	3
96	The chemical characteristics of squeezable sap from silver birch (Betula pendula) logs hydrothermally treated at 70ÂÂ°C: the effect of treatment time on the concentration of water extracts. Wood Science and Technology, 2015, 49, 1295-1306.	3.2	3
97	The physicochemical properties of cellulose surfaces modified with (depolymerised) suberin and suberin fatty acid. Industrial Crops and Products, 2021, 159, 113070.	5.2	2
98	Experimental validation of green wood peeling assisted by IR heating â€“ some considerations of the analytical system design. Holzforschung, 2014, 68, 957-964.	1.9	0
99	Investigating the tactile warmth of untreated and modified wood surfaces by measuring cold sensitivity in paired-comparison experiments. International Wood Products Journal, 2020, 11, 129-137.	1.1	0