

Joris Van Acker

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

126
papers

2,568
citations

27
h-index

43
g-index

130
ext. papers

3,009
ext. citations

3.7
avg, IF

4.89
L-index

#	Paper	IF	Citations
126	Deep learning segmentation of wood fiber bundles in fiberboards. <i>Composites Science and Technology</i> , 2022 , 221, 109287	8.6	2
125	Treatment of wood with atmospheric plasma discharge: study of the treatment process, dynamic wettability and interactions with a waterborne coating. <i>Holzforschung</i> , 2021 , 75, 603-613	2	5
124	Understanding the effect of growth ring orientation on the compressive strength perpendicular to the grain of thermally treated wood. <i>Wood Science and Technology</i> , 2021 , 55, 1439-1456	2.5	2
123	Micro-CT measurements of within-ring variability in longitudinal hydraulic pathways in Norway spruce. <i>IAWA Journal</i> , 2020 , 41, 12-29	2.3	2
122	Assessing the natural durability of xylarium specimens: mini-block testing and chemical fingerprinting for small-sized samples. <i>Wood Science and Technology</i> , 2020 , 54, 981-1000	2.5	4
121	Modelling moisture conditions behind brick veneer cladding: Verification of common approaches by field measurements. <i>Journal of Building Physics</i> , 2020 , 44, 95-120	2.6	7
120	Cracking the code: real-time monitoring of wood drying and the occurrence of cracks. <i>Wood Science and Technology</i> , 2020 , 54, 1029-1049	2.5	3
119	Chemical Fingerprinting of Wood Sampled along a Pith-to-Bark Gradient for Individual Comparison and Provenance Identification. <i>Forests</i> , 2020 , 11, 107	2.8	4
118	The effect of structural changes on the compressive strength of LVL. <i>Wood Science and Technology</i> , 2020 , 54, 1253-1267	2.5	3
117	Scientific Merits and Analytical Challenges of Tree-Ring Densitometry. <i>Reviews of Geophysics</i> , 2019 , 57, 1224-1264	23.1	50
116	The persistence of carbon in the African forest understory. <i>Nature Plants</i> , 2019 , 5, 133-140	11.5	19
115	A protocol for automated timber species identification using metabolome profiling. <i>Wood Science and Technology</i> , 2019 , 53, 953-965	2.5	10
114	Analysis of spatio-temporal fungal growth dynamics under different environmental conditions. <i>IMA Fungus</i> , 2019 , 10, 7	6.8	5
113	Asynchronous leaf and cambial phenology in a tree species of the Congo Basin requires space-time conversion of wood traits. <i>Annals of Botany</i> , 2019 , 124, 245-253	4.1	4
112	Sleeping beauties in materials science: unlocking the value of xylarium specimens in the search for timbers of the future. <i>Holzforschung</i> , 2019 , 73, 889-897	2	2
111	Fast pyrolysis of mannan-rich ivory nut (<i>Phytelephas aequatorialis</i>) to valuable biorefinery products. <i>Chemical Engineering Journal</i> , 2019 , 373, 446-457	14.7	11
110	Wood anatomy variability under contrasted environmental conditions of common deciduous and evergreen species from central African forests. <i>Trees - Structure and Function</i> , 2019 , 33, 893-909	2.6	7

109	Rate of forest recovery after fire exclusion on anthropogenic savannas in the Democratic Republic of Congo. <i>Biological Conservation</i> , 2019 , 233, 118-130	6.2	7
108	Influence of <i>Quercus petraea</i> Liebl. wood structure on the permeation of oxygen through wine barrel staves. <i>Holzforschung</i> , 2019 , 73, 859-870	2	9
107	The stability enigma of hydraulic vulnerability curves: addressing the link between hydraulic conductivity and drought-induced embolism. <i>Tree Physiology</i> , 2019 , 39, 1646-1664	4.2	14
106	Advanced X-ray CT scanning can boost tree ring research for earth system sciences. <i>Annals of Botany</i> , 2019 , 124, 837-847	4.1	17
105	The effect of water sorption/desorption on fatigue deflection of OSB. <i>Construction and Building Materials</i> , 2019 , 223, 1196-1203	6.7	10
104	Density and density profile changes in birch and spruce caused by thermo-hydro treatment measured by X-ray computed tomography. <i>Wood Science and Technology</i> , 2019 , 53, 491-504	2.5	6
103	Distinct growth responses to drought for oak and beech in temperate mixed forests. <i>Science of the Total Environment</i> , 2019 , 650, 3017-3026	10.2	30
102	Cambial pinning relates wood anatomy to ecophysiology in the African tropical tree <i>Maesopsis eminii</i> . <i>Tree Physiology</i> , 2018 , 38, 232-242	4.2	7
101	Investigating the interaction between internal structural changes and water sorption of MDF and OSB using X-ray computed tomography. <i>Wood Science and Technology</i> , 2018 , 52, 701-716	2.5	10
100	X-ray computed microtomography characterizes the wound effect that causes sap flow underestimation by thermal dissipation sensors. <i>Tree Physiology</i> , 2018 , 38, 287-301	4.2	14
99	Classification of uncoated plywood based on moisture dynamics. <i>Construction and Building Materials</i> , 2018 , 158, 814-822	6.7	7
98	Plant fibers for renewable growing media: Potential of defibration, acidification or inoculation with biocontrol fungi to reduce the N drawdown and plant pathogens. <i>Journal of Cleaner Production</i> , 2018 , 203, 1143-1154	10.3	26
97	Wood Density Profiles and Their Corresponding Tissue Fractions in Tropical Angiosperm Trees. <i>Forests</i> , 2018 , 9, 763	2.8	15
96	Ca:Mg:Zn:CO and Ca:Mg:CO-tri- and bi-elemental carbonate microparticles for novel injectable self-gelling hydrogel-microparticle composites for tissue regeneration. <i>Biomedical Materials (Bristol)</i> , 2017 , 12, 025015	3.5	11
95	Microstructure of chemically modified wood using X-ray computed tomography in relation to wetting properties. <i>Holzforschung</i> , 2017 , 71, 119-128	2	11
94	Automated classification of wood transverse cross-section micro-imagery from 77 commercial Central-African timber species. <i>Annals of Forest Science</i> , 2017 , 74, 1	3.1	16
93	A generic platform for hyperspectral mapping of wood. <i>Wood Science and Technology</i> , 2017 , 51, 887-907	2.5	5
92	Using X-ray CT based tree-ring width data for tree growth trend analysis. <i>Dendrochronologia</i> , 2017 , 44, 66-75	2.8	11

91	On the drying potential of cavity ventilation behind brick veneer cladding: A detailed field study. <i>Building and Environment</i> , 2017 , 123, 133-145	6.5	9
90	Comparison of species classification models of mass spectrometry data: Kernel Discriminant Analysis vs Random Forest; A case study of Afrormosia (<i>Pericopsis elata</i> (Harms) Meeuwen). <i>Rapid Communications in Mass Spectrometry</i> , 2017 , 31, 1582-1588	2.2	16
89	Evaluating the robustness of three ring-width measurement methods for growth release reconstruction. <i>Dendrochronologia</i> , 2017 , 46, 67-76	2.8	13
88	Cambial activity in the understory of the Mayombe forest, DR Congo. <i>Trees - Structure and Function</i> , 2017 , 31, 49-61	2.6	7
87	Nondestructive research on wooden musical instruments: From macro- to microscale imaging with lab-based X-ray CT systems. <i>Journal of Cultural Heritage</i> , 2017 , 27, S78-S87	2.9	19
86	Hygrothermal behaviour of timber frame walls finished with a brick veneer cladding. <i>Energy Procedia</i> , 2017 , 132, 363-368	2.3	5
85	Investigating water transport in MDF and OSB using a gantry-based X-ray CT scanning system. <i>Wood Science and Technology</i> , 2016 , 50, 1197-1211	2.5	6
84	Strong gradients in nitrogen and carbon stocks at temperate forest edges. <i>Forest Ecology and Management</i> , 2016 , 376, 45-58	3.9	38
83	Cork structural discontinuities studied with X-ray microtomography. <i>Holzforschung</i> , 2016 , 70, 87-94	2	9
82	Exploring life growth patterns in birch (<i>Betula pendula</i>). <i>Scandinavian Journal of Forest Research</i> , 2016 , 31, 561-567	1.7	7
81	Moisture behavior and structural changes of plywood during outdoor exposure. <i>European Journal of Wood and Wood Products</i> , 2016 , 74, 211-221	2.1	9
80	Assessment of wood microstructural changes after one-stage thermo-hydro treatment (THT) by micro X-ray computed tomography. <i>Holzforschung</i> , 2016 , 70, 167-177	2	5
79	Penetration and Effectiveness of Micronized Copper in Refractory Wood Species. <i>PLoS ONE</i> , 2016 , 11, e0163124	3.7	12
78	Determining the effect of wind on the ballistic flight of fertiliser particles. <i>Biosystems Engineering</i> , 2016 , 151, 425-434	4.8	6
77	Investigating plywood behaviour in outdoor conditions. <i>International Wood Products Journal</i> , 2016 , 7, 220-224	0.9	1
76	Relating MOE decrease and mass loss due to fungal decay in plywood and MDF using resonalyser and X-ray CT scanning. <i>International Biodeterioration and Biodegradation</i> , 2016 , 110, 113-120	4.8	2
75	A field-to-desktop toolchain for X-ray CT densitometry enables tree ring analysis. <i>Annals of Botany</i> , 2016 , 117, 1187-96	4.1	28
74	Enrichment of enzymatically mineralized gellan gum hydrogels with phlorotannin-rich <i>Ecklonia cava</i> extract Seanol(®) to endow antibacterial properties and promote mineralization. <i>Biomedical Materials (Bristol)</i> , 2016 , 11, 045015	3.5	18

73	Modelling Cavity Ventilation Behind Brick Veneer Cladding: How Reliable are the Common Assumptions?. <i>Energy Procedia</i> , 2015 , 78, 1467-1477	2.3	2
72	How Tightly Linked Are <i>Pericopsis elata</i> (Fabaceae) Patches to Anthropogenic Disturbances in Southeastern Cameroon?. <i>Forests</i> , 2015 , 6, 293-310	2.8	12
71	Wood Specific Gravity Variations and Biomass of Central African Tree Species: The Simple Choice of the Outer Wood. <i>PLoS ONE</i> , 2015 , 10, e0142146	3.7	31
70	Tree rings show a different climatic response in a managed and a non-managed plantation of teak (<i>Tectona grandis</i>) in West Africa. <i>IAWA Journal</i> , 2015 , 36, 409-427	2.3	3
69	Charcoal-inferred Holocene fire and vegetation history linked to drought periods in the Democratic Republic of Congo. <i>Global Change Biology</i> , 2015 , 21, 2296-308	11.4	21
68	Outdoor weathering performance parameters of exterior wood coating systems on tropical hardwood substrates. <i>European Journal of Wood and Wood Products</i> , 2014 , 72, 261-272	2.1	20
67	Impact of internal structure on water-resistance of plywood studied using neutron radiography and X-ray tomography. <i>Construction and Building Materials</i> , 2014 , 73, 171-179	6.7	23
66	Bouldering: an alternative strategy to long-vertical climbing in root-climbing hortensias. <i>Journal of the Royal Society Interface</i> , 2014 , 11,	4.1	5
65	Recent micro-CT scanner developments at UGCT. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2014 , 324, 35-40	1.2	100
64	Durability and efficiency of ink-jet printed TiO ₂ coatings: Influence of processing temperature. <i>Thin Solid Films</i> , 2014 , 556, 160-167	2.2	7
63	3D tree-ring analysis using helical X-ray tomography. <i>Dendrochronologia</i> , 2014 , 32, 39-46	2.8	39
62	The 600 yr eruptive history of Villarrica Volcano (Chile) revealed by annually laminated lake sediments. <i>Bulletin of the Geological Society of America</i> , 2014 , 126, 481-498	3.9	53
61	Dendrochronological Potential in a Semi-Deciduous Rainforest: The Case of <i>Pericopsis elata</i> in Central Africa. <i>Forests</i> , 2014 , 5, 3087-3106	2.8	13
60	Thermal behaviour of cork and cork components. <i>Thermochimica Acta</i> , 2014 , 582, 94-100	2.9	48
59	Wood natural durability testing under laboratory conditions: results from a round-robin test. <i>European Journal of Wood and Wood Products</i> , 2014 , 72, 129-133	2.1	7
58	Ancient charcoal as a natural archive for paleofire regime and vegetation change in the Mayumbe, Democratic Republic of the Congo. <i>Quaternary Research</i> , 2013 , 80, 326-340	1.9	19
57	Tree-ring analysis of an African long-lived pioneer species as a tool for sustainable forest management. <i>Forest Ecology and Management</i> , 2013 , 304, 417-426	3.9	27
56	Combining electrical resistance and 3-D X-ray computed tomography for moisture distribution measurements in wood products exposed in dynamic moisture conditions. <i>Building and Environment</i> , 2013 , 67, 250-259	6.5	18

55	A tree-ring based comparison of Terminalia superba climate-growth relationships in West and Central Africa. <i>Trees - Structure and Function</i> , 2013 , 27, 1225-1238	2.6	34
54	Archaeological charcoals as archives for firewood preferences and vegetation composition during the late Holocene in the southern Mayumbe, Democratic Republic of the Congo (DRC). <i>Vegetation History and Archaeobotany</i> , 2013 , 23, 591	2.6	2
53	Potential of X-ray computed tomography for 3D anatomical analysis and microdensitometrical assessment in wood research with focus on wood modification. <i>International Wood Products Journal</i> , 2013 , 4, 183-190	0.9	15
52	Complementary Imaging Techniques for Charcoal Examination and Identification. <i>IAWA Journal</i> , 2013 , 34, 147-168	2.3	13
51	Charcoal identification in species-rich biomes: A protocol for Central Africa optimised for the Mayumbe forest. <i>Review of Palaeobotany and Palynology</i> , 2012 , 171, 164-178	1.7	27
50	Hierarchical structure of juvenile hybrid aspen xylem revealed using X-ray scattering and microtomography. <i>Trees - Structure and Function</i> , 2012 , 26, 1793-1804	2.6	11
49	A colour assessment methodology for oak wood. <i>Annals of Forest Science</i> , 2012 , 69, 939-946	3.1	3
48	X-RAY SUB-MICRON TOMOGRAPHY AS A TOOL FOR THE STUDY OF ARCHAEOLOGICAL WOOD PRESERVED THROUGH THE CORROSION OF METAL OBJECTS. <i>Archaeometry</i> , 2012 , 54, 893-905	1.6	27
47	Fluctuations of cambial activity in relation to precipitation result in annual rings and intra-annual growth zones of xylem and phloem in teak (<i>Tectona grandis</i>) in Ivory Coast. <i>Annals of Botany</i> , 2012 , 110, 861-73	4.1	50
46	Forest structure and soil fertility determine internal stem morphology of Pedunculate oak: a modelling approach using boosted regression trees. <i>European Journal of Forest Research</i> , 2012 , 131, 609-622	2.7	14
45	Envelope treatment of wood based materials with concentrated organosilicons. <i>European Journal of Wood and Wood Products</i> , 2011 , 69, 397-406	2.1	4
44	Moisture dynamics and fungal susceptibility of plywood. <i>International Biodeterioration and Biodegradation</i> , 2011 , 65, 708-716	4.8	28
43	High-resolution proxies for wood density variations in Terminalia superba. <i>Annals of Botany</i> , 2011 , 107, 293-302	4.1	39
42	Species-Specific Growth Responses to Climate Variations in Understory Trees of a Central African Rain Forest. <i>Biotropica</i> , 2010 , 42, 503-511	2.3	38
41	Investigation on wax-impregnated wood. Part 2: Study of void spaces filled with air by He pycnometry, Hg intrusion porosimetry, and 3D X-ray imaging. <i>Holzforschung</i> , 2010 , 64,	2	14
40	Investigation on wax-impregnated wood. Part 1: Microscopic observations and 2D X-ray imaging of distinct wax types. <i>Holzforschung</i> , 2010 , 64,	2	14
39	Impact of organosilicon treatments on the wood-water relationship of solid wood. <i>Holzforschung</i> , 2010 , 64,	2	24
38	Assessment of the tensile properties of coir, bamboo and jute fibre. <i>Composites Part A: Applied Science and Manufacturing</i> , 2010 , 41, 588-595	8.4	183

37	The potential of plantations of <i>Terminalia superba</i> Engl. & Diels for wood and biomass production (Mayombe Forest, Democratic Republic of Congo). <i>Annals of Forest Science</i> , 2010 , 67, 501-501	3.1	3
36	Characterisation of steroids in wooden crates of veal calves by accelerated solvent extraction (ASE) and ultra-high performance liquid chromatography coupled to triple quadrupole mass spectrometry (U-HPLC-QqQ-MS-MS). <i>Analytical and Bioanalytical Chemistry</i> , 2010 , 397, 345-355	4.4	9
35	High-resolution X-ray imaging and analysis of coatings on and in wood 2010 , 7, 271-277		15
34	Toxic hazard of leachates from furfurylated wood: comparison between two different aquatic organisms. <i>Environmental Toxicology and Chemistry</i> , 2010 , 29, 1067-71	3.8	23
33	Moisture dynamics of WPC and the impact on fungal testing. <i>International Biodeterioration and Biodegradation</i> , 2010 , 64, 65-72	4.8	28
32	Combined evaluation of durability and ecotoxicity: A case study on furfurylated wood. <i>Wood Material Science and Engineering</i> , 2009 , 4, 30-36	1.9	8
31	Fungal decay resistance and durability of organosilicon-treated wood. <i>International Biodeterioration and Biodegradation</i> , 2009 , 63, 130-134	4.8	32
30	Preventive action of organosilicon treatments against disfigurement of wood under laboratory and outdoor conditions. <i>International Biodeterioration and Biodegradation</i> , 2009 , 63, 1093-1101	4.8	12
29	An experimental set-up for real-time continuous moisture measurements of plywood exposed to outdoor climate. <i>Building and Environment</i> , 2009 , 44, 2368-2377	6.5	35
28	Potential contribution of organosilicon compounds to reduced leaching of biocides in wood protection. <i>Annals of Forest Science</i> , 2009 , 66, 209-209	3.1	13
27	X-ray tomography as a tool for detailed anatomical analysis. <i>Annals of Forest Science</i> , 2009 , 66, 508-508	3.1	48
26	Three-dimensional x-ray imaging and analysis of fungi on and in wood. <i>Microscopy and Microanalysis</i> , 2009 , 15, 395-402	0.5	42
25	Experimental and theoretical behavior of exterior wood coatings subjected to artificial weathering 2008 , 5, 221-231		23
24	Three-dimensional imaging and analysis of infested coated wood with X-ray submicron CT. <i>International Biodeterioration and Biodegradation</i> , 2008 , 61, 278-286	4.8	33
23	Methodology to assess both the efficacy and ecotoxicology of preservative-treated and modified wood. <i>Annals of Forest Science</i> , 2008 , 65, 504-504	3.1	18
22	Physicochemical monitoring of wood coating degradation related to fungal disfigurement. <i>International Biodeterioration and Biodegradation</i> , 2007 , 59, 125-136	4.8	2
21	Laboratory testing and computer simulation of blue stain growth on and in wood coatings. <i>International Biodeterioration and Biodegradation</i> , 2007 , 59, 137-147	4.8	5
20	Modelling film formation and degradation of semi-transparent exterior wood coatings. <i>Progress in Organic Coatings</i> , 2007 , 58, 1-12	4.8	4

19	Composition, distribution and supposed origin of mineral inclusions in sessile oak wood □ consequences for microdensitometrical analysis. <i>Annals of Forest Science</i> , 2007 , 64, 11-19	3.1	11
18	End-use related physical and mechanical properties of selected fast-growing poplar hybrids (<i>Populus trichocarpa</i> P. <i>deltoides</i>). <i>Annals of Forest Science</i> , 2007 , 64, 621-630	3.1	19
17	Strength properties of thermally modified softwoods and its relation to polymeric structural wood constituents. <i>Annals of Forest Science</i> , 2007 , 64, 679-690	3.1	166
16	Optimisation of a two-stage heat treatment process: durability aspects. <i>Wood Science and Technology</i> , 2007 , 41, 31-57	2.5	107
15	Effect of a two-stage heat treatment process on the mechanical properties of full construction timber. <i>Wood Material Science and Engineering</i> , 2007 , 2, 138-146	1.9	15
14	Variability in fibre and parenchyma cell walls of temperate and tropical bamboo culms of different ages. <i>Wood Science and Technology</i> , 2006 , 40, 477-492	2.5	20
13	Detection and distribution analysis of organosilicon compounds in wood by means of SEM-EDX and micro-CT. <i>Materials Characterization</i> , 2006 , 56, 39-48	3.9	33
12	MICROSTRUCTURAL AND PHYSICAL ASPECTS OF HEAT TREATED WOOD: PART 2. HARDWOODS. <i>Maderas: Ciencia Y Tecnologia</i> , 2006 , 8, 209	1	33
11	Assessment of blue-stain resistance according to the EN 152 and a reverse test method using visual and computer-aided techniques. <i>International Biodeterioration and Biodegradation</i> , 2006 , 57, 229-238	4.8	11
10	Dendrochronology in suboptimal conditions: tree rings from medieval oak from Flanders (Belgium) as dating tools and archives of past forest management. <i>Vegetation History and Archaeobotany</i> , 2006 , 15, 137-144	2.6	26
9	Provenancing Baltic timber from art historical objects: success and limitations. <i>Journal of Archaeological Science</i> , 2005 , 32, 261-271	2.9	78
8	Image processing as a tool for assessment and analysis of blue stain discolouration of coated wood. <i>International Biodeterioration and Biodegradation</i> , 2005 , 56, 178-187	4.8	12
7	Biological durability of wood in relation to end-use. <i>European Journal of Wood and Wood Products</i> , 2003 , 61, 35-45	2.1	53
6	Biological durability of wood in relation to end-use Part 2: The use of an accelerated outdoor L-joint performance test. <i>European Journal of Wood and Wood Products</i> , 2003 , 61, 125-132	2.1	8
5	Quantitative measurement of the penetration of water-borne coatings in wood with confocal laser microscopy and image analysis. <i>European Journal of Wood and Wood Products</i> , 2003 , 61, 304-310	2.1	26
4	The Significance of Accelerated Laboratory Testing Methods Determining the Natural Durability of Wood. <i>Holzforschung</i> , 1999 , 53, 449-458	2	27
3	Understanding the impact of wood type and moisture on the bonding strength of glued wood. <i>Wood Material Science and Engineering</i> , 1-11	1.9	0
2	Une forte saisonnalité du climat et de la phéologie reproductive dans la forêt du Mayombe : l'apport des données historiques de la Réserve de Luki en République démocratique du Congo. <i>Bois Et Forets Des Tropiques</i> , 341, 39		3

1	Understanding the mechanical strength and dynamic structural changes of wood-based products using X-ray computed tomography. <i>Wood Material Science and Engineering</i> ,1-10	1.9	1
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