

Samuel L Zelinka

List of Publications by Year in descending order

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Version: 2024-02-01

60
papers

1,072
citations

361413

20
h-index

477307

29
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docs citations

61
times ranked

689
citing authors

#	ARTICLE	IF	CITATIONS
1	Short hold times in dynamic vapor sorption measurements mischaracterize the equilibrium moisture content of wood. <i>Wood Science and Technology</i> , 2017, 51, 243-260.	3.2	54
2	Quantifying and reducing errors in equilibrium moisture content measurements with dynamic vapor sorption (DVS) experiments. <i>Wood Science and Technology</i> , 2018, 52, 909-927.	3.2	50
3	Effects of Moisture on Diffusion in Unmodified Wood Cell Walls: A Phenomenological Polymer Science Approach. <i>Forests</i> , 2019, 10, 1084.	2.1	49
4	Review of Wood Modification and Wood Functionalization Technologies. <i>Forests</i> , 2022, 13, 1004.	2.1	47
5	Examination of water phase transitions in Loblolly pine and cell wall components by differential scanning calorimetry. <i>Thermochimica Acta</i> , 2012, 533, 39-45.	2.7	45
6	Kinetics of Water Vapor Sorption in Wood Cell Walls: State of the Art and Research Needs. <i>Forests</i> , 2019, 10, 704.	2.1	41
7	Not Just Lumber—Using Wood in the Sustainable Future of Materials, Chemicals, and Fuels. <i>Jom</i> , 2016, 68, 2395-2404.	1.9	40
8	A solution thermodynamics definition of the fiber saturation point and the derivation of a wood-water phase (state) diagram. <i>Wood Science and Technology</i> , 2016, 50, 443-462.	3.2	38
9	Threshold for ion movements in wood cell walls below fiber saturation observed by X-ray fluorescence microscopy (XFM). <i>Holzforschung</i> , 2015, 69, 441-448.	1.9	36
10	Corrosion Rates of Fasteners in Treated Wood Exposed to 100% Relative Humidity. <i>Journal of Materials in Civil Engineering</i> , 2009, 21, 758-763.	2.9	31
11	Plant-based torsional actuator with memory. <i>Smart Materials and Structures</i> , 2013, 22, 072001.	3.5	29
12	Acetylation increases relative humidity threshold for ion transport in wood cell walls—A means to understanding decay resistance. <i>International Biodeterioration and Biodegradation</i> , 2018, 133, 230-237.	3.9	29
13	Experimental investigation of the influence of temperature on thermal conductivity of multilayer reflective thermal insulation. <i>Energy and Buildings</i> , 2018, 174, 26-30.	6.7	29
14	Combining hygrothermal and corrosion models to predict corrosion of metal fasteners embedded in wood. <i>Building and Environment</i> , 2011, 46, 2060-2068.	6.9	28
15	Myth versus reality: Do parabolic sorption isotherm models reflect actual wood-water thermodynamics?. <i>Wood Science and Technology</i> , 2018, 52, 1701-1706.	3.2	28
16	Corrosion of metals in wood: Comparing the results of a rapid test method with long-term exposure tests across six wood treatments. <i>Corrosion Science</i> , 2011, 53, 1708-1714.	6.6	26
17	Exposure testing of fasteners in preservative treated wood: Gravimetric corrosion rates and corrosion product analyses. <i>Corrosion Science</i> , 2010, 52, 3943-3948.	6.6	23
18	Structure Moisture Monitoring of an 8-Story Mass Timber Building in the Pacific Northwest. <i>Journal of Architectural Engineering</i> , 2019, 25, .	1.6	23

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19	Small scale tests on the performance of adhesives used in cross laminated timber (CLT) at elevated temperatures. <i>International Journal of Adhesion and Adhesives</i> , 2019, 95, 102436.	2.9	22
20	Impedance spectroscopy and circuit modeling of Southern pine above 20% moisture content. <i>Holzforschung</i> , 2008, 62, 737-744.	1.9	21
21	Electrochemical corrosion testing of fasteners in extracts of treated wood. <i>Corrosion Science</i> , 2008, 50, 1251-1257.	6.6	20
22	Effect of weight percent gain and experimental method on fiber saturation point of acetylated wood determined by differential scanning calorimetry. <i>Wood Science and Technology</i> , 2017, 51, 1291-1305.	3.2	20
23	The parallel exponential kinetics model is unfit to characterize moisture sorption kinetics in cellulosic materials. <i>Cellulose</i> , 2019, 26, 723-735.	4.9	20
24	Effects of Wood Moisture Content and the Level of Acetylation on Brown Rot Decay. <i>Forests</i> , 2020, 11, 299.	2.1	20
25	Common sorption isotherm models are not physically valid for water in wood. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2021, 627, 127214.	4.7	20
26	Hygrothermal characterization and modeling of cross-laminated timber in the building envelope. <i>Building and Environment</i> , 2020, 177, 106866.	6.9	19
27	Force-displacement measurements of earlywood bordered pits using a mesomechanical tester. <i>Plant, Cell and Environment</i> , 2015, 38, 2088-2097.	5.7	18
28	Measurement of moisture-dependent ion diffusion constants in wood cell wall layers using time-lapse micro X-ray fluorescence microscopy. <i>Scientific Reports</i> , 2020, 10, 9919.	3.3	18
29	The effect of moisture content on the corrosion of fasteners embedded in wood subjected to alkaline copper quaternary treatment. <i>Corrosion Science</i> , 2014, 83, 67-74.	6.6	14
30	Durability and Fire Performance of Charred Wood Siding (Shou Sugi Ban). <i>Forests</i> , 2021, 12, 1262.	2.1	14
31	Evaluation of previous measurements of water vapor sorption in wood at multiple temperatures. <i>Wood Science and Technology</i> , 2020, 54, 769-786.	3.2	13
32	Direct current testing to measure corrosiveness of wood preservatives. <i>Corrosion Science</i> , 2007, 49, 1673-1685.	6.6	12
33	Moisture storage and transport properties of preservative treated and untreated southern pine wood. <i>Wood Material Science and Engineering</i> , 2016, 11, 228-238.	2.3	12
34	Modeling the Effect of Nail Corrosion on the Lateral Strength of Joints. <i>Forest Products Journal</i> , 2012, 62, 160-166.	0.4	11
35	Electrical properties of wood colonized by <i>Gloeophyllum trabeum</i> . <i>International Biodeterioration and Biodegradation</i> , 2016, 114, 110-115.	3.9	9
36	Oxidation states of iron and manganese in lignocellulose altered by the brown rot fungus <i>Gloeophyllum trabeum</i> measured in-situ using X-ray absorption near edge spectroscopy (XANES). <i>International Biodeterioration and Biodegradation</i> , 2021, 158, 105162.	3.9	9

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37	Water Vapor Sorption Isotherms for Southern Pine Treated with Several Waterborne Preservatives. <i>Journal of Testing and Evaluation</i> , 2010, 38, 521-525.	0.7	9
38	Comparison of the corrosion of fasteners embedded in wood measured in outdoor exposure with the predictions from a combined hygrothermal-corrosion model. <i>Corrosion Science</i> , 2016, 102, 178-185.	6.6	8
39	Improvements to Water Vapor Transmission and Capillary Absorption Measurements in Porous Materials. <i>Journal of Testing and Evaluation</i> , 2016, 44, 2396-2402.	0.7	8
40	Anatomically informed mesoscale electrical impedance spectroscopy in southern pine and the electric field distribution for pin-type electric moisture metres. <i>Wood Material Science and Engineering</i> , 2015, 10, 189-196.	2.3	7
41	A Small-Scale Test to Examine Heat Delamination in Cross Laminated Timber (CLT). <i>Forests</i> , 2021, 12, 232.	2.1	7
42	[Technical Note] Thermal Insulation System Made of Wood and Paper for Use in Residential Construction. <i>Forest Products Journal</i> , 2015, 65, 352-357.	0.4	7
43	Fungal-copper interactions in wood examined with large field of view synchrotron-based X-ray fluorescence microscopy. <i>Wood Material Science and Engineering</i> , 2019, 14, 174-184.	2.3	6
44	Copper distribution and oxidation states near corroded fasteners in treated wood. <i>SN Applied Sciences</i> , 2019, 1, 1.	2.9	6
45	The Effect of Acetylation on Iron Uptake and Diffusion in Water Saturated Wood Cell Walls and Implications for Decay. <i>Forests</i> , 2020, 11, 1121.	2.1	6
46	Corrosiveness of Thermally Modified Wood. <i>Forests</i> , 2020, 11, 50.	2.1	6
47	Artifacts in electrical measurements on wood caused by non-uniform moisture distributions. <i>Holzforschung</i> , 2021, 75, 517-525.	1.9	6
48	Relative humidity versus moisture content relationship for several commercial wood species and its potential effect on flame spread. <i>Fire and Materials</i> , 2019, 43, 365-372.	2.0	5
49	Corrosion of metal fasteners embedded in acetylated and untreated wood at different moisture contents. <i>Wood Material Science and Engineering</i> , 2020, 15, 182-189.	2.3	5
50	APPARATUS FOR GRAVIMETRIC MEASUREMENT OF MOISTURE SORPTION ISOTHERMS FOR 1-100 g SAMPLES IN PARALLEL. <i>Wood and Fiber Science</i> , 2018, 50, 244-253.	0.6	5
51	Exponential decay analysis: a flexible, robust, data-driven methodology for analyzing sorption kinetic data. <i>Cellulose</i> , 2021, 28, 153-174.	4.9	4
52	Preserving ancient artifacts for the next millennia. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 17700-17701.	7.1	3
53	Wood as inspiration for new stimuli-responsive structures and materials. , 2014, , .		3
54	Role of transport in wood damage mechanisms – WSE 2017 keynote lecture. <i>International Wood Products Journal</i> , 2018, 9, 50-57.	1.1	2

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55	Oxidation states of copper in preservative treated wood as studied by X-ray absorption near edge spectroscopy (XANES). PLoS ONE, 2022, 17, e0263073.	2.5	2
56	Comparing the Methodologies in ASTM G198 Using Combined Hygrothermal-Corrosion Modeling. Corrosion, 2014, 70, 206-213.	1.1	1
57	Moisture Redistribution in Full-Scale Wood-Frame Wall Assemblies: Measurements and Engineering Approximation. Buildings, 2020, 10, 141.	3.1	1
58	Long-Term Moisture Monitoring Results of an Eight-Story Mass Timber Building in the Pacific Northwest. Journal of Architectural Engineering, 2021, 27, 06021002.	1.6	1
59	Minimizing Corrosive Action in Timber Bridges Treated with Waterborne Preservatives. , 2007, , .		0
60	Moisture Monitoring of a CLT Structure in a Southern Climate. Journal of Architectural Engineering, 2022, 28, .	1.6	0