Barry Goodell

List of Publications by Year
in descending order

79 papers	4,469 citations	159358 30 h-index	106150 65 g-index
82 all docs	82 docs citations	82 times ranked	4060 citing authors

#	Article	IF	Citations
1	The Plant Cell Wallâ€"Decomposing Machinery Underlies the Functional Diversity of Forest Fungi. Science, 2011, 333, 762-765.	6.0	512
2	Lignocellulose degradation mechanisms across the Tree of Life. Current Opinion in Chemical Biology, 2015, 29, 108-119.	2.8	478
3	Low molecular weight chelators and phenolic compounds isolated from wood decay fungi and their role in the fungal biodegradation of wood1This is paper 2084 of the Maine Agricultural and Forest Experiment Station.1. Journal of Biotechnology, 1997, 53, 133-162.	1.9	380
4	Peculiarities of brown-rot fungi and biochemical Fenton reaction with regard to their potential as a model for bioprocessing biomass. Applied Microbiology and Biotechnology, 2012, 94, 323-338.	1.7	280
5	Lignin demethylation and polysaccharide decomposition in spruce sapwood degraded by brown rot fungi. Organic Geochemistry, 2002, 33, 111-124.	0.9	238
6	Mechanisms of wood degradation by brown-rot fungi: chelator-mediated cellulose degradation and binding of iron by cellulose. Journal of Biotechnology, 2001, 87, 43-57.	1.9	161
7	Lignocellulosic polysaccharides and lignin degradation by wood decay fungi: the relevance of nonenzymatic Fenton-based reactions. Journal of Industrial Microbiology and Biotechnology, 2011, 38, 541-555.	1.4	155
8	De Novo Synthesis of 4,5-Dimethoxycatechol and 2,5-Dimethoxyhydroquinone by the Brown Rot Fungus <i>Gloeophyllum trabeum</i>. Applied and Environmental Microbiology, 1999, 65, 674-679.	1.4	150
9	Current Understanding of Brown-Rot Fungal Biodegradation Mechanisms: A Review. ACS Symposium Series, 2014, , 3-21.	0.5	119
10	The role of cations in the biodegradation of wood by the brown rot fungi. International Biodeterioration and Biodegradation, 1997, 39, 165-179.	1.9	107
11	Brown-Rot Fungal Degradation of Wood: Our Evolving View. ACS Symposium Series, 2003, , 97-118.	0.5	105
12	A Lytic Polysaccharide Monooxygenase with Broad Xyloglucan Specificity from the Brown-Rot Fungus Gloeophyllum trabeum and Its Action on Cellulose-Xyloglucan Complexes. Applied and Environmental Microbiology, 2016, 82, 6557-6572.	1.4	97
13	Enhancement of protocatechuate decarboxylase activity for the effective production of muconate from lignin-related aromatic compounds. Journal of Biotechnology, 2014, 192, 71-77.	1.9	86
14	Fungal Degradation of Wood: Emerging Data, New Insights and Changing Perceptions. Coatings, 2020, 10, 1210.	1.2	86
15	Modification of the nanostructure of lignocellulose cell walls via a non-enzymatic lignocellulose deconstruction system in brown rot wood-decay fungi. Biotechnology for Biofuels, 2017, 10, 179.	6.2	83
16	Characterization of carbons derived from cellulose and lignin and their oxidative behavior. Bioresource Technology, 2009, 100, 1797-1802.	4.8	78
17	Second generation biorefining in Ecuador: Circular bioeconomy, zero waste technology, environment and sustainable development: The nexus. Journal of Bioresources and Bioproducts, 2021, 6, 83-107.	11.8	69
18	Temporal changes in wood crystalline cellulose during degradation by brown rot fungi. International Biodeterioration and Biodegradation, 2009, 63, 414-419.	1.9	68

#	Article	IF	Citations
19	Effect of pH and oxalic acid on the reduction of Fe3+ by a biomimetic chelator and on Fe3+ desorption/adsorption onto wood: Implications for brown-rot decay. International Biodeterioration and Biodegradation, 2009, 63, 478-483.	1.9	65
20	The isolation and immunolocalization of iron-binding compounds produced by Gloeophyllum trabeum. Applied Microbiology and Biotechnology, 1991, 35, 805.	1.7	59
21	Bioremediation and decay of wood treated with ACQ, micronized ACQ, nano-CuO and CCA wood preservatives. International Biodeterioration and Biodegradation, 2015, 99, 95-101.	1.9	55
22	Iron-reducing capacity of low-molecular-weight compounds produced in wood by fungi. Holzforschung, 2006, 60, 630-636.	0.9	53
23	Carbon Nanotubes Produced from Natural Cellulosic Materials. Journal of Nanoscience and Nanotechnology, 2008, 8, 2472-2474.	0.9	50
24	Use of NIR and pyrolysis-MBMS coupled with multivariate analysis for detecting the chemical changes associated with brown-rot biodegradation of spruce wood. FEMS Microbiology Letters, 2002, 209, 107-111.	0.7	47
25	Bond durability characterization of preservative treated wood and E-glass/phenolic composite interfaces. Composites Science and Technology, 2003, 63, 979-991.	3.8	43
26	Electrochemical Study of 2,3-Dihydroxybenzoic Acid and Its Interaction with Cu(II) and H2O2in Aqueous Solutions:Â Implications for Wood Decay. Environmental Science & Technology, 2005, 39, 175-180.	4.6	38
27	Synchrotron-based X-ray fluorescence microscopy enables multiscale spatial visualization of ions involved in fungal lignocellulose deconstruction. Scientific Reports, 2017, 7, 41798.	1.6	38
28	The effect of low molecular weight chelators on iron chelation and free radical generation as studied by ESR measurement. Chemosphere, 2002, 48, 21-28.	4.2	33
29	Glass-transition temperature based on dynamic mechanical thermal analysis techniques as an indicator of the adhesive performance of vinyl ester resin. Journal of Applied Polymer Science, 2005, 97, 2221-2229.	1.3	33
30	Iron sequestration in brown-rot fungi by oxalate and the production of reactive oxygen species (ROS). International Biodeterioration and Biodegradation, 2016, 109, 185-190.	1.9	32
31	Palaeo-adaptive Properties of the Xylem of Metasequoia: Mechanical/Hydraulic Compromises. Annals of Botany, 2003, 92, 79-88.	1.4	31
32	Differences in crystalline cellulose modification due to degradation by brown and white rot fungi. Fungal Biology, 2012, 116, 1052-1063.	1.1	30
33	Engineered Microbial Production of 2-Pyrone-4,6-Dicarboxylic Acid from Lignin Residues for Use as an Industrial Platform Chemical. BioResources, 2016, 11, .	0.5	30
34	Nanostructural Analysis of Enzymatic and Non-enzymatic Brown Rot Fungal Deconstruction of the Lignocellulose Cell Wallâ€. Frontiers in Microbiology, 2020, 11, 1389.	1.5	30
35	Repair of Wood Piles Using Prefabricated Fiber-Reinforced Polymer Composite Shells. Journal of Performance of Constructed Facilities, 2005, 19, 78-87.	1.0	27
36	Effects of hot water extraction and fungal decay on wood crystalline cellulose structure. Cellulose, 2011, 18, 1179-1190.	2.4	26

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37	Monitoring fungal degradation of E-glass/phenolic fiber reinforced polymer (FRP) composites used in wood reinforcement. International Biodeterioration and Biodegradation, 2003, 51, 157-165.	1.9	24
38	Biomimetic oxidative treatment of spruce wood studied by pyrolysisâ€“molecular beam mass spectrometry coupled with multivariate analysis and 13C-labeled tetramethylammonium hydroxide thermochemolysis: implications for fungal degradation of wood. Journal of Biological Inorganic Chemistry, 2009, 14, 1253-1263.	1.1	24
39	Multiple iron reduction by methoxylated phenolic lignin structures and the generation of reactive oxygen species by lignocellulose surfaces. International Journal of Biological Macromolecules, 2019, 128, 340-346.	3.6	24
40	Oxidation of 2-keto-4-thiomethylbutyric acid (KTBA) by iron-binding compounds produced by the wood-decaying fungusGloeophyllum trabeum. FEMS Microbiology Letters, 1992, 90, 263-266.	0.7	22
41	A new approach for the study of the chemical composition of bordered pit membranes: 4Pi and confocal laser scanning microscopy. American Journal of Botany, 2013, 100, 1751-1756.	0.8	22
42	Use of monoclonal antibodies to detect Mn(II)-peroxidase in birch wood degraded by Phanerochaete chrysosporium. Applied Microbiology and Biotechnology, 1991, 35, 674-680.	1.7	21
43	Decolorization and Degradation of Dyes with Mediated Fenton Reaction. Water Environment Research, 2004, 76, 2703-2707.	1.3	21
44	Significance of the heating rate on the physical properties of carbonized maple wood. Holzforschung, 2008, 62, 591-596.	0.9	21
45	Furfurylated wood: impact on <i>Postia placenta</i> gene expression and oxalate crystal formation. Holzforschung, 2016, 70, 947-962.	0.9	20
46	Laccase Immunolabelling and Microanalytical Analysis of Wood Degraded by<i>Lentinus edodes</i>. Holzforschung, 1998, 52, 345-350.	0.9	19
47	Immuno-Electron Microscopic Localization of Extracellular Metabolites in Spruce Wood Decayed by Brown-Rot Fungus<i>Postia placenta</i>. Holzforschung, 1991, 45, 389-393.	0.9	18
48	Degradation of wood veneers by Fenton's reagents: Effects of wood constituents and low molecular weight phenolic compounds on hydrogen peroxide decomposition and wood tensile strength loss. Holzforschung, 2010, 64, .	0.9	18
49	Non-enzymatic modification of the crystalline structure and chemistry of Masson pine in brown-rot decay. Carbohydrate Polymers, 2022, 286, 119242.	5.1	18
50	Lignocellulose oxidation by low molecular weight metal-binding compounds isolated from wood degrading fungi: A comparison of brown rot and white rot systems and the potential application of chelator-mediated fenton reactions* *This is paper 2519 of the Maine Agricultural and Forest Experiment Station. We thank the Wood Utilization Research program at the University of Maine for support of this work. We also appreciate the assistance of Mr. Duan Hui and Ms. Jing Bian in the laboratory.. Progress in Biotechnology, 2002, 21, 37-47.	0.2	17
51	Fungal variegatic acid and extracellular polysaccharides promote the site-specific generation of reactive oxygen species. Journal of Industrial Microbiology and Biotechnology, 2017, 44, 329-338.	1.4	16
52	Transcriptome analysis of the brown rot fungus Gloeophyllum trabeum during lignocellulose degradation. PLoS ONE, 2020, 15, e0243984.	1.1	14
53	Assessment of Wood Pile Deterioration due to Marine Organisms. Journal of Waterway, Port, Coastal and Ocean Engineering, 2004, 130, 70-76.	0.5	13
54	Enzymatic biocatalysis of bamboo chemical constituents to impart antimold properties. Wood Science and Technology, 2018, 52, 619-635.	1.4	13

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55	15 Fungi Involved in the Biodeterioration and Bioconversion of Lignocellulose Substrates. , 2020, , 369-397.		12
56	The Effect of Hydroxyl Radical Generation on Free-Radical Activation of TMP Fibers. Journal of Polymers and the Environment, 2004, 12, 147-155.	2.4	11
57	Thermal Degradation and Conversion of Plant Biomass into High Value Carbon Products. ACS Symposium Series, 2014, , 147-158.	0.5	11
58	Challenges and opportunities in mimicking non-enzymatic brown-rot decay mechanisms for pretreatment of Norway spruce. Wood Science and Technology, 2019, 53, 291-311.	1.4	11
59	Chelator-mediated biomimetic degradation of cellulose and chitin. International Journal of Biological Macromolecules, 2020, 153, 433-440.	3.6	11
60	Deinking of laser printed copy paper with a mediated free radical system. Bioresource Technology, 2005, 96, 913-920.	4.8	10
61	Carbonization of wood and nanostructures formed from the cell wall. International Biodeterioration and Biodegradation, 2009, 63, 933-935.	1.9	10
62	THE EFFECT OF A CHELATOR MEDIATED FENTON SYSTEM ON THE FIBER AND PAPER PROPERTIES OF HARDWOOD KRAFT PULP*. Journal of Wood Chemistry and Technology, 2002, 22, 267-284.	0.9	9
63	A novel approach to recycle bacterial culture waste for fermentation reuse via a microbial fuel cell-membrane bioreactor system. Bioprocess and Biosystems Engineering, 2015, 38, 1795-1802.	1.7	9
64	Oxidation states of iron and manganese in lignocellulose altered by the brown rot fungus Gloeophyllum trabeum measured in-situ using X-ray absorption near edge spectroscopy (XANES). International Biodeterioration and Biodegradation, 2021, 158, 105162.	1.9	9
65	How Do Shipworms Eat Wood? Screening Shipworm Gill Symbiont Genomes for Lignin-Modifying Enzymes. Frontiers in Microbiology, 2021, 12, 665001.	1.5	9
66	Chemiluminescence of the Fenton reaction and a dihydroxybenzene-driven Fenton reaction. Inorganica Chimica Acta, 2011, 374, 643-646.	1.2	8
67	Investigating oxalate biosynthesis in the wood-decaying fungus Gloeophyllum trabeum using ¹³C metabolic flux analysis. RSC Advances, 2015, 5, 104043-104047.	1.7	8
68	Electron microprobe imaging for the characterization of polymer matrix composites. Composites Part A: Applied Science and Manufacturing, 2004, 35, 1075-1080.	3.8	6
69	Enzymatic activity of cell-free extracts from <i>Burkholderia oxyphila</i> OX-01 bio-converts (+)-catechin and (â˜)-epicatechin to (+)-taxifolin. Bioscience, Biotechnology and Biochemistry, 2016, 80, 2473-2479.	0.6	5
70	Antioxidants and iron chelators inhibit oxygen radical generation in fungal cultures of plant pathogenic fungi. Fungal Biology, 2022, , .	1.1	4
71	Investigation of Nanofibrillated Cellulose for Hydrophobic Packaging Material: Examining Alternatives to Solvent Exchange and Lyophilization. BioResources, 2017, 12, .	0.5	3
72	A Note on Reinforcement of Polymer Matrix Composites Using Carbon Residues Derived From Woody Biomass. Journal of Composite Materials, 2010, 44, 1883-1892.	1.2	2

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73	Oxygen Radical-Generating Metabolites Secreted by Eutypa and Esca Fungal Consortia: Understanding the Mechanisms Behind Grapevine Wood Deterioration and Pathogenesis. Frontiers in Plant Science, 0, 13, .	1.7	2
74	Towards an Understanding of Cellulose Microfibril Dimensions from TEMPO-Oxidized Pulp Fiber. ACS Symposium Series, 2017, , 55-73.	0.5	1
75	Simulating Chloropicrin Distribution in Wood Poles. Holzforschung, 1995, 49, 491-497.	0.9	0
76	Experimental Characterization and Computational Analysis of Mode I Fracture Toughness of a Nano-Cellulose Z-Pin Reinforced Carbon Fiber Laminate. , 2016, , .		0
77	Effect of Abamectin on Fungal Growth and Its Efficacy as a Miticide in the Laboratory. Phytopathology, 2021, 111, 1091-1094.	1.1	0
78	Late-Holocene Treeline Shifts in the Northwestern Uinta Mountains, Northeastern Utah. Western North American Naturalist, 2020, 80, .	0.2	0
79	Impact of Norway Spruce Pre-Degradation Stages Induced by G. Trabeum on Fungal and Bacterial Communities. SSRN Electronic Journal, 0, , .	0.4	0