Stephen R Decker

List of Publications by Citations

110 papers	4,870 citations	40 h-index	67 g-index
112 ext. papers	5,409 ext. citations	6.1 avg, IF	5.23 L-index

#	Paper	IF	Citations
110	Visualizing lignin coalescence and migration through maize cell walls following thermochemical pretreatment. *Biotechnology and Bioengineering*, **2008**, 101, 913-25	4.9	528
109	Deposition of lignin droplets produced during dilute acid pretreatment of maize stems retards enzymatic hydrolysis of cellulose. *Biotechnology Progress*, **2007**, 23, 1333-9	2.8	341
108	Synergistic enhancement of cellobiohydrolase performance on pretreated corn stover by addition of xylanase and esterase activities. *Bioresource Technology*, **2008**, 99, 4997-5005	11	202
107	In planta expression of A. cellulolyticus Cel5A endocellulase reduces cell wall recalcitrance in tobacco and maize. *Biotechnology for Biofuels*, **2011**, 4, 1	7.8	163
106	Antisense down-regulation of 4CL expression alters lignification, tree growth, and saccharification potential of field-grown poplar. *Plant Physiology*, **2010**, 154, 874-86	6.6	160
105	Expression of industrially relevant laccases: prokaryotic style. *Trends in Biotechnology*, **2011**, 29, 480-9	15.1	141
104	Fungal cellulases and complexed cellulosomal enzymes exhibit synergistic mechanisms in cellulose deconstruction. *Energy and Environmental Science*, **2013**, 6, 1858	35.4	118
103	The impact of cell wall acetylation on corn stover hydrolysis by cellulolytic and xylanolytic enzymes. *Cellulose*, **2009**, 16, 711-722	5.5	117
102	Heterologous expression of glycosyl hydrolases in planta: a new departure for biofuels. *Trends in Biotechnology*, **2008**, 26, 413-24	15.1	108
101	Implications of cellobiohydrolase glycosylation for use in biomass conversion. *Biotechnology for Biofuels*, **2008**, 1, 10	7.8	106
100	The effect of lignin removal by alkaline peroxide pretreatment on the susceptibility of corn stover to purified cellulolytic and xylanolytic enzymes. *Applied Biochemistry and Biotechnology*, **2009**, 155, 397-406	3.2	101
99	Isolation and characterization of lignin-degrading bacteria from rainforest soils. *Biotechnology and Bioengineering*, **2013**, 110, 1616-26	4.9	100
98	Sugar release and growth of biofuel crops are improved by downregulation of pectin biosynthesis. *Nature Biotechnology*, **2018**, 36, 249-257	44.5	93
97	Predicting enzyme adsorption to lignin films by calculating enzyme surface hydrophobicity. *Journal of Biological Chemistry*, **2014**, 289, 20960-9	5.4	91
96	The O-glycosylated linker from the Trichoderma reesei Family 7 cellulase is a flexible, disordered protein. *Biophysical Journal*, **2010**, 99, 3773-81	2.9	89
95	Downregulation of GAUT12 in Populus deltoides by RNA silencing results in reduced recalcitrance, increased growth and reduced xylan and pectin in a woody biofuel feedstock. *Biotechnology for Biofuels*, **2015**, 8, 41	7.8	86
94	Multifunctional Cellulolytic Enzymes Outperform Processive Fungal Cellulases for Coproduction of Nanocellulose and Biofuels. *ACS Nano*, **2017**, 11, 3101-3109	16.7	84

93	Dramatic performance of Clostridium thermocellum explained by its wide range of cellulase modalities. *Science Advances*, **2016**, 2, e1501254	14.3	81
92	High-Throughput Screening Techniques for Biomass Conversion. *Bioenergy Research*, **2009**, 2, 179-192	3.1	79
91	ORIGINAL RESEARCH: Lignocellulose recalcitrance screening by integrated high-throughput hydrothermal pretreatment and enzymatic saccharification. *Industrial Biotechnology*, **2010**, 6, 104-111	1.3	73
90	Lignocellulose deconstruction in the biosphere. *Current Opinion in Chemical Biology*, **2017**, 41, 61-70	9.7	69
89	Extraction and characterization of native heteroxylans from delignified corn stover and aspen. *Cellulose*, **2009**, 16, 661-675	5.5	67
88	Automated filter paper assay for determination of cellulase activity. *Applied Biochemistry and Biotechnology*, **2003**, 105 -108, 689-703	3.2	66
87	Determination of lignin by size exclusion chromatography using multi angle laser light scattering. *Journal of Chromatography A*, **2006**, 1114, 102-10	4.5	65
86	High-yield secretion of multiple client proteins in Aspergillus. *Enzyme and Microbial Technology*, **2012**, 51, 100-6	3.8	63
85	New perspective on glycoside hydrolase binding to lignin from pretreated corn stover. *Biotechnology for Biofuels*, **2015**, 8, 214	7.8	57
84	Down-regulation of p-coumaroyl quinate/shikimate 3Rhydroxylase (C3RH) and cinnamate 4-hydroxylase (C4H) genes in the lignin biosynthetic pathway of Eucalyptus urophylla□E. grandis leads to improved sugar release. *Biotechnology for Biofuels*, **2015**, 8, 128	7.8	55
83	Distinct roles of N- and O-glycans in cellulase activity and stability. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 13667-13672	11.5	52
82	Identification and characterization of core cellulolytic enzymes from Talaromyces cellulolyticus (formerly Acremonium cellulolyticus) critical for hydrolysis of lignocellulosic biomass. *Biotechnology for Biofuels*, **2014**, 7, 151	7.8	52
81	Effect of mechanical disruption on the effectiveness of three reactors used for dilute acid pretreatment of corn stover Part 2: morphological and structural substrate analysis. *Biotechnology for Biofuels*, **2014**, 7, 47	7.8	48
80	Engineering enhanced cellobiohydrolase activity. *Nature Communications*, **2018**, 9, 1186	17.4	47
79	Cloning and expression of Trichoderma reesei cellobiohydrolase I in Pichia pastoris. *Biotechnology Progress*, **1999**, 15, 828-33	2.8	47
78	Characterization of lignin using multi-angle laser light scattering and atomic force microscopy. *Analytica Chimica Acta*, **2006**, 555, 250-258	6.6	46
77	Field Evaluation of Transgenic Switchgrass Plants Overexpressing PvMYB4 for Reduced Biomass Recalcitrance. *Bioenergy Research*, **2015**, 8, 910-921	3.1	44
76	Considering water availability and the effect of solute concentration on high solids saccharification of lignocellulosic biomass. *Biotechnology Progress*, **2012**, 28, 1478-90	2.8	44

75	Heterologous protein expression in Hypocrea jecorina: a historical perspective and new developments. *Biotechnology Advances*, **2015**, 33, 142-154	17.8	43
74	Engineering towards a complete heterologous cellulase secretome in Yarrowia lipolytica reveals its potential for consolidated bioprocessing. *Biotechnology for Biofuels*, **2014**, 7, 148	7.8	42
73	Heterologous expression of Aspergillus niger beta-D-xylosidase (XlnD): characterization on lignocellulosic substrates. *Applied Biochemistry and Biotechnology*, **2008**, 146, 57-68	3.2	42
72	Catalytically enhanced endocellulase cel5a from Acidothermus cellulolyticus. *Applied Biochemistry and Biotechnology*, **2005**, 121, 0129-0148	3.2	42
71	Identification and Molecular Characterization of the Switchgrass AP2/ERF Transcription Factor Superfamily, and Overexpression of PvERF001 for Improvement of Biomass Characteristics for Biofuel. *Frontiers in Bioengineering and Biotechnology*, **2015**, 3, 101	5.8	40
70	A thermodynamic investigation of the cellulose allomorphs: Cellulose(am), cellulose I(cr), cellulose II(cr), and cellulose III(cr). *Journal of Chemical Thermodynamics*, **2015**, 81, 184-226	2.9	39
69	Genetic Determinants for Enzymatic Digestion of Lignocellulosic Biomass Are Independent of Those for Lignin Abundance in a Maize Recombinant Inbred Population. *Plant Physiology*, **2014**, 165, 1475-1487	6.6	39
68	Rapid estimation of sugar release from winter wheat straw during bioethanol production using FTIR-photoacoustic spectroscopy. *Biotechnology for Biofuels*, **2015**, 8, 85	7.8	38
67	Transgenic switchgrass (Panicum virgatum L.) biomass is increased by overexpression of switchgrass sucrose synthase (PvSUS1). *Biotechnology Journal*, **2015**, 10, 552-63	5.6	36
66	Immobilization of fungal beta-glucosidase on silica gel and kaolin carriers. *Applied Biochemistry and Biotechnology*, **2008**, 146, 39-47	3.2	33
65	Construction of a starch-inducible homologous expression system to produce cellulolytic enzymes from Acremonium cellulolyticus. *Journal of Industrial Microbiology and Biotechnology*, **2013**, 40, 823-30	4.2	32
64	Xylan decomposition by Aspergillus clavatus endo-xylanase. *Protein Expression and Purification*, **2009**, 68, 65-71	2	29
63	In situ label-free imaging of hemicellulose in plant cell walls using stimulated Raman scattering microscopy. *Biotechnology for Biofuels*, **2016**, 9, 256	7.8	29
62	A constitutive expression system for glycosyl hydrolase family 7 cellobiohydrolases in Hypocrea jecorina. *Biotechnology for Biofuels*, **2015**, 8, 45	7.8	27
61	High throughput determination of glucan and xylan fractions in lignocelluloses. *Biotechnology Letters*, **2011**, 33, 961-7	3	27
60	A versatile 2A peptide-based bicistronic protein expressing platform for the industrial cellulase producing fungus,. *Biotechnology for Biofuels*, **2017**, 10, 34	7.8	26
59	Reducing the effect of variable starch levels in biomass recalcitrance screening. *Methods in Molecular Biology*, **2012**, 908, 181-95	1.4	26
58	Identification and Overexpression of a Knotted1-Like Transcription Factor in Switchgrass (Panicum virgatum L.) for Lignocellulosic Feedstock Improvement. *Frontiers in Plant Science*, **2016**, 7, 520	6.2	26

57	Nanomechanics of cellulose deformation reveal molecular defects that facilitate natural deconstruction. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 9825-9830	11.5	25
56	Enzymatic conversion of xylan residues from dilute acid-pretreated corn stover. *Applied Biochemistry and Biotechnology*, **2012**, 168, 421-33	3.2	24
55	Purification and characterization of an acetyl esterase from Aspergillus niger. *Applied Biochemistry and Biotechnology*, **1994**, 45-46, 383-93	3.2	23
54	A Novel Delivery System for the Root Symbiotic Fungus, Sebacina vermifera, and Consequent Biomass Enhancement of Low Lignin COMT Switchgrass Lines. *Bioenergy Research*, **2015**, 8, 922-933	3.1	22
53	High Throughput Screening Technologies in Biomass Characterization. *Frontiers in Energy Research*, **2018**, 6,	3.8	22
52	Efficient extraction of xylan from delignified corn stover using dimethyl sulfoxide. *3 Biotech*, **2013**, 3, 433-438	2.8	21
51	Exploration of cellulose surface-binding properties of acidothermus cellulolyticus Cel5A by site-specific mutagenesis. *Applied Biochemistry and Biotechnology*, **2002**, 98-100, 273-87	3.2	21
50	Impact of alg3 gene deletion on growth, development, pigment production, protein secretion, and functions of recombinant Trichoderma reesei cellobiohydrolases in Aspergillus niger. *Fungal Genetics and Biology*, **2013**, 61, 120-32	3.9	20
49	Working towards recalcitrance mechanisms: increased xylan and homogalacturonan production by overexpression of () causes increased recalcitrance and decreased growth in. *Biotechnology for Biofuels*, **2018**, 11, 9	7.8	19
48	Effect of single active-site cleft mutation on product specificity in a thermostable bacterial cellulase. *Applied Biochemistry and Biotechnology*, **2002**, 98-100, 383-94	3.2	19
47	Study of traits and recalcitrance reduction of field-grown down-regulated switchgrass. *Biotechnology for Biofuels*, **2017**, 10, 12	7.8	18
46	Thermodynamics of the hydrolysis reactions of 1,4-□d-xylobiose, 1,4-□d-xylotriose, d-cellobiose, and d-maltose. *Journal of Chemical Thermodynamics*, **2008**, 40, 1517-1526	2.9	18
45	Evaluation of high throughput screening methods in picking up differences between cultivars of lignocellulosic biomass for ethanol production. *Biomass and Bioenergy*, **2014**, 66, 261-267	5.3	17
44	Heterologous expression of two ferulic acid esterases from Penicillium funiculosum. *Applied Biochemistry and Biotechnology*, **2008**, 146, 79-87	3.2	17
43	Cellulose-inducible xylanase Xyl10A from Acremonium cellulolyticus: Purification, cloning and homologous expression. *Protein Expression and Purification*, **2014**, 94, 40-5	2	16
42	Downregulation of a UDP-Arabinomutase Gene in Switchgrass (L.) Results in Increased Cell Wall Lignin While Reducing Arabinose-Glycans. *Frontiers in Plant Science*, **2016**, 7, 1580	6.2	16
41	Catalyst transport in corn stover internodes: elucidating transport mechanisms using Direct Blue-I. *Applied Biochemistry and Biotechnology*, **2006**, 129-132, 509-27	3.2	15
40	Synthetic fungal multifunctional cellulases for enhanced biomass conversion. *Green Chemistry*, **2020**, 22, 478-489	10	15

39	Expression and secretion of fungal endoglucanase II and chimeric cellobiohydrolase I in the oleaginous yeast Lipomyces starkeyi. *Microbial Cell Factories*, **2017**, 16, 126	6.4	12
38	Heat and Mass Transport in Processing of Lignocellulosic Biomass for Fuels and Chemicals **2010**, 1-18		12
37	Predicting the ethanol potential of wheat straw using near-infrared spectroscopy and chemometrics: The challenge of inherently intercorrelated response functions. *Analytica Chimica Acta*, **2017**, 962, 15-23	6.6	11
36	Heterologous Expression of Trichoderma reesei 1,4-□D-Glucan Cellobiohydrolase (Cel 7A). *ACS Symposium Series*, **2003**, 403-437	0.4	11
35	Effect of aging on lignin content, composition and enzymatic saccharification in Corymbia hybrids and parental taxa between years 9 and 12. *Biomass and Bioenergy*, **2016**, 93, 50-59	5.3	11
34	A New Calmodulin-Binding Protein Expresses in the Context of Secondary Cell Wall Biosynthesis and Impacts Biomass Properties in. *Frontiers in Plant Science*, **2018**, 9, 1669	6.2	11
33	Catalytically enhanced endocellulase Cel5A from Acidothermus cellulolyticus. *Applied Biochemistry and Biotechnology*, **2005**, 121-124, 129-48	3.2	11
32	High-throughput Screening of Recalcitrance Variations in Lignocellulosic Biomass: Total Lignin, Lignin Monomers, and Enzymatic Sugar Release. *Journal of Visualized Experiments*, **2015**,	1.6	10
31	Biomass Conversion **2007**, 1449-1548		10
30	Biochemical and Structural Characterizations of Two Dictyostelium Cellobiohydrolases from the Amoebozoa Kingdom Reveal a High Level of Conservation between Distant Phylogenetic Trees of Life. *Applied and Environmental Microbiology*, **2016**, 82, 3395-409	4.8	10
29	Genetic variation of biomass recalcitrance in a natural (L.) population. *Biotechnology for Biofuels*, **2019**, 12, 135	7.8	9
28	Cell Wall Composition and Underlying QTL in an F1 Pseudo-Testcross Population of Switchgrass. *Bioenergy Research*, **2016**, 9, 836-850	3.1	9
27	High temperature pre-digestion of corn stover biomass for improved product yields. *Biotechnology for Biofuels*, **2014**, 7, 170	7.8	8
26	Glycoside Hydrolase Gene Cluster of Acidothermus cellulolyticus. *ACS Symposium Series*, **2003**, 332-360	0.4	8
25	Saturation molalities and standard molar enthalpies of solution of □d-xylose(cr) in H2O(l); standard molar enthalpies of solution of 1,4-□d-xylobiose(am), and 1,4-□d-xylotriose(am) in H2O(l). *Journal of Chemical Thermodynamics*, **2012**, 52, 2-10	2.9	7
24	The TcEG1 beetle () cellulase produced in transgenic switchgrass is active at alkaline pH and auto-hydrolyzes biomass for increased cellobiose release. *Biotechnology for Biofuels*, **2017**, 10, 230	7.8	5
23	Investigating the Role of Extensin Proteins in Poplar Biomass Recalcitrance. *BioResources*, **2016**, 11,	1.3	5
22	Ameliorating the Metabolic Burden of the Co-expression of Secreted Fungal Cellulases in a High Lipid-Accumulating Strain by Medium C/N Ratio and a Chemical Chaperone. *Frontiers in Microbiology*, **2018**, 9, 3276	5.7	5

21	Biomass Conversion **2017**, 285-419		4
20	A calorimetric and equilibrium investigation of the reaction {methyl ferulate(aq) + H2O(l) = methanol(aq) + ferulic acid(aq)}. *Journal of Chemical Thermodynamics*, **2011**, 43, 235-239	2.9	4
19	Enzymatic Depolymerization of Plant Cell Wall Hemicelluloses352-373		4
18	FUNGAL-INDUCED REDISTRIBUTION OF KRAFT LIGNIN MOLECULAR WEIGHT BY MULTI-ANGLE LASER LIGHT SCATTERING. *Chemical Engineering Communications*, **2006**, 193, 1546-1561	2.2	4
17	Cloning and Heterologous Expression of the Gene Encoding a Family 7 Glycosyl Hydrolase from Penicillium funiculosum. *ACS Symposium Series*, **2004**, 170-193	0.4	4
16	Hybridization of downregulated-COMT transgenic switchgrass lines with field-selected switchgrass for improved biomass traits. *Euphytica*, **2016**, 209, 341-355	2.1	3
15	Enzymes in Commercial Cellulase Preparations Bind Differently to Dioxane Extracted Lignins. *Current Biotechnology*, **2017**, 6, 128-138	0.6	3
14	Analysis of transgenic glycoside hydrolases expressed in plants: T. reesei CBH I and A. cellulolyticus EI. *Methods in Molecular Biology*, **2012**, 908, 197-211	1.4	3
13	Phylogenetics-based identification and characterization of a superior 2,3-butanediol dehydrogenase for Zymomonas mobilis expression. *Biotechnology for Biofuels*, **2020**, 13, 186	7.8	3
12	Biomass Conversion **2012**, 1249-1322		3
11	Challenges for assessing the performance of biomass degrading biocatalysts. *Methods in Molecular Biology*, **2012**, 908, 1-8	1.4	2
10	Thermodynamics of the hydrolysis reactions of 1-naphthyl acetate, 4-nitrophenyl acetate, and 4-nitrophenyl □-L-arabinofuranoside. *Journal of Physical Chemistry B*, **2010**, 114, 16060-7	3.4	2
9	Electrochemical oxidation of water by a cellobiose dehydrogenase from Phanerochaete chrysosporium. *Biotechnology Letters*, **2005**, 27, 555-60	3	2
8	Anaerobic microplate assay for direct microbial conversion of switchgrass and Avicel using Clostridium thermocellum. *Biotechnology Letters*, **2018**, 40, 303-308	3	2
7	Response to P.K. et al.: Bacterial laccases still have a case. *Trends in Biotechnology*, **2012**, 30, 362-363	15.1	1
6	Cellulases, Hemicellulases, and Pectinases596-610		1
5	Effect of Single Active-Site Cleft Mutation on Product Specificity in a Thermostable Bacterial Cellulase **2002**, 383-394		1
4	Introduction to session 2: enzyme catalysis and engineering. *Applied Biochemistry and Biotechnology* , **2008**, 146, 1-2	3.2	

3	Two Novel Alkalotolerant Dextranases from Streptomyces anulatus. *ACS Symposium Series*, **2000**, 222-235	3.4
2	Efficient Extraction of Xylan from Delignified Corn Stover Using Dimethyl Sulfide **2015**, 9-20	
1	Iron incorporation both intra- and extra-cellularly improves the yield and saccharification of switchgrass (Panicum virgatum L.) biomass. *Biotechnology for Biofuels*, **2021**, 14, 55	7.8