

# Mats Sandgren

## List of Publications by Citations

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89  
papers

3,776  
citations

32  
h-index

60  
g-index

95  
ext. papers

4,422  
ext. citations

7.4  
avg, IF

5.36  
L-index

#	Paper	IF	Citations
89	Fungal cellulases. <i>Chemical Reviews</i> , <b>2015</b> , 115, 1308-448	68.1	513
88	The putative endoglucanase PcGH61D from <i>Phanerochaete chrysosporium</i> is a metal-dependent oxidative enzyme that cleaves cellulose. <i>PLoS ONE</i> , <b>2011</b> , 6, e27807	3.7	205
87	Quantum mechanical calculations suggest that lytic polysaccharide monooxygenases use a copper-oxyl, oxygen-rebound mechanism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 149-54	11.5	179
86	The first structure of a glycoside hydrolase family 61 member, Cel61B from <i>Hypocrea jecorina</i> , at 1.6 Å resolution. <i>Journal of Molecular Biology</i> , <b>2008</b> , 383, 144-54	6.5	175
85	The mechanism of cellulose hydrolysis by a two-step, retaining cellobiohydrolase elucidated by structural and transition path sampling studies. <i>Journal of the American Chemical Society</i> , <b>2014</b> , 136, 3211-9	16.4	134
84	Structural and Functional Characterization of a Lytic Polysaccharide Monooxygenase with Broad Substrate Specificity. <i>Journal of Biological Chemistry</i> , <b>2015</b> , 290, 22955-69	5.4	131
83	Crystal structure and computational characterization of the lytic polysaccharide monooxygenase GH61D from the Basidiomycota fungus <i>Phanerochaete chrysosporium</i> . <i>Journal of Biological Chemistry</i> , <b>2013</b> , 288, 12828-39	5.4	131
82	Glycosylated linkers in multimodular lignocellulose-degrading enzymes dynamically bind to cellulose. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 14646-51	11.5	131
81	The X-ray crystal structure of the <i>Trichoderma reesei</i> family 12 endoglucanase 3, Cel12A, at 1.9 Å resolution. <i>Journal of Molecular Biology</i> , <b>2001</b> , 308, 295-310	6.5	111
80	Improved bio-energy yields via sequential ethanol fermentation and biogas digestion of steam exploded oat straw. <i>Bioresource Technology</i> , <b>2011</b> , 102, 4449-55	11	101
79	Interactions of a fungal lytic polysaccharide monooxygenase with $\beta$ -glucan substrates and cellobiose dehydrogenase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 5922-7	11.5	100
78	Oxygen Activation by Cu LPMOs in Recalcitrant Carbohydrate Polysaccharide Conversion to Monomer Sugars. <i>Chemical Reviews</i> , <b>2018</b> , 118, 2593-2635	68.1	100
77	Structural and biochemical studies of GH family 12 cellulases: improved thermal stability, and ligand complexes. <i>Progress in Biophysics and Molecular Biology</i> , <b>2005</b> , 89, 246-91	4.7	97
76	Structural and electronic snapshots during the transition from a Cu(II) to Cu(I) metal center of a lytic polysaccharide monooxygenase by X-ray photoreduction. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 18782-92	5.4	78
75	Towards a molecular-level theory of carbohydrate processivity in glycoside hydrolases. <i>Current Opinion in Biotechnology</i> , <b>2014</b> , 27, 96-106	11.4	73
74	Biofuel production from straw hydrolysates: current achievements and perspectives. <i>Applied Microbiology and Biotechnology</i> , <b>2019</b> , 103, 5105-5116	5.7	68
73	Comparison of family 12 glycoside hydrolases and recruited substitutions important for thermal stability. <i>Protein Science</i> , <b>2003</b> , 12, 848-60	6.3	63

72	X-ray structures of the maltose-maltodextrin-binding protein of the thermoacidophilic bacterium Alicyclobacillus acidocaldarius provide insight into acid stability of proteins. <i>Journal of Molecular Biology</i> , <b>2004</b> , 335, 261-74	6.5	60
71	Recombinant expression of thermostable processive EG5 endoglucanase and its synergism with LPMO from during the hydrolysis of lignocellulosic substrates. <i>Biotechnology for Biofuels</i> , <b>2017</b> , 10, 126	7.8	57
70	Structural, biochemical, and computational characterization of the glycoside hydrolase family 7 cellobiohydrolase of the tree-killing fungus <i>Heterobasidion irregulare</i> . <i>Journal of Biological Chemistry</i> , <b>2013</b> , 288, 5861-72	5.4	55
69	Biochemical characterization and crystal structures of a fungal family 3 $\beta$ -glucosidase, Cel3A from <i>Hypocrea jecorina</i> . <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 31624-37	5.4	54
68	Structural and functional studies of a <i>Fusarium oxysporum</i> cutinase with polyethylene terephthalate modification potential. <i>Biochimica Et Biophysica Acta - General Subjects</i> , <b>2015</b> , 1850, 2308-17	4.7	45
67	High-resolution structure of a lytic polysaccharide monooxygenase from reveals a predicted linker as an integral part of the catalytic domain. <i>Journal of Biological Chemistry</i> , <b>2017</b> , 292, 19099-19109	5.4	42
66	A systems analysis of biodiesel production from wheat straw using oleaginous yeast: process design, mass and energy balances. <i>Biotechnology for Biofuels</i> , <b>2016</b> , 9, 229	7.8	41
65	Three-dimensional structure of an intact glycoside hydrolase family 15 glucoamylase from <i>Hypocrea jecorina</i> . <i>Biochemistry</i> , <b>2008</b> , 47, 5746-54	3.2	40
64	Lipid production from hemicellulose with <i>Lipomyces starkeyi</i> in a pH regulated fed-batch cultivation. <i>Yeast</i> , <b>2016</b> , 33, 451-62	3.4	39
63	Improving the thermal stability of cellobiohydrolase Cel7A from by directed evolution. <i>Journal of Biological Chemistry</i> , <b>2017</b> , 292, 17418-17430	5.4	37
62	Disruption of the Eng18B ENGase gene in the fungal biocontrol agent <i>Trichoderma atroviride</i> affects growth, conidiation and antagonistic ability. <i>PLoS ONE</i> , <b>2012</b> , 7, e36152	3.7	36
61	Biochemical profiling, prediction of total lipid content and fatty acid profile in oleaginous yeasts by FTIR spectroscopy. <i>Biotechnology for Biofuels</i> , <b>2019</b> , 12, 140	7.8	35
60	Effect of lignin fractions isolated from different biomass sources on cellulose oxidation by fungal lytic polysaccharide monooxygenases. <i>Biotechnology for Biofuels</i> , <b>2018</b> , 11, 296	7.8	34
59	Comparison of three seemingly similar lytic polysaccharide monooxygenases from suggests different roles in plant biomass degradation. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 15068-15081	5.4	33
58	Proteome analysis of xylose metabolism in during lipid production. <i>Biotechnology for Biofuels</i> , <b>2019</b> , 12, 137	7.8	32
57	The <i>Humicola grisea</i> Cel12A enzyme structure at 1.2 Å resolution and the impact of its free cysteine residues on thermal stability. <i>Protein Science</i> , <b>2003</b> , 12, 2782-93	6.3	31
56	Crystal complex structures reveal how substrate is bound in the -4 to the +2 binding sites of <i>Humicola grisea</i> Cel12A. <i>Journal of Molecular Biology</i> , <b>2004</b> , 342, 1505-17	6.5	30
55	Genome-scale model of <i>Rhodotorula toruloides</i> metabolism. <i>Biotechnology and Bioengineering</i> , <b>2019</b> , 116, 3396-3408	4.9	29

54	Bioethanol and lipid production from the enzymatic hydrolysate of wheat straw after furfural extraction. <i>Applied Microbiology and Biotechnology</i> , <b>2018</b> , 102, 6269-6277	5.7	29
53	Sequencing, biochemical characterization, crystal structure and molecular dynamics of cellobiohydrolase Cel7A from <i>Geotrichum candidum</i> 3C. <i>FEBS Journal</i> , <b>2015</b> , 282, 4515-37	5.7	27
52	Structural and molecular dynamics studies of a C1-oxidizing lytic polysaccharide monooxygenase from <i>Heterobasidion irregulare</i> reveal amino acids important for substrate recognition. <i>FEBS Journal</i> , <b>2018</b> , 285, 2225-2242	5.7	26
51	The structure of a bacterial cellobiohydrolase: the catalytic core of the <i>Thermobifida fusca</i> family GH6 cellobiohydrolase Cel6B. <i>Journal of Molecular Biology</i> , <b>2013</b> , 425, 622-35	6.5	26
50	X-ray crystal structures of <i>Phanerochaete chrysosporium</i> Laminarinase 16A in complex with products from lichenin and laminarin hydrolysis. <i>FEBS Journal</i> , <b>2009</b> , 276, 3858-69	5.7	25
49	Oleaginous yeast as a component in fish feed. <i>Scientific Reports</i> , <b>2018</b> , 8, 15945	4.9	25
48	Loop motions important to product expulsion in the <i>Thermobifida fusca</i> glycoside hydrolase family 6 cellobiohydrolase from structural and computational studies. <i>Journal of Biological Chemistry</i> , <b>2013</b> , 288, 33107-17	5.4	23
47	Biochemical studies of two lytic polysaccharide monooxygenases from the white-rot fungus <i>Heterobasidion irregulare</i> and their roles in lignocellulose degradation. <i>PLoS ONE</i> , <b>2017</b> , 12, e0189479	3.7	22
46	Structural and functional studies of the glycoside hydrolase family 3 $\beta$ -glucosidase Cel3A from the moderately thermophilic fungus <i>Rasamsonia emersonii</i> . <i>Acta Crystallographica Section D: Structural Biology</i> , <b>2016</b> , 72, 860-70	5.5	22
45	Manganese and iron deficiency in Southern Ocean <i>Phaeocystis antarctica</i> populations revealed through taxon-specific protein indicators. <i>Nature Communications</i> , <b>2019</b> , 10, 3582	17.4	22
44	Mutations that affect ligand binding to the <i>Escherichia coli</i> aspartate receptor: implications for transmembrane signaling. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 2808-15	5.4	22
43	Microplate-Based Detection of Lytic Polysaccharide Monooxygenase Activity by Fluorescence-Labeling of Insoluble Oxidized Products. <i>Biomacromolecules</i> , <b>2017</b> , 18, 610-616	6.9	21
42	The dissociation mechanism of processive cellulases. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 23061-23067	11.5	21
41	High resolution crystal structure of the endo-N-Acetyl- $\beta$ -D-glucosaminidase responsible for the deglycosylation of <i>Hypocrea jecorina</i> cellulases. <i>PLoS ONE</i> , <b>2012</b> , 7, e40854	3.7	21
40	Expression, crystal structure and cellulase activity of the thermostable cellobiohydrolase Cel7A from the fungus <i>Humicola grisea</i> var. <i>thermoidea</i> . <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>2014</b> , 70, 2356-66		20
39	Synthesis of cyclic beta-glucan using laminarinase 16A glycosynthase mutant from the basidiomycete <i>Phanerochaete chrysosporium</i> . <i>Journal of the American Chemical Society</i> , <b>2010</b> , 132, 1724-30 <sup>†</sup>	16.4	20
38	Greenhouse gas performance of biochemical biodiesel production from straw: soil organic carbon changes and time-dependent climate impact. <i>Biotechnology for Biofuels</i> , <b>2017</b> , 10, 217	7.8	18
37	Correlation of structure, function and protein dynamics in GH7 cellobiohydrolases from , and. <i>Biotechnology for Biofuels</i> , <b>2018</b> , 11, 5	7.8	18

36	Structural insights into the inhibition of cellobiohydrolase Cel7A by xylo-oligosaccharides. <i>FEBS Journal</i> , <b>2015</b> , 282, 2167-77	5.7	18
35	Identification of <i>Arabidopsis thaliana</i> sequences responsive to low temperature and abscisic acid by T-DNA tagging and in-vivo gene fusion. <i>Plant Molecular Biology Reporter</i> , <b>1995</b> , 13, 243-254	1.7	17
34	Airtight storage of moist wheat grain improves bioethanol yields. <i>Biotechnology for Biofuels</i> , <b>2009</b> , 2, 16	7.8	16
33	Identification of proteins that specifically recognize and bind protofibrillar aggregates of amyloid- $\beta$ . <i>Scientific Reports</i> , <b>2017</b> , 7, 5949	4.9	14
32	X-ray crystallographic native sulfur SAD structure determination of laminarinase Lam16A from <i>Phanerochaete chrysosporium</i> . <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>2006</b> , 62, 1422-9		13
31	Evolution and functional characterization of pectate lyase PEL12, a member of a highly expanded <i>Clonostachys rosea</i> polysaccharide lyase 1 family. <i>BMC Microbiology</i> , <b>2018</b> , 18, 178	4.5	13
30	Functionalized silk assembled from a recombinant spider silk fusion protein (Z-4RepCT) produced in the methylotrophic yeast <i>Pichia pastoris</i> . <i>Biotechnology Journal</i> , <b>2016</b> , 11, 687-99	5.6	12
29	Rational Design of Spider Silk Materials Genetically Fused with an Enzyme. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 5343-5352	15.6	12
28	Rational design, synthesis, evaluation and enzyme-substrate structures of improved fluorogenic substrates for family 6 glycoside hydrolases. <i>FEBS Journal</i> , <b>2013</b> , 280, 184-98	5.7	10
27	The crystal structure of the core domain of a cellulose induced protein (Cip1) from <i>Hypocrea jecorina</i> , at 1.5 Å resolution. <i>PLoS ONE</i> , <b>2013</b> , 8, e70562	3.7	10
26	Genetic variation of biomass recalcitrance in a natural ( <i>L.</i> ) population. <i>Biotechnology for Biofuels</i> , <b>2019</b> , 12, 135	7.8	9
25	Microbial lipid production from crude glycerol and hemicellulosic hydrolysate with oleaginous yeasts. <i>Biotechnology for Biofuels</i> , <b>2021</b> , 14, 65	7.8	9
24	FT-NIR: a tool for rapid intracellular lipid quantification in oleaginous yeasts. <i>Biotechnology for Biofuels</i> , <b>2019</b> , 12, 169	7.8	8
23	Hydrolysis and Transglycosylation Transition States of Glycoside Hydrolase Family 3 $\beta$ -Glucosidases Differ in Charge and Puckering Conformation. <i>Journal of Physical Chemistry B</i> , <b>2018</b> , 122, 9452-9459	3.4	8
22	A fine-tuned composition of protein nanofibrils yields an upgraded functionality of displayed antibody binding domains. <i>Biotechnology Journal</i> , <b>2017</b> , 12, 1600672	5.6	7
21	Biomass Recalcitrance in Willow Under Two Biological Conversion Paradigms: Enzymatic Hydrolysis and Anaerobic Digestion. <i>Bioenergy Research</i> , <b>2020</b> , 13, 260-270	3.1	7
20	Backbone and side-chain ( $^1\text{H}$ ), ( $^{13}\text{C}$ ), and ( $^{15}\text{N}$ ) chemical shift assignments for the apo-form of the lytic polysaccharide monooxygenase NcLPMO9C. <i>Biomolecular NMR Assignments</i> , <b>2016</b> , 10, 277-80	0.7	7
19	The role of catalytic residue pK on the hydrolysis/transglycosylation partition in family 3 $\beta$ -glucosidases. <i>Organic and Biomolecular Chemistry</i> , <b>2018</b> , 16, 316-324	3.9	6

18	Galactobiosyl units: thermodynamics and kinetics of their formation by transglycosylations catalysed by the GH36 galactosidase from <i>Thermotoga maritima</i> . <i>Carbohydrate Research</i> , <b>2015</b> , 401, 115-21	2.9	5
17	Protofibrillar and Fibrillar Amyloid-Binding Proteins in Cerebrospinal Fluid. <i>Journal of Alzheimer's Disease</i> , <b>2018</b> , 66, 1053-1064	4.3	5
16	Assembly and Analysis of the Genome Sequence of the Yeast CBS 7540. <i>Microorganisms</i> , <b>2019</b> , 7,	4.9	4
15	Oleaginous yeasts respond differently to carbon sources present in lignocellulose hydrolysate. <i>Biotechnology for Biofuels</i> , <b>2021</b> , 14, 124	7.8	4
14	Side-by-side biochemical comparison of two lytic polysaccharide monooxygenases from the white-rot fungus <i>Heterobasidion irregulare</i> on their activity against crystalline cellulose and glucomannan. <i>PLoS ONE</i> , <b>2018</b> , 13, e0203430	3.7	4
13	Production of Ready-To-Use Functionalized Sup35 Nanofibrils Secreted by <i>Komagataella pastoris</i> . <i>ACS Nano</i> , <b>2018</b> , 12, 9363-9371	16.7	4
12	Kinetic and molecular dynamics study of inhibition and transglycosylation in family 3 $\beta$ -glucosidases. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 3169-3180	5.4	3
11	The method of integrated kinetics and its applicability to the exo-glycosidase-catalyzed hydrolysis of p-nitrophenyl glycosides. <i>Carbohydrate Research</i> , <b>2015</b> , 412, 43-9	2.9	3
10	Inhibition of cytosine methylation allows efficient cloning of T-DNA tagged plant DNA of <i>Arabidopsis thaliana</i> by plasmid rescue. <i>In Vitro Cellular and Developmental Biology - Plant</i> , <b>1994</b> , 30, 204-209	2.3	3
9	Coupled chemistry kinetics demonstrate the utility of functionalized Sup35 amyloid nanofibrils in biocatalytic cascades. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 14966-14977	5.4	2
8	Temperature-dependent changes in the microbial storage flora of birch and spruce sawdust. <i>Biotechnology and Applied Biochemistry</i> , <b>2014</b> , 61, 58-64	2.8	2
7	Comparison of Glycoside Hydrolase family 3 $\beta$ -xylosidases from basidiomycetes and ascomycetes reveals evolutionarily distinct xylan degradation systems.. <i>Journal of Biological Chemistry</i> , <b>2022</b> , 101670	5.4	2
6	Enantioselective Binding of Propranolol and Analogues Thereof to Cellobiohydrolase Cel7A. <i>Chemistry - A European Journal</i> , <b>2018</b> , 24, 17975-17985	4.8	2
5	The kinetics of TEM1 antibiotic degrading enzymes that are displayed on Ure2 protein nanofibrils in a flow reactor. <i>PLoS ONE</i> , <b>2018</b> , 13, e0196250	3.7	2
4	Machine learning reveals sequence-function relationships in family 7 glycoside hydrolases. <i>Journal of Biological Chemistry</i> , <b>2021</b> , 297, 100931	5.4	2
3	Structural studies of a glycoside hydrolase family 3 $\beta$ -glucosidase from the model fungus <i>Neurospora crassa</i> . <i>Acta Crystallographica Section F, Structural Biology Communications</i> , <b>2018</b> , 74, 787-796 <sup>1,1</sup>	1.1	1
2	Glucomannan and beta-glucan degradation by <i>Mytilus edulis</i> Cel45A: Crystal structure and activity comparison with GH45 subfamily A, B and C. <i>Carbohydrate Polymers</i> , <b>2022</b> , 277, 118771	10.3	1
1	Enhanced detection of ATTR amyloid using a nanofibril-based assay. <i>Amyloid: the International Journal of Experimental and Clinical Investigation: the Official Journal of the International Society of Amyloidosis</i> , <b>2021</b> , 28, 158-167	2.7	1

