

# Vincent L Chiang

## List of Publications by Year in descending order

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91  
papers

8,051  
citations

66343

42  
h-index

49909

87  
g-index

95  
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95  
docs citations

95  
times ranked

6732  
citing authors

#	ARTICLE	IF	CITATIONS
1	Repression of lignin biosynthesis promotes cellulose accumulation and growth in transgenic trees. <i>Nature Biotechnology</i> , 1999, 17, 808-812.	17.5	684
2	Facile means for quantifying microRNA expression by real-time PCR. <i>BioTechniques</i> , 2005, 39, 519-525.	1.8	663
3	Novel and Mechanical Stress-Responsive MicroRNAs in <i>Populus trichocarpa</i> That Are Absent from <i>Arabidopsis</i> . <i>Plant Cell</i> , 2005, 17, 2186-2203.	6.6	552
4	Combinatorial modification of multiple lignin traits in trees through multigene cotransformation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 4939-4944.	7.1	370
5	<i>Ptr-miR397a</i> is a negative regulator of laccase genes affecting lignin content in <i>Populus trichocarpa</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 10848-10853.	7.1	329
6	Lignin and Biomass: A Negative Correlation for Wood Formation and Lignin Content in Trees. <i>Plant Physiology</i> , 2010, 154, 555-561.	4.8	322
7	Towards a Systems Approach for Lignin Biosynthesis in <i>Populus trichocarpa</i> : Transcript Abundance and Specificity of the Monolignol Biosynthetic Genes. <i>Plant and Cell Physiology</i> , 2010, 51, 144-163.	3.1	280
8	Conserved sequence motifs in plant S-adenosyl-L-methionine-dependent methyltransferases. <i>Plant Molecular Biology</i> , 1998, 37, 663-674.	3.9	265
9	The Cellulose Synthase Gene Superfamily and Biochemical Functions of Xylem-Specific Cellulose Synthase-Like Genes in <i>Populus trichocarpa</i> . <i>Plant Physiology</i> , 2006, 142, 1233-1245.	4.8	237
10	The Last Step of Syringyl Monolignol Biosynthesis in Angiosperms Is Regulated by a Novel Gene Encoding Sinapyl Alcohol Dehydrogenase. <i>Plant Cell</i> , 2001, 13, 1567-1586.	6.6	219
11	5-Hydroxyconiferyl Aldehyde Modulates Enzymatic Methylation for Syringyl Monolignol Formation, a New View of Monolignol Biosynthesis in Angiosperms. <i>Journal of Biological Chemistry</i> , 2000, 275, 6537-6545.	3.4	216
12	Improving wood properties for wood utilization through multi-omics integration in lignin biosynthesis. <i>Nature Communications</i> , 2018, 9, 1579.	12.8	162
13	MYB-Mediated Regulation of Anthocyanin Biosynthesis. <i>International Journal of Molecular Sciences</i> , 2021, 22, 3103.	4.1	157
14	Suppression of O-Methyltransferase Gene by Homologous Sense Transgene in Quaking Aspen Causes Red-Brown Wood Phenotypes1. <i>Plant Physiology</i> , 1998, 117, 101-112.	4.8	148
15	Splice variant of the SND1 transcription factor is a dominant negative of SND1 members and their regulation in <i>Populus trichocarpa</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 14699-14704.	7.1	143
16	A xylem-specific cellulose synthase gene from aspen ( <i>Populus tremuloides</i> ) is responsive to mechanical stress. <i>Plant Journal</i> , 2000, 22, 495-502.	5.7	140
17	The AREB1 Transcription Factor Influences Histone Acetylation to Regulate Drought Responses and Tolerance in <i>Populus trichocarpa</i> . <i>Plant Cell</i> , 2019, 31, 663-686.	6.6	139
18	Complete Proteomic-Based Enzyme Reaction and Inhibition Kinetics Reveal How Monolignol Biosynthetic Enzyme Families Affect Metabolic Flux and Lignin in <i>Populus trichocarpa</i> . <i>Plant Cell</i> , 2014, 26, 894-914.	6.6	136

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19	Membrane protein complexes catalyze both 4- and 3-hydroxylation of cinnamic acid derivatives in monolignol biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 21253-21258.	7.1	133
20	SND1 Transcription Factor-Directed Quantitative Functional Hierarchical Genetic Regulatory Network in Wood Formation in Populus trichocarpa. Plant Cell, 2013, 25, 4324-4341.	6.6	131
21	Modification of lignin biosynthesis in transgenic Nicotiana through expression of an antisense O-methyltransferase gene from Populus. Plant Molecular Biology, 1994, 26, 61-71.	3.9	123
22	An update on the nomenclature for the cellulose synthase genes in Populus. Trends in Plant Science, 2009, 14, 248-254.	8.8	112
23	Microbial Interactions Within Multiple-Strain Biological Control Agents Impact Soil-Borne Plant Disease. Frontiers in Microbiology, 2020, 11, 585404.	3.5	111
24	Genetic Transformation of Populus trichocarpa Genotype Nisqually-1: A Functional Genomic Tool for Woody Plants. Plant and Cell Physiology, 2006, 47, 1582-1589.	3.1	109
25	Hierarchical Transcription Factor and Chromatin Binding Network for Wood Formation in <i>Populus trichocarpa</i> . Plant Cell, 2019, 31, 602-626.	6.6	109
26	Differential Substrate Inhibition Couples Kinetically Distinct 4-Coumarate:Coenzyme A Ligases with Spatially Distinct Metabolic Roles in Quaking Aspen. Plant Physiology, 2002, 128, 428-438.	4.8	98
27	Plant biotechnology for lignocellulosic biofuel production. Plant Biotechnology Journal, 2014, 12, 1174-1192.	8.3	96
28	A simple improved-throughput xylem protoplast system for studying wood formation. Nature Protocols, 2014, 9, 2194-2205.	12.0	81
29	Systems Biology of Lignin Biosynthesis in <i>Populus trichocarpa</i> : Heteromeric 4-Coumaric Acid:Coenzyme A Ligase Protein Complex Formation, Regulation, and Numerical Modeling. Plant Cell, 2014, 26, 876-893.	6.6	75
30	Tissue and cell-type co-expression networks of transcription factors and wood component genes in Populus trichocarpa. Planta, 2017, 245, 927-938.	3.2	74
31	Down-regulation of glycosyltransferase 8D genes in Populus trichocarpa caused reduced mechanical strength and xylan content in wood. Tree Physiology, 2011, 31, 226-236.	3.1	73
32	Secondary xylem-specific expression of caffeoyl-coenzyme A 3-O-methyltransferase plays an important role in the methylation pathway associated with lignin biosynthesis in loblolly pine. Plant Molecular Biology, 1999, 40, 555-565.	3.9	72
33	A robust chromatin immunoprecipitation protocol for studying transcription factor-DNA interactions and histone modifications in wood-forming tissue. Nature Protocols, 2014, 9, 2180-2193.	12.0	63
34	Monolignol biosynthesis and genetic engineering of lignin in trees, a review. Environmental Chemistry Letters, 2006, 4, 143-146.	16.2	62
35	Reciprocal cross-regulation of VND and SND multigene TF families for wood formation in <i>Populus trichocarpa</i> . Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9722-E9729.	7.1	62
36	Phosphorylation is an on/off switch for 5-hydroxyconiferaldehyde O-methyltransferase activity in poplar monolignol biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8481-8486.	7.1	60

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37	A Genomic and Molecular View of Wood Formation. <i>Critical Reviews in Plant Sciences</i> , 2006, 25, 215-233.	5.7	56
38	From rags to riches. <i>Nature Biotechnology</i> , 2002, 20, 557-558.	17.5	55
39	Monolignol Pathway 4-Coumaric Acid:Coenzyme A Ligases in <i>Populus trichocarpa</i> : Novel Specificity, Metabolic Regulation, and Simulation of Coenzyme A Ligation Fluxes. <i>Plant Physiology</i> , 2013, 161, 1501-1516.	4.8	54
40	Regulation of phenylalanine ammonia-lyase (PAL) gene family in wood forming tissue of <i>Populus trichocarpa</i> . <i>Planta</i> , 2013, 238, 487-497.	3.2	53
41	4-Coumaroyl and Caffeoyl Shikimic Acids Inhibit 4-Coumaric Acid:Coenzyme A Ligases and Modulate Metabolic Flux for 3-Hydroxylation in Monolignol Biosynthesis of <i>Populus trichocarpa</i> . <i>Molecular Plant</i> , 2015, 8, 176-187.	8.3	50
42	Specific down-regulation of PAL genes by artificial microRNAs in <i>Populus trichocarpa</i> . <i>Planta</i> , 2010, 232, 1281-1288.	3.2	49
43	CAD and CCR protein complex formation in monolignol biosynthesis in <i>Populus trichocarpa</i> . <i>New Phytologist</i> , 2019, 222, 244-260.	7.3	43
44	Clarification of Cinnamoyl Co-enzyme A Reductase Catalysis in Monolignol Biosynthesis of Aspen. <i>Plant and Cell Physiology</i> , 2005, 46, 1073-1082.	3.1	42
45	Comprehensive Quantification of Monolignol-Pathway Enzymes in <i>Populus trichocarpa</i> by Protein Cleavage Isotope Dilution Mass Spectrometry. <i>Journal of Proteome Research</i> , 2012, 11, 3390-3404.	3.7	42
46	Cooperative Regulation of Flavonoid and Lignin Biosynthesis in Plants. <i>Critical Reviews in Plant Sciences</i> , 2021, 40, 109-126.	5.7	42
47	MYB Transcription Factor 161 Mediates Feedback Regulation of Secondary wall-associated NAC-Domain 1 Family Genes for Wood Formation. <i>Plant Physiology</i> , 2020, 184, 1389-1406.	4.8	41
48	Monolignol Benzoates Incorporate into the Lignin of Transgenic <i>Populus trichocarpa</i> Depleted in C3H and C4H. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 3644-3654.	6.7	39
49	Flux modeling for monolignol biosynthesis. <i>Current Opinion in Biotechnology</i> , 2019, 56, 187-192.	6.6	33
50	Molecular and Metabolic Insights into Anthocyanin Biosynthesis for Leaf Color Change in Chokecherry ( <i>Padus virginiana</i> ). <i>International Journal of Molecular Sciences</i> , 2021, 22, 10697.	4.1	33
51	Isothermal Reaction Kinetics of Kraft Delignification of Douglas-Fir. <i>Journal of Wood Chemistry and Technology</i> , 1990, 10, 293-310.	1.7	30
52	Vibrational sum-frequency-generation (SFG) spectroscopy study of the structural assembly of cellulose microfibrils in reaction woods. <i>Cellulose</i> , 2014, 21, 2219-2231.	4.9	30
53	Involvement of CesA4, CesA7-A/B and CesA8-A/B in secondary wall formation in <i>Populus trichocarpa</i> wood. <i>Tree Physiology</i> , 2020, 40, 73-89.	3.1	30
54	CRISPR-Cas9 editing of CAFFEOYL SHIKIMATE ESTERASE 1 and 2 shows their importance and partial redundancy in lignification in <i>Populus tremula</i> and <i>P. alba</i> . <i>Plant Biotechnology Journal</i> , 2021, 19, 2221-2234.	8.3	29

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55	Histone Acetylation Changes in Plant Response to Drought Stress. <i>Genes</i> , 2021, 12, 1409.	2.4	29
56	Improved Protocol for Alkaline Nitrobenzene Oxidation of Woody and Non-Woody Biomass. <i>Journal of Wood Chemistry and Technology</i> , 2015, 35, 52-61.	1.7	28
57	Transcriptional reprogramming of xylem cell wall biosynthesis in tension wood. <i>Plant Physiology</i> , 2021, 186, 250-269.	4.8	28
58	Enzyme-Enzyme Interactions in Monolignol Biosynthesis. <i>Frontiers in Plant Science</i> , 2018, 9, 1942.	3.6	26
59	A cell wall-bound anionic peroxidase, PtrPO21, is involved in lignin polymerization in <i>Populus trichocarpa</i> . <i>Tree Genetics and Genomes</i> , 2016, 12, 1.	1.6	24
60	Quantitative fermentation of unpretreated transgenic poplar by <i>Caldicellulosiruptor bescii</i> . <i>Nature Communications</i> , 2019, 10, 3548.	12.8	22
61	A standard reaction condition and a single HPLC separation system are sufficient for estimation of monolignol biosynthetic pathway enzyme activities. <i>Planta</i> , 2012, 236, 879-885.	3.2	20
62	A lignan O-methyltransferase catalyzing the regioselective methylation of matairesinol in <i>Carthamus tinctorius</i> . <i>Plant Biotechnology</i> , 2013, 30, 97-109.	1.0	20
63	A novel synthetic-genetic-array-based yeast one-hybrid system for high discovery rate and short processing time. <i>Genome Research</i> , 2019, 29, 1343-1351.	5.5	20
64	Functional redundancy of the two 5-hydroxylases in monolignol biosynthesis of <i>Populus trichocarpa</i> : LC-MS/MS based protein quantification and metabolic flux analysis. <i>Planta</i> , 2012, 236, 795-808.	3.2	19
65	Bottom-up GGM algorithm for constructing multilayered hierarchical gene regulatory networks that govern biological pathways or processes. <i>BMC Bioinformatics</i> , 2016, 17, 132.	2.6	19
66	Dimerization of PtrMYB074 and PtrWRKY19 mediates transcriptional activation of <i>PtrbHLH186</i> for secondary xylem development in <i>Populus trichocarpa</i> . <i>New Phytologist</i> , 2022, 234, 918-933.	7.3	19
67	Pop <sup>TM</sup> 's Pipes: poplar gene expression data analysis pipelines. <i>Tree Genetics and Genomes</i> , 2014, 10, 1093-1101.	1.6	15
68	Phenolic Compounds and Expression of 4CL Genes in Silver Birch Clones and Pt4CL1a Lines. <i>PLoS ONE</i> , 2014, 9, e114434.	2.5	14
69	Elucidation of Xylem-Specific Transcription Factors and Absolute Quantification of Enzymes Regulating Cellulose Biosynthesis in <i>Populus trichocarpa</i> . <i>Journal of Proteome Research</i> , 2015, 14, 4158-4168.	3.7	14
70	Assessing the impact of the 4CL enzyme complex on the robustness of monolignol biosynthesis using metabolic pathway analysis. <i>PLoS ONE</i> , 2018, 13, e0193896.	2.5	14
71	The microRNA476 module regulates adventitious root formation through a mitochondria-dependent pathway in <i>Populus</i> . <i>New Phytologist</i> , 2021, 230, 2011-2028.	7.3	14
72	The Manchurian Walnut Genome: Insights into Juglone and Lipid Biosynthesis. <i>GigaScience</i> , 2022, 11, .	6.4	13

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73	Certification for gene-edited forests. <i>Science</i> , 2019, 365, 767-768.	12.6	12
74	<i>Caldicellulosiruptor saccharolyticus</i> transcriptomes reveal consequences of chemical pretreatment and genetic modification of lignocellulose. <i>Microbial Biotechnology</i> , 2017, 10, 1546-1557.	4.2	11
75	Progeny performance and selection of superior trees within families in <i>Larix olgensis</i> . <i>Euphytica</i> , 2020, 216, 1.	1.2	11
76	Modeling cross-regulatory influences on monolignol transcripts and proteins under single and combinatorial gene knockdowns in <i>Populus trichocarpa</i> . <i>PLoS Computational Biology</i> , 2020, 16, e1007197.	3.2	11
77	Wood characteristics and enzymatic saccharification efficiency of field-grown transgenic black cottonwood with altered lignin content and structure. <i>Cellulose</i> , 2015, 22, 683-693.	4.9	10
78	A multiscale model of lignin biosynthesis for predicting bioenergy traits in <i>Populus trichocarpa</i> . <i>Computational and Structural Biotechnology Journal</i> , 2021, 19, 168-182.	4.1	10
79	Use of the lignocellulose-degrading bacterium <i>Caldicellulosiruptor bescii</i> to assess recalcitrance and conversion of wild-type and transgenic poplar. <i>Biotechnology for Biofuels</i> , 2020, 13, 43.	6.2	9
80	Clonal variations in cone, seed and nut traits in a <i>Pinus koraiensis</i> seed orchard in Northeast China. <i>Journal of Forestry Research</i> , 2021, 32, 171-179.	3.6	9
81	An Overview of the Practices and Management Methods for Enhancing Seed Production in Conifer Plantations for Commercial Use. <i>Horticulturae</i> , 2021, 7, 252.	2.8	9
82	Lignin Fragmentation and Condensation Reactions in Middle Lamella and Secondary Wall Regions during Kraft Pulping of Douglas-Fir. <i>Journal of Wood Chemistry and Technology</i> , 1989, 9, 61-83.	1.7	7
83	A PtrLBD39-mediated transcriptional network regulates tension wood formation in <i>Populus trichocarpa</i> . <i>Plant Communications</i> , 2022, 3, 100250.	7.7	7
84	Effects of environment and genotype on growth traits in poplar clones in Northeast China. <i>Euphytica</i> , 2021, 217, 1.	1.2	6
85	A Dedicated Satellite Trauma Orthopaedic Program Operating Room Safely Increases Capacity. <i>Journal of Bone and Joint Surgery - Series A</i> , 2018, 100, e70.	3.0	5
86	Enzyme Complexes of Ptr4CL and PtrHCT Modulate Co-enzyme A Ligation of Hydroxycinnamic Acids for Monolignol Biosynthesis in <i>Populus trichocarpa</i> . <i>Frontiers in Plant Science</i> , 2021, 12, 727932.	3.6	5
87	Effects of lignin-modified <i>Populus tremuloides</i> on soil organic carbon. <i>Journal of Plant Nutrition and Soil Science</i> , 2011, 174, 818-826.	1.9	4
88	Qu-2, a robust poplar suspension cell line for molecular biology. <i>Journal of Forestry Research</i> , 2021, 32, 733-740.	3.6	4
89	A new O-methyltransferase for monolignol synthesis in <i>Carthamus tinctorius</i> . <i>Plant Biotechnology</i> , 2014, 31, 545-553.	1.0	2
90	4-Coumaroyl and Caffeoyl Shikimic Acids Inhibit 4-Coumaric Acid: Coenzyme A Ligases and Modulate Metabolic Flux for 3-Hydroxylation in Monolignol Biosynthesis of <i>Populus trichocarpa</i> . <i>Molecular Plant</i> , 2014, . .	8.3	0

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91	High-level gene expression in differentiating xylem of tobacco driven by a 2.0 <sup>^</sup> kb Poplar COMT2 promoter and a 4 <sup>^</sup> 35S enhancer. Plant Biotechnology, 2013, 30, 191-198.	1.0	0