

Robert D Guy

List of Publications by Year in descending order

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73
papers

2,617
citations

186265

28
h-index

206112

48
g-index

75
all docs

75
docs citations

75
times ranked

2952
citing authors

#	ARTICLE	IF	CITATIONS
1	Geographical and environmental gradients shape phenotypic trait variation and genetic structure in <i>Populus trichocarpa</i> . <i>New Phytologist</i> , 2014, 201, 1263-1276.	7.3	185
2	Genome-wide association implicates numerous genes underlying ecological trait variation in natural populations of <i>Populus trichocarpa</i> . <i>New Phytologist</i> , 2014, 203, 535-553.	7.3	171
3	Enhanced assimilation rate and water use efficiency with latitude through increased photosynthetic capacity and internal conductance in balsam poplar (<i>Populus balsamifera</i> L.). <i>Plant, Cell and Environment</i> , 2009, 32, 1821-1832.	5.7	140
4	Immersed-boundary-type models of intravascular platelet aggregation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 2087-2104.	6.6	133
5	Mechanisms of Elastic Enhancement and Hindrance for Finite-Length Undulatory Swimmers in Viscoelastic Fluids. <i>Physical Review Letters</i> , 2014, 113, 098102.	7.8	111
6	Association genetics, geography and ecophysiology link stomatal patterning in <i>Populus trichocarpa</i> with carbon gain and disease resistance trade-offs. <i>Molecular Ecology</i> , 2014, 23, 5771-5790.	3.9	103
7	Unconditionally stable discretizations of the immersed boundary equations. <i>Journal of Computational Physics</i> , 2007, 222, 702-719.	3.8	89
8	Investigating the drought-stress response of hybrid poplar genotypes by metabolite profiling. <i>Tree Physiology</i> , 2014, 34, 1203-1219.	3.1	84
9	Seasonality and phenology alter functional leaf traits. <i>Oecologia</i> , 2013, 172, 653-665.	2.0	67
10	Fibrin gel formation in a shear flow. <i>Mathematical Medicine and Biology</i> , 2007, 24, 111-130.	1.2	65
11	Accelerating regrowth of temperate maritime forests due to environmental change. <i>Global Change Biology</i> , 2012, 18, 2026-2040.	9.5	65
12	Emerging roles for carbonic anhydrase in mesophyll conductance and photosynthesis. <i>Plant Journal</i> , 2020, 101, 831-844.	5.7	65
13	Geographic variation in ecophysiological traits of black cottonwood (<i>Populus</i>) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 267 Tj Research in Canada.. <i>Canadian Journal of Botany</i> , 2007, 85, 1202-1213.	1.1	62
14	Coordination of contractility, adhesion and flow in migrating <i>Physarum</i> amoebae. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20141359.	3.4	60
15	Intelligent behaviors of amoeboid movement based on complex dynamics of soft matter. <i>Soft Matter</i> , 2008, 4, 57-67.	2.7	58
16	Intracellular Pressure Dynamics in Blebbing Cells. <i>Biophysical Journal</i> , 2016, 110, 1168-1179.	0.5	55
17	Sexual homomorphism in dioecious trees: extensive tests fail to detect sexual dimorphism in <i>Populus</i> . <i>Scientific Reports</i> , 2017, 7, 1831.	3.3	54
18	Nitrogen isotope discrimination in white spruce fed with low concentrations of ammonium and nitrate. <i>Trees - Structure and Function</i> , 2005, 19, 89-98.	1.9	53

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19	A computational model of bleb formation. <i>Mathematical Medicine and Biology</i> , 2013, 30, 115-130.	1.2	53
20	A poroelastic immersed boundary method with applications to cell biology. <i>Journal of Computational Physics</i> , 2015, 282, 77-97.	3.8	53
21	Substantial role for carbonic anhydrase in latitudinal variation in mesophyll conductance of <i>Populus trichocarpa</i> Torr. & Gray. <i>Plant, Cell and Environment</i> , 2017, 40, 138-149.	5.7	52
22	Multiphase flow models of biogels from crawling cells to bacterial biofilms. <i>HFSP Journal</i> , 2010, 4, 11-25.	2.5	47
23	Ecological genomics of variation in bud-break phenology and mechanisms of response to climate warming in <i>Populus trichocarpa</i> . <i>New Phytologist</i> , 2018, 220, 300-316.	7.3	40
24	Flagellar swimming in viscoelastic fluids: role of fluid elastic stress revealed by simulations based on experimental data. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170289.	3.4	37
25	On the accuracy of direct forcing immersed boundary methods with projection methods. <i>Journal of Computational Physics</i> , 2010, 229, 2479-2496.	3.8	35
26	Exogenous 24-Epibrassinolide Alleviates Effects of Salt Stress on Chloroplasts and Photosynthesis in <i>Robinia pseudoacacia</i> L. Seedlings. <i>Journal of Plant Growth Regulation</i> , 2019, 38, 669-682.	5.1	33
27	Flow-induced channel formation in the cytoplasm of motile cells. <i>Physical Review E</i> , 2011, 84, 016310.	2.1	31
28	Comparative physiology of allopatric <i>Populus</i> species: geographic clines in photosynthesis, height growth, and carbon isotope discrimination in common gardens. <i>Frontiers in Plant Science</i> , 2015, 6, 528.	3.6	31
29	Association Analysis Identifies <i>Melampsora</i> –columbiana Poplar Leaf Rust Resistance SNPs. <i>PLoS ONE</i> , 2013, 8, e78423.	2.5	31
30	A comparison of implicit solvers for the immersed boundary equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 2290-2304.	6.6	27
31	Breeding without breeding: selection using the genomic best linear unbiased predictor method (GBLUP). <i>New Forests</i> , 2012, 43, 631-637.	1.7	27
32	Self-organized mechano-chemical dynamics in amoeboid locomotion of <i>Physarum</i> fragments. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 204004.	2.8	26
33	Stability of approximate projection methods on cell-centered grids. <i>Journal of Computational Physics</i> , 2005, 203, 517-538.	3.8	25
34	A role for <i>SPEECHLESS</i> in the integration of leaf stomatal patterning with the growth vs disease trade-off in poplar. <i>New Phytologist</i> , 2019, 223, 1888-1903.	7.3	25
35	The role of body flexibility in stroke enhancements for finite-length undulatory swimmers in viscoelastic fluids. <i>Journal of Fluid Mechanics</i> , 2017, 825, 109-132.	3.4	23
36	Transcriptome analysis of metabolic pathways associated with oil accumulation in developing seed kernels of <i>Styrax tonkinensis</i> , a woody biodiesel species. <i>BMC Plant Biology</i> , 2020, 20, 121.	3.6	21

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37	An Efficient and Robust Method for Simulating Two-Phase Gel Dynamics. <i>SIAM Journal of Scientific Computing</i> , 2008, 30, 2535-2565.	2.8	20
38	Phosphorus storage and resorption in riparian tree species: Environmental applications of poplar and willow. <i>Environmental and Experimental Botany</i> , 2018, 149, 1-8.	4.2	20
39	Hybrid vigour "poplars play it cool. <i>Tree Physiology</i> , 2018, 38, 785-788.	3.1	20
40	A Numerical Study of Metachronal Propulsion at Low to Intermediate Reynolds Numbers. <i>Fluids</i> , 2020, 5, 86.	1.7	20
41	Mechanosensitive Adhesion Explains Stepping Motility in Amoeboid Cells. <i>Biophysical Journal</i> , 2017, 112, 2672-2682.	0.5	19
42	Actin-Myosin Spatial Patterns from a Simplified Isotropic Viscoelastic Model. <i>Biophysical Journal</i> , 2014, 107, 863-870.	0.5	16
43	A Multigrid Method for a Model of the Implicit Immersed Boundary Equations. <i>Communications in Computational Physics</i> , 2012, 12, 378-400.	1.7	15
44	Blue light differentially represses mesophyll conductance in high vs low latitude genotypes of <i>Populus trichocarpa</i> Torr. & Gray. <i>Journal of Plant Physiology</i> , 2017, 213, 122-128.	3.5	14
45	Fine-root exploitation strategies differ in tropical old growth and logged-over forests in Ghana. <i>Biotropica</i> , 2018, 50, 606-615.	1.6	14
46	Differences in growth and physiological and metabolic responses among Canadian native and hybrid willows (<i>Salix</i> spp.) under salinity stress. <i>Tree Physiology</i> , 2020, 40, 652-666.	3.1	14
47	Low-Reynolds-number swimming in viscous two-phase fluids. <i>Physical Review E</i> , 2012, 85, 036304.	2.1	13
48	Concomitant effects of mercuric chloride on mesophyll conductance and carbonic anhydrase activity in <i>Populus trichocarpa</i> Torr. & Gray. <i>Trees - Structure and Function</i> , 2018, 32, 301-309.	1.9	12
49	An immersed boundary method for two-fluid mixtures. <i>Journal of Computational Physics</i> , 2014, 262, 231-243.	3.8	11
50	Isotopic composition and concentration of total nitrogen and nitrate in xylem sap under near steady-state hydroponics. <i>Plant, Cell and Environment</i> , 2020, 43, 2112-2123.	5.7	11
51	Orientation dependent elastic stress concentration at tips of slender objects translating in viscoelastic fluids. <i>Physical Review Fluids</i> , 2019, 4, .	2.5	11
52	Viscoelastic Immersed Boundary Methods for Zero Reynolds Number Flow. <i>Communications in Computational Physics</i> , 2012, 12, 462-478.	1.7	10
53	Convergent solutions of Stokes Oldroyd-B boundary value problems using the Immersed Boundary Smooth Extension (IBSE) method. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019, 268, 56-65.	2.4	10
54	Growth response, uptake and mobilization of metals in native plant species on tailings at a Chilean copper mine. <i>International Journal of Phytoremediation</i> , 2021, 23, 539-547.	3.1	10

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55	Genotypic variation in C and N isotope discrimination suggests local adaptation of heart-leaved willow. <i>Tree Physiology</i> , 2022, 42, 32-43.	3.1	10
56	A wave propagation algorithm for viscoelastic fluids with spatially and temporally varying properties. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 2250-2264.	6.6	9
57	Analysis of peristaltic waves and their role in migrating <i>Physarum</i> plasmodia. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 284001.	2.8	9
58	A high-resolution finite-difference method for simulating two-fluid, viscoelastic gel dynamics. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2011, 166, 1137-1157.	2.4	8
59	Geometric multigrid for an implicit-time immersed boundary method. <i>Advances in Computational Mathematics</i> , 2015, 41, 635-662.	1.6	8
60	A POROUS VISCOELASTIC MODEL FOR THE CELL CYTOSKELETON. <i>ANZIAM Journal</i> , 2018, 59, 472-498.	0.2	8
61	Asymptotic analysis of PTT type closures for network models with variable junction concentrations. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2004, 123, 223-235.	2.4	7
62	An Interface-Capturing Regularization Method for Solving the Equations for Two-Fluid Mixtures. <i>Communications in Computational Physics</i> , 2013, 14, 1322-1346.	1.7	7
63	Genotypic variation in nitrogen isotope discrimination in <i>Populus balsamifera</i> L. clones grown with either nitrate or ammonium. <i>Journal of Plant Physiology</i> , 2016, 201, 54-61.	3.5	7
64	Probabilistic modeling of platelet aggregation: effects of activation time and receptor occupancy. <i>Journal of Theoretical Biology</i> , 2002, 219, 33-53.	1.7	7
65	Computational Challenges for Simulating Strongly Elastic Flows in Biology. <i>Biological and Medical Physics Series</i> , 2015, , 359-397.	0.4	6
66	Polymer stress growth in viscoelastic fluids in oscillating extensional flows with applications to micro-organism locomotion. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019, 269, 47-56.	2.4	6
67	Impacts of bud set and lammas phenology on root:shoot biomass partitioning and carbon gain physiology in poplar. <i>Trees - Structure and Function</i> , 2016, 30, 2131-2141.	1.9	5
68	Physiological Response of <i>Populus balsamifera</i> and <i>Salix eriocephala</i> to Salinity and Hydraulic Fracturing Wastewater: Potential for Phytoremediation Applications. <i>International Journal of Environmental Research and Public Health</i> , 2020, 17, 7641.	2.6	5
69	Proteomic analysis of metabolic mechanisms associated with fatty acid biosynthesis during <i>Styrax tonkinensis</i> kernel development. <i>Journal of the Science of Food and Agriculture</i> , 2021, 101, 6053-6063.	3.5	5
70	The influence of soluble fragments of extracellular matrix (ECM) on tumor growth and morphology. <i>Mathematical Biosciences</i> , 2018, 296, 1-16.	1.9	4
71	A comparative study of seed reserve accumulation in five <i>Styrax</i> species with potential for biofuel production. <i>Trees - Structure and Function</i> , 2020, 34, 891-902.	1.9	4
72	An Inventory of Bryophytes on the Summit of Pink Mountain (Peace River District, British Columbia.) <i>Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5</i>	0.4	2

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73	Seasonal progression of photoprotection responses in different aged savin juniper plants under shade and sun. <i>Trees - Structure and Function</i> , 2021, 35, 1601-1612.	1.9	2