

Robert D Guy

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

72
papers

1,909
citations

26
h-index

41
g-index

75
ext. papers

2,340
ext. citations

4
avg, IF

5.23
L-index

| # | Paper | IF | Citations |
|----|---|------|-----------|
| 72 | Geographical and environmental gradients shape phenotypic trait variation and genetic structure in <i>Populus trichocarpa</i> . <i>New Phytologist</i> , 2014 , 201, 1263-1276 | 9.8 | 136 |
| 71 | 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 | 9.8 | 126 |
| 70 | 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, 1821-32 | 8.4 | 120 |
| 69 | Immersed-boundary-type models of intravascular platelet aggregation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008 , 197, 2087-2104 | 5.7 | 102 |
| 68 | Mechanisms of elastic enhancement and hindrance for finite-length undulatory swimmers in viscoelastic fluids. <i>Physical Review Letters</i> , 2014 , 113, 098102 | 7.4 | 94 |
| 67 | Unconditionally stable discretizations of the immersed boundary equations. <i>Journal of Computational Physics</i> , 2007 , 222, 702-719 | 4.1 | 80 |
| 66 | 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, 5771-90 | 5.7 | 67 |
| 65 | Investigating the drought-stress response of hybrid poplar genotypes by metabolite profiling. <i>Tree Physiology</i> , 2014 , 34, 1203-19 | 4.2 | 60 |
| 64 | Accelerating regrowth of temperate-maritime forests due to environmental change. <i>Global Change Biology</i> , 2012 , 18, 2026-2040 | 11.4 | 57 |
| 63 | Seasonality and phenology alter functional leaf traits. <i>Oecologia</i> , 2013 , 172, 653-65 | 2.9 | 55 |
| 62 | Fibrin gel formation in a shear flow. <i>Mathematical Medicine and Biology</i> , 2007 , 24, 111-30 | 1.3 | 54 |
| 61 | Intelligent behaviors of amoeboid movement based on complex dynamics of soft matter. <i>Soft Matter</i> , 2007 , 4, 57-67 | 3.6 | 49 |
| 60 | Geographic variation in ecophysiological traits of black cottonwood (<i>Populus trichocarpa</i>) This article is one of a selection of papers published in the Special Issue on Poplar Research in Canada.. <i>Canadian Journal of Botany</i> , 2007 , 85, 1202-1213 | | 49 |
| 59 | A computational model of bleb formation. <i>Mathematical Medicine and Biology</i> , 2013 , 30, 115-30 | 1.3 | 43 |
| 58 | Coordination of contractility, adhesion and flow in migrating <i>Physarum amoebae</i> . <i>Journal of the Royal Society Interface</i> , 2015 , 12, | 4.1 | 42 |
| 57 | Intracellular Pressure Dynamics in Blebbing Cells. <i>Biophysical Journal</i> , 2016 , 110, 1168-79 | 2.9 | 39 |
| 56 | A poroelastic immersed boundary method with applications to cell biology. <i>Journal of Computational Physics</i> , 2015 , 282, 77-97 | 4.1 | 38 |

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|----|--|-----|----|
| 55 | Nitrogen isotope discrimination in white spruce fed with low concentrations of ammonium and nitrate. <i>Trees - Structure and Function</i> , 2005 , 19, 89-98 | 2.6 | 38 |
| 54 | Multiphase flow models of biofilms from crawling cells to bacterial biofilms. <i>HFSP Journal</i> , 2010 , 4, 11-25 | | 37 |
| 53 | Sexual homomorphism in dioecious trees: extensive tests fail to detect sexual dimorphism in <i>Populus</i> . <i>Scientific Reports</i> , 2017 , 7, 1831 | 4.9 | 36 |
| 52 | 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 | 8.4 | 33 |
| 51 | On the accuracy of direct forcing immersed boundary methods with projection methods. <i>Journal of Computational Physics</i> , 2010 , 229, 2479-2496 | 4.1 | 30 |
| 50 | Emerging roles for carbonic anhydrase in mesophyll conductance and photosynthesis. <i>Plant Journal</i> , 2020 , 101, 831-844 | 6.9 | 29 |
| 49 | A comparison of implicit solvers for the immersed boundary equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008 , 197, 2290-2304 | 5.7 | 26 |
| 48 | Association analysis identifies <i>Melampsora columbiana</i> poplar leaf rust resistance SNPs. <i>PLoS ONE</i> , 2013 , 8, e78423 | 3.7 | 26 |
| 47 | 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 | 9.8 | 26 |
| 46 | Flow-induced channel formation in the cytoplasm of motile cells. <i>Physical Review E</i> , 2011 , 84, 016310 | 2.4 | 25 |
| 45 | Stability of approximate projection methods on cell-centered grids. <i>Journal of Computational Physics</i> , 2005 , 203, 517-538 | 4.1 | 24 |
| 44 | 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, | 4.1 | 22 |
| 43 | 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 | 6.2 | 22 |
| 42 | Breeding without breeding: selection using the genomic best linear unbiased predictor method (GBLUP). <i>New Forests</i> , 2012 , 43, 631-637 | 2.6 | 21 |
| 41 | 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 | 4.7 | 20 |
| 40 | 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 | 3.7 | 19 |
| 39 | An Efficient and Robust Method for Simulating Two-Phase Gel Dynamics. <i>SIAM Journal of Scientific Computing</i> , 2008 , 30, 2535-2565 | 2.6 | 16 |
| 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 | 5.9 | 15 |

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| 37 | Self-organized mechano-chemical dynamics in amoeboid locomotion of fragments. <i>Journal Physics D: Applied Physics</i> , 2017 , 50, | 3 | 14 |
| 36 | A Multigrid Method for a Model of the Implicit Immersed Boundary Equations. <i>Communications in Computational Physics</i> , 2012 , 12, 378-400 | 2.4 | 14 |
| 35 | A role for SPEECHLESS in the integration of leaf stomatal patterning with the growth vs disease trade-off in poplar. <i>New Phytologist</i> , 2019 , 223, 1888-1903 | 9.8 | 13 |
| 34 | Actin-myosin spatial patterns from a simplified isotropic viscoelastic model. <i>Biophysical Journal</i> , 2014 , 107, 863-70 | 2.9 | 12 |
| 33 | Low-Reynolds-number swimming in viscous two-phase fluids. <i>Physical Review E</i> , 2012 , 85, 036304 | 2.4 | 12 |
| 32 | 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 | 3.6 | 11 |
| 31 | An Immersed Boundary Method for Two-fluid Mixtures. <i>Journal of Computational Physics</i> , 2014 , 262, 231-243 | 4.1 | 10 |
| 30 | Mechanosensitive Adhesion Explains Stepping Motility in Amoeboid Cells. <i>Biophysical Journal</i> , 2017 , 112, 2672-2682 | 2.9 | 9 |
| 29 | A Numerical Study of Metachronal Propulsion at Low to Intermediate Reynolds Numbers. <i>Fluids</i> , 2020 , 5, 86 | 1.6 | 9 |
| 28 | 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 | 5.7 | 9 |
| 27 | 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 | 2.6 | 7 |
| 26 | Fine-root exploitation strategies differ in tropical old growth and logged-over forests in Ghana. <i>Biotropica</i> , 2018 , 50, 606-615 | 2.3 | 7 |
| 25 | Viscoelastic Immersed Boundary Methods for Zero Reynolds Number Flow. <i>Communications in Computational Physics</i> , 2012 , 12, 462-478 | 2.4 | 7 |
| 24 | Orientation dependent elastic stress concentration at tips of slender objects translating in viscoelastic fluids. <i>Physical Review Fluids</i> , 2019 , 4, | 2.8 | 7 |
| 23 | Geometric multigrid for an implicit-time immersed boundary method. <i>Advances in Computational Mathematics</i> , 2015 , 41, 635-662 | 1.6 | 6 |
| 22 | 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 | 5.3 | 6 |
| 21 | 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 | 2.7 | 6 |
| 20 | 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 | 2.7 | 6 |

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|----|--|-----|---|
| 19 | Probabilistic modeling of platelet aggregation: effects of activation time and receptor occupancy. <i>Journal of Theoretical Biology</i> , 2002 , 219, 33-53 | 2.3 | 6 |
| 18 | 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 | 2.7 | 5 |
| 17 | Computational Challenges for Simulating Strongly Elastic Flows in Biology 2015 , 359-397 | | 5 |
| 16 | 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 | 8.4 | 5 |
| 15 | 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 | 3.6 | 5 |
| 14 | Analysis of peristaltic waves and their role in migrating Physarum plasmodia. <i>Journal Physics D: Applied Physics</i> , 2017 , 50, 284001 | 3 | 5 |
| 13 | Impacts of bud set and lammis phenology on root:shoot biomass partitioning and carbon gain physiology in poplar. <i>Trees - Structure and Function</i> , 2016 , 30, 2131-2141 | 2.6 | 5 |
| 12 | 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 | 4.2 | 4 |
| 11 | An Interface-Capturing Regularization Method for Solving the Equations for Two-Fluid Mixtures. <i>Communications in Computational Physics</i> , 2013 , 14, 1322-1346 | 2.4 | 4 |
| 10 | A POROUS VISCOELASTIC MODEL FOR THE CELL CYTOSKELETON. <i>ANZIAM Journal</i> , 2018 , 59, 472-498 | 0.5 | 4 |
| 9 | 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 | 3.9 | 3 |
| 8 | The influence of soluble fragments of extracellular matrix (ECM) on tumor growth and morphology. <i>Mathematical Biosciences</i> , 2018 , 296, 1-16 | 3.9 | 3 |
| 7 | Hybrid vigour - poplars play it cool. <i>Tree Physiology</i> , 2018 , 38, 785-788 | 4.2 | 3 |
| 6 | Physiological Response of and to Salinity and Hydraulic Fracturing Wastewater: Potential for Phytoremediation Applications. <i>International Journal of Environmental Research and Public Health</i> , 2020 , 17, | 4.6 | 2 |
| 5 | 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 | 2.6 | 2 |
| 4 | 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 | 2.7 | 2 |
| 3 | An Inventory of Bryophytes on the Summit of Pink Mountain (Peace River District, British Columbia, Canada). <i>Western North American Naturalist</i> , 2018 , 78, 17 | 0.4 | 2 |
| 2 | 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 | 2.6 | 1 |

- 1 Proteomic analysis of metabolic mechanisms associated with fatty acid biosynthesis during *Styrax tonkinensis* kernel development. *Journal of the Science of Food and Agriculture*, **2021**, 101, 6053-6063 4.3 ○