Mark D Fricker

List of Publications by Year
in descending order

130 papers	8,417 citations	41258 49 h-index	53109 85 g-index
138 all docs	138 docs citations	138 times ranked	8049 citing authors

#	Article	IF	Citations
1	Rules for Biologically Inspired Adaptive Network Design. Science, 2010, 327, 439-442.	6.0	685
2	Interphase Nuclei of Many Mammalian Cell Types Contain Deep, Dynamic, Tubular Membrane-bound Invaginations of the Nuclear Envelope. Journal of Cell Biology, 1997, 136, 531-544.	2.3	342
3	Role of Calcium in Signal Transduction of Commelina Guard Cells.. Plant Cell, 1991, 3, 333-344.	3.1	280
4	Confocal imaging of glutathione redox potential in living plant cells. Journal of Microscopy, 2008, 231, 299-316.	0.8	279
5	Stomata. , 1996, , .		270
6	Cell proliferation and hair tip growth in the Arabidopsis root are under mechanistically different forms of redox control. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 2745-2750.	3.3	262
7	The NADPH-dependent thioredoxin system constitutes a functional backup for cytosolic glutathione reductase in <i>Arabidopsis</i>. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9109-9114.	3.3	259
8	Two Transduction Pathways Mediate Rapid Effects of Abscisic Acid in Commelina Guard Cells.. Plant Cell, 1994, 6, 1319-1328.	3.1	230
9	Modulation of K+ channels in Vicia stomatal guard cells by peptide homologs to the auxin-binding protein C terminus.. Proceedings of the National Academy of Sciences of the United States of America, 1993, 90, 11493-11497.	3.3	174
10	Glutathione biosynthesis in Arabidopsis trichome cells. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 11108-11113.	3.3	162
11	Decrease in Manganese Superoxide Dismutase Leads to Reduced Root Growth and Affects Tricarboxylic Acid Cycle Flux and Mitochondrial Redox Homeostasis Â Â. Plant Physiology, 2008, 147, 101-114.	2.3	162
12	The Metabolic Response of Arabidopsis Roots to Oxidative Stress is Distinct from that of Heterotrophic Cells in Culture and Highlights a Complex Relationship between the Levels of Transcripts, Metabolites, and Flux. Molecular Plant, 2009, 2, 390-406.	3.9	155
13	Monitoring the in vivo redox state of plant mitochondria: Effect of respiratory inhibitors, abiotic stress and assessment of recovery from oxidative challenge. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 468-475.	0.5	137
14	The fluorescent protein sensor ro<scp>GFP</scp>2â€Orp1 monitors <i>inÂvivo</i> H₂O₂ and thiol redox integration and elucidates intracellular H₂O₂ dynamics during elicitorâ€induced oxidative burst in Arabidopsis. New Phytologist, 2019, 221, 1649-1664.	3.5	132
15	ATP sensing in living plant cells reveals tissue gradients and stress dynamics of energy physiology. ELife, 2017, 6, .	2.8	125
16	Biological solutions to transport network design. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 2307-2315.	1.2	123
17	Immobilized Subpopulations of Leaf Epidermal Mitochondria Mediate PENETRATION2-Dependent Pathogen Entry Control in Arabidopsis. Plant Cell, 2016, 28, 130-145.	3.1	120
18	Aberration control in quantitative imaging of botanical specimens by multidimensional fluorescence microscopy. Journal of Microscopy, 1996, 181, 99-116.	0.8	116

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19	Quantitativein vivomeasurement of glutathione inArabidopsiscells. Plant Journal, 2001, 27, 67-78.	2.8	114
20	A greener world: The revolution in plant bioimaging. Nature Reviews Molecular Cell Biology, 2002, 3, 520-530.	16.1	114
21	Sieve Element Ca2+ Channels as Relay Stations between Remote Stimuli and Sieve Tube Occlusion in<i>Vicia faba</i>Â. Plant Cell, 2009, 21, 2118-2132.	3.1	111
22	The circularly permuted yellow fluorescent protein cpYFP that has been used as a superoxide probe is highly responsive to pH but not superoxide in mitochondria: implications for the existence of superoxide â€˜flashesâ€™. Biochemical Journal, 2011, 437, 381-387.	1.7	110
23	The â€˜mitoflashâ€™ probe cpYFP does not respond to superoxide. Nature, 2014, 514, E12-E14.	13.7	109
24	De novo formation of several features of a centromere following introduction of a Y alphoid YAC into mammalian cells. Human Molecular Genetics, 1994, 3, 689-695.	1.4	108
25	Pulsing of Membrane Potential in Individual Mitochondria: A Stress-Induced Mechanism to Regulate Respiratory Bioenergetics in <i>Arabidopsis</i>. Plant Cell, 2012, 24, 1188-1201.	3.1	107
26	Analysis of fungal networks. Fungal Biology Reviews, 2012, 26, 12-29.	1.9	103
27	The EF-Hand Ca²⁺ Binding Protein MICU Choreographs Mitochondrial Ca²⁺ Dynamics in Arabidopsis. Plant Cell, 2015, 27, 3190-3212.	3.1	103
28	Control of Demand-Driven Biosynthesis of Glutathione in Green Arabidopsis Suspension Culture Cells. Plant Physiology, 2002, 130, 1927-1937.	2.3	93
29	QUANTITATIVE FLUORESCENCE MICROSCOPY: From Art to Science. Annual Review of Plant Biology, 2006, 57, 79-107.	8.6	90
30	The Vacuole System Is a Significant Intracellular Pathway for Longitudinal Solute Transport in Basidiomycete Fungi. Eukaryotic Cell, 2006, 5, 1111-1125.	3.4	87
31	<scp>MSL</scp>1 is a mechanosensitive ion channel that dissipates mitochondrial membrane potential and maintains redox homeostasis in mitochondria during abiotic stress. Plant Journal, 2016, 88, 809-825.	2.8	82
32	Saprotrophic cord systems: dispersal mechanisms in space and time. Mycoscience, 2009, 50, 9-19.	0.3	80
33	Taxonomies of networks from community structure. Physical Review E, 2012, 86, 036104-36104.	0.8	79
34	Purification, sequencing and functions of calreticulin from maize. Journal of Experimental Botany, 1995, 46, 1603-1613.	2.4	78
35	Role of Calcium in Signal Transduction of Commelina Guard Cells. Plant Cell, 1991, 3, 333.	3.1	76
36	Physiological Significance of Network Organization in Fungi. Eukaryotic Cell, 2012, 11, 1345-1352.	3.4	75

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37	Nitric oxide generated by the rice blast fungus <i>Magnaporthe oryzae</i> drives plant infection. New Phytologist, 2013, 197, 207-222.	3.5	75
38	Mitochondrial â€˜flashesâ€™: a radical concept repHined. Trends in Cell Biology, 2012, 22, 503-508.	3.6	74
39	Quantitative Redox Imaging Software. Antioxidants and Redox Signaling, 2016, 24, 752-762.	2.5	72
40	Robust antiâ€oxidant defences in the rice blast fungus <i>Magnaporthe oryzae</i> confer tolerance to the host oxidative burst. New Phytologist, 2014, 201, 556-573.	3.5	69
41	Cell-specific measurement of cytosolic glutathione in poplar leaves*. Plant, Cell and Environment, 2003, 26, 965-975.	2.8	68
42	Measurement of glutathione levels in intact roots of Arabidopsis. Journal of Microscopy, 2000, 198, 162-173.	0.8	67
43	The Specification of Geometric Edges by a Plant Rab GTPase Is an Essential Cell-Patterning Principle During Organogenesis in Arabidopsis. Developmental Cell, 2016, 36, 386-400.	3.1	67
44	Ratiometric Fluorescence-Imaging Assays of Plant Membrane Traffic Using Polyproteins. Traffic, 2006, 7, 1701-1723.	1.3	64
45	Four-dimensional imaging of living chondrocytes in cartilage using confocal microscopy: a pragmatic approach. American Journal of Physiology - Cell Physiology, 1997, 272, C1040-C1051.	2.1	63
46	Two Transduction Pathways Mediate Rapid Effects of Abscisic Acid in Commelina Guard Cells. Plant Cell, 1994, 6, 1319.	3.1	60
47	The role of calcium in blue-light-dependent chloroplast movement in Lemna trisulca L.. Plant Journal, 1999, 20, 461-473.	2.8	60
48	Nitrite Reduces Cytoplasmic Acidosis under Anoxia. Plant Physiology, 2006, 142, 1710-1717.	2.3	60
49	Direct measurement of glutathione in epidermal cells of intact Arabidopsis roots by two-photon laser scanning microscopy. Journal of Microscopy, 2000, 198, 174-181.	0.8	58
50	Imaging complex nutrient dynamics in mycelial networks. Journal of Microscopy, 2008, 231, 317-331.	0.8	57
51	The Mycelium as a Network. Microbiology Spectrum, 2017, 5, .	1.2	57
52	Quantitative analysis of plant ER architecture and dynamics. Nature Communications, 2019, 10, 984.	5.8	56
53	The role of wood decay fungi in the carbon and nitrogen dynamics of the forest floor. , 2006, , 151-181.		54
54	An update: improvements in imaging perfluorocarbon-mounted plant leaves with implications for studies of plant pathology, physiology, development and cell biology. Frontiers in Plant Science, 2014, 5, 140.	1.7	53

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55	Wavelength considerations in confocal microscopy of botanical specimens. Journal of Microscopy, 1992, 166, 29-42.	0.8	49
56	Continuous imaging of amino-acid translocation in intact mycelia of Phanerochaete velutina reveals rapid, pulsatile fluxes. New Phytologist, 2002, 153, 173-184.	3.5	49
57	Growth-induced mass flows in fungal networks. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 3265-3274.	1.2	49
58	Studies of <i>Physcomitrella patens</i> reveal that ethyleneâ€mediated submergence responses arose relatively early in landâ€plant evolution. Plant Journal, 2012, 72, 947-959.	2.8	49
59	A C-terminal amphipathic helix is necessary for the in vivo tubule-shaping function of a plant reticulon. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10902-10907.	3.3	49
60	Simulating colonial growth of fungi with the Neighbour-Sensing model of hyphal growth. Mycological Research, 2004, 108, 1241-1256.	2.5	47
61	Contrast-Independent Curvilinear Structure Detection in Biomedical Images. IEEE Transactions on Image Processing, 2012, 21, 2572-2581.	6.0	44
62	Light perception and the role of the xanthophyll cycle in blue-light-dependent chloroplast movements in Lemna trisulca L.. Plant Journal, 1999, 20, 447-459.	2.8	42
63	Confocal imaging of metabolism in vivo: pitfalls and possibilities. Journal of Experimental Botany, 2001, 52, 631-640.	2.4	42
64	A bioimage informatics approach to automatically extract complex fungal networks. Bioinformatics, 2012, 28, 2374-2381.	1.8	42
65	Advection, diffusion, and delivery over a network. Physical Review E, 2012, 86, 021905.	0.8	41
66	CDC-42 and RAC-1 regulate opposite chemotropisms in <i>Neurospora crassa</i>. Journal of Cell Science, 2014, 127, 1953-1965.	1.2	41
67	Noncircadian oscillations in amino acid transport have complementary profiles in assimilatory and foraging hyphae of Phanerochaete velutina. New Phytologist, 2003, 158, 325-335.	3.5	40
68	Emergence of self-organised oscillatory domains in fungal mycelia. Fungal Genetics and Biology, 2007, 44, 1085-1095.	0.9	40
69	Spatial and temporal control of mitochondrial H ₂ O ₂ release in intact human cells. EMBO Journal, 2022, 41, e109169.	3.5	39
70	The fission yeast chromo domain encoding gene chp1(+) is required for chromosome segregation and shows a genetic interaction with alpha- tubulin. Nucleic Acids Research, 1998, 26, 4222-4229.	6.5	36
71	Forisome dispersion in<i>Vicia faba</i>is triggered by Ca²⁺hotspots created by concerted action of diverse Ca²⁺channels in sieve element. Plant Signaling and Behavior, 2009, 4, 968-972.	1.2	36
72	Fungal network responses to grazing. Fungal Genetics and Biology, 2010, 47, 522-530.	0.9	35

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73	Interplay between function and structure in complex networks. Physical Review E, 2006, 74, 026116.	0.8	32
74	Fourier-based spatial mapping of oscillatory phenomena in fungi. Fungal Genetics and Biology, 2007, 44, 1077-1084.	0.9	31
75	Genomic Sequence of a Calnexin Homolog from Arabidopsis thaliana. Plant Physiology, 1994, 106, 1691-1691.	2.3	29
76	Confocal imaging of metabolism in vivo: pitfalls and possibilities. Journal of Experimental Botany, 2001, 52, 631-40.	2.4	29
77	Vanadate Sensitive ATPase and Phosphatase Activity in Guard Cell Protoplasts ofCommelina. Journal of Experimental Botany, 1987, 38, 642-648.	2.4	27
78	Effective delivery of volatile biocides employing mesoporous silicates for treating biofilms. Journal of the Royal Society Interface, 2017, 14, 20160650.	1.5	26
79	New approaches to investigating the function of mycelial networks. The Mycologist, 2005, 19, 11-17.	0.5	25
80	Chapter 1 Mycelial networks: Structure and dynamics. British Mycological Society Symposia Series, 2008, 28, 3-18.	0.5	25
81	Quantifying dynamic resource allocation illuminates foraging strategy in Phanerochaete velutina. Fungal Genetics and Biology, 2008, 45, 1111-1121.	0.9	24
82	Polyurethane-Covered Dacron Mesh Versus Polytetrafluoroethylene DualMesh for Intraperitoneal Hernia Repair in Rats. Surgery Today, 2002, 32, 884-886.	0.7	23
83	Analysis of Plant Mitochondrial Function Using Fluorescent Protein Sensors. Methods in Molecular Biology, 2015, 1305, 241-252.	0.4	23
84	Grazing alters network architecture during interspecific mycelial interactions. Fungal Ecology, 2008, 1, 124-132.	0.7	21
85	Chitosan inhibits septinâ€mediated plant infection by the rice blast fungus <i>Magnaporthe oryzae</i> in a protein kinase C and Nox1 NADPH oxidaseâ€dependent manner. New Phytologist, 2021, 230, 1578-1593.	3.5	21
86	Adaptive Biological Networks. Understanding Complex Systems, 2009, , 51-70.	0.3	21
87	Evidence for nickel/proton antiport activity at the tonoplast of the hyperaccumulator plant <i>Alyssum lesbiacum</i>. Plant Biology, 2008, 10, 746-753.	1.8	20
88	Energetic Constraints on Fungal Growth. American Naturalist, 2016, 187, E27-E40.	1.0	20
89	Automated analysis of<i>Physarum</i>network structure and dynamics. Journal Physics D: Applied Physics, 2017, 50, 254005.	1.3	19
90	Experimental models for Murrayâ€™s law. Journal Physics D: Applied Physics, 2017, 50, 024001.	1.3	18

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91	Linking functional traits to multiscale statistics of leaf venation networks. New Phytologist, 2020, 228, 1796-1810.	3.5	18
92	Network traits predict ecological strategies in fungi. ISME Communications, 2022, 2, .	1.7	18
93	Automated and accurate segmentation of leaf venation networks via deep learning. New Phytologist, 2021, 229, 631-648.	3.5	17
94	Imaging of Long-Distance Î±-Aminoisobutyric Acid Translocation Dynamics during Resource Capture by <i>Serpula lacrymans</i>. Applied and Environmental Microbiology, 2008, 74, 2700-2708.	1.4	16
95	NETWORK AUTOMATA: COUPLING STRUCTURE AND FUNCTION IN DYNAMIC NETWORKS. International Journal of Modeling, Simulation, and Scientific Computing, 2011, 14, 317-339.	0.9	16
96	A perturbation in glutathione biosynthesis disrupts endoplasmic reticulum morphology and secretory membrane traffic in <i>Arabidopsis thaliana</i>. Plant Journal, 2012, 71, 881-894.	2.8	16
97	Microcompartmentation of cytosolic aldolase by interaction with the actin cytoskeleton in Arabidopsis. Journal of Experimental Botany, 2017, 68, 885-898.	2.4	16
98	The Mycelium as a Network. , 0, , 335-367.		15
99	A mechanistic explanation of the transition to simple multicellularity in fungi. Nature Communications, 2020, 11, 2594.	5.8	15
100	Stress-Activated Protein Kinase Signalling Regulates Mycoparasitic Hyphal-Hyphal Interactions in Trichoderma atroviride. Journal of Fungi (Basel, Switzerland), 2021, 7, 365.	1.5	14
101	The diagnostic challenge of peritoneal mesothelioma. Archives of Gynecology and Obstetrics, 2002, 266, 130-132.	0.8	13
102	Growth induced translocation effectively directs an amino acid analogue to developing zones in Agaricus bisporus. Fungal Biology, 2020, 124, 1013-1023.	1.1	13
103	Imaging techniques in plant transport: meeting review. Journal of Experimental Botany, 1999, 50, 1089-1100.	2.4	13
104	The Interplay between Structure and Function in Fungal Networks. Topologica, 2008, 1, 004.	0.3	13
105	Some properties of Proton Pumping ATPases at the Plasma Membrane and Tonoplast of Guard Cells. Biochemie Und Physiologie Der Pflanzen, 1990, 186, 301-308.	0.5	12
106	Cytosolic Ca²⁺â€Concentrations and Distributions in Rhizoids of <i>Chara fragilis</i> Desv. Determined by Ratio Analysis of the Fluorescent Probe Indoâ€1. Botanica Acta, 1991, 104, 222-228.	1.6	11
107	Mesoscale analyses of fungal networks as an approach for quantifying phenotypic traits. Journal of Complex Networks, 2016, , cnv034.	1.1	11
108	Nitrate-Sensitive ATPase Activity and Proton Pumping in Guard Cell Protoplasts ofCommelina. Journal of Experimental Botany, 1990, 41, 193-198.	2.4	10

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109	Fluorescencein situhybridisation of multiple probes on a single microscope slide. Nucleic Acids Research, 1994, 22, 3689-3692.	6.5	9
110	Imaging complex nutrient dynamics in mycelial networks. , 2007, , 3-21.		9
111	Adaptive Path-Finding and Transport Network Formation by the Amoeba-Like Organism Physarum. Proceedings in Information and Communications Technology, 2013, , 14-29.	0.2	8
112	Quantitative imaging of intact cells and tissues by multi-dimensional confocal fluorescence microscopy. Experimental Biology Online, 1997, 2, 1-23.	1.0	7
113	Contrast independent detection of branching points in network-like structures. Proceedings of SPIE, 2012, , .	0.8	7
114	Quantitative and Qualitative Analysis of Plant Membrane Traffic Using Fluorescent Proteins. Methods in Cell Biology, 2008, 85, 353-380.	0.5	5
115	Coherence enhancing diffusion filtering based on the Phase Congruency Tensor. , 2012, , .		5
116	Visualisation and measurement of the calcium message in guard cells. Symposia of the Society for Experimental Biology, 1991, 45, 177-90.	0.0	5
117	Stomatal Responses Measured Using a Viscous Flow (Liquid) Porometer. Journal of Experimental Botany, 1991, 42, 747-755.	2.4	4
118	Making microscopy count: quantitative light microscopy of dynamic processes in living plants. Journal of Microscopy, 2016, 263, 181-191.	0.8	4
119	Multidimensional Fluorescence Microscopy: Optical Distortions in Quantitative Imaging of Biological Specimens. , 1996, , 47-56.		4
120	Quantitative Confocal Fluorescence Measurements in Living Tissue. , 1998, , 409-441.		4
121	Foraging by a wood-decomposing fungus is ecologically adaptive. Environmental Microbiology, 2014, 16, 118-129.	1.8	3
122	Imaging Thiol-Based Redox Processes in Live Cells. Advances in Photosynthesis and Respiration, 2008, , 483-501.	1.0	3
123	Quantitation of ER Structure and Function. Methods in Molecular Biology, 2018, 1691, 43-66.	0.4	2
124	Confocal Fluorescence Ratio Imaging of pH in Plant Cells. , 1993, , 153-163.		2
125	The role of Ca2+and ABA in the regulation of stomatal aperture. Current Plant Science and Biotechnology in Agriculture, 1992, , 105-115.	0.0	2
126	Peptides derived from the auxin binding protein elevate Ca2+ and pH in stomatal guard cells of Vicia faba: a confocal fluorescence ratio imaging study. Symposia of the Society for Experimental Biology, 1994, 48, 215-28.	0.0	2

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127	Quantitative imaging of intact cells and tissues by multi-dimensional confocal fluorescence microscopy. , 1998, , 417-448.		1
128	Local phase approaches to extract biomedical networks. , 2012, , .		0
129	Brefeldin A affects the endomembrane system and vesicle trafficking in higher plants. Proceedings Annual Meeting Electron Microscopy Society of America, 1993, 51, 192-193.	0.0	0
130	A model for simulating emergent patterns of cities and roads on real-world landscapes. Scientific Reports, 2022, 12, .	1.6	0