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	Network traits predict ecological strategies in fungi. ISME Communications, 2022, 2, .	1.7	18
2	Spatial and temporal control of mitochondrial H ₂ O ₂ release in intact human cells. EMBO Journal, 2022, 41, e109169.	3.5	39
3	A model for simulating emergent patterns of cities and roads on real-world landscapes. Scientific Reports, 2022, 12, .	1.6	0
4	Automated and accurate segmentation of leaf venation networks via deep learning. New Phytologist, 2021, 229, 631-648.	3.5	17
5	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
6	Stress-Activated Protein Kinase Signalling Regulates Mycoparasitic Hyphal-Hyphal Interactions in Trichoderma atroviride. Journal of Fungi (Basel, Switzerland), 2021, 7, 365.	1.5	14
7	Growth induced translocation effectively directs an amino acid analogue to developing zones in Agaricus bisporus. Fungal Biology, 2020, 124, 1013-1023.	1.1	13
8	Linking functional traits to multiscale statistics of leaf venation networks. New Phytologist, 2020, 228, 1796-1810.	3.5	18
9	A mechanistic explanation of the transition to simple multicellularity in fungi. Nature Communications, 2020, 11, 2594.	5.8	15
10	Quantitative analysis of plant ER architecture and dynamics. Nature Communications, 2019, 10, 984.	5.8	56
11	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
12	Quantitation of ER Structure and Function. Methods in Molecular Biology, 2018, 1691, 43-66.	0.4	2
13	Effective delivery of volatile biocides employing mesoporous silicates for treating biofilms. Journal of the Royal Society Interface, 2017, 14, 20160650.	1.5	26
14	Experimental models for Murrayâ€™s law. Journal Physics D: Applied Physics, 2017, 50, 024001.	1.3	18
15	The Mycelium as a Network. Microbiology Spectrum, 2017, 5, .	1.2	57
16	Automated analysis of<i>Physarum</i>network structure and dynamics. Journal Physics D: Applied Physics, 2017, 50, 254005.	1.3	19
17	Microcompartmentation of cytosolic aldolase by interaction with the actin cytoskeleton in Arabidopsis. Journal of Experimental Botany, 2017, 68, 885-898.	2.4	16
18	ATP sensing in living plant cells reveals tissue gradients and stress dynamics of energy physiology. ELife, 2017, 6, .	2.8	125

#	Article	IF	Citations
19	Mesoscale analyses of fungal networks as an approach for quantifying phenotypic traits. Journal of Complex Networks, 2016, , cnv034.	1.1	11
20	Making microscopy count: quantitative light microscopy of dynamic processes in living plants. Journal of Microscopy, 2016, 263, 181-191.	0.8	4
21	<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
22	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
23	Energetic Constraints on Fungal Growth. American Naturalist, 2016, 187, E27-E40.	1.0	20
24	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
25	Immobilized Subpopulations of Leaf Epidermal Mitochondria Mediate PENETRATION2-Dependent Pathogen Entry Control in Arabidopsis. Plant Cell, 2016, 28, 130-145.	3.1	120
26	Quantitative Redox Imaging Software. Antioxidants and Redox Signaling, 2016, 24, 752-762.	2.5	72
27	The EF-Hand Ca²⁺ Binding Protein MICU Choreographs Mitochondrial Ca²⁺ Dynamics in Arabidopsis. Plant Cell, 2015, 27, 3190-3212.	3.1	103
28	Analysis of Plant Mitochondrial Function Using Fluorescent Protein Sensors. Methods in Molecular Biology, 2015, 1305, 241-252.	0.4	23
29	CDC-42 and RAC-1 regulate opposite chemotropisms in <i>Neurospora crassa</i>. Journal of Cell Science, 2014, 127, 1953-1965.	1.2	41
30	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
31	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
32	The â€˜mitoflashâ€™ probe cpYFP does not respond to superoxide. Nature, 2014, 514, E12-E14.	13.7	109
33	Foraging by a wood-decomposing fungus is ecologically adaptive. Environmental Microbiology, 2014, 16, 118-129.	1.8	3
34	Nitric oxide generated by the rice blast fungus <i>Magnaporthe oryzae</i> drives plant infection. New Phytologist, 2013, 197, 207-222.	3.5	75
35	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
36	Taxonomies of networks from community structure. Physical Review E, 2012, 86, 036104-36104.	0.8	79

#	Article	IF	Citations
37	Advection, diffusion, and delivery over a network. Physical Review E, 2012, 86, 021905.	0.8	41
38	Physiological Significance of Network Organization in Fungi. Eukaryotic Cell, 2012, 11, 1345-1352.	3.4	75
39	A bioimage informatics approach to automatically extract complex fungal networks. Bioinformatics, 2012, 28, 2374-2381.	1.8	42
40	Analysis of fungal networks. Fungal Biology Reviews, 2012, 26, 12-29.	1.9	103
41	Coherence enhancing diffusion filtering based on the Phase Congruency Tensor. , 2012, , .		5
42	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
43	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
44	Mitochondrial â€˜flashesâ€™: a radical concept repHined. Trends in Cell Biology, 2012, 22, 503-508.	3.6	74
45	Local phase approaches to extract biomedical networks. , 2012, , .		0
46	Contrast independent detection of branching points in network-like structures. Proceedings of SPIE, 2012, , .	0.8	7
47	Contrast-Independent Curvilinear Structure Detection in Biomedical Images. IEEE Transactions on Image Processing, 2012, 21, 2572-2581.	6.0	44
48	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
49	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
50	NETWORK AUTOMATA: COUPLING STRUCTURE AND FUNCTION IN DYNAMIC NETWORKS. International Journal of Modeling, Simulation, and Scientific Computing, 2011, 14, 317-339.	0.9	16
51	Growth-induced mass flows in fungal networks. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 3265-3274.	1.2	49
52	Fungal network responses to grazing. Fungal Genetics and Biology, 2010, 47, 522-530.	0.9	35
53	Rules for Biologically Inspired Adaptive Network Design. Science, 2010, 327, 439-442.	6.0	685
54	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

#	Article	IF	Citations
55	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
56	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
57	Saprotrophic cord systems: dispersal mechanisms in space and time. Mycoscience, 2009, 50, 9-19.	0.3	80
58	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
59	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
60	Adaptive Biological Networks. Understanding Complex Systems, 2009, , 51-70.	0.3	21
61	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
62	Confocal imaging of glutathione redox potential in living plant cells. Journal of Microscopy, 2008, 231, 299-316.	0.8	279
63	Imaging complex nutrient dynamics in mycelial networks. Journal of Microscopy, 2008, 231, 317-331.	0.8	57
64	Grazing alters network architecture during interspecific mycelial interactions. Fungal Ecology, 2008, 1, 124-132.	0.7	21
65	Quantitative and Qualitative Analysis of Plant Membrane Traffic Using Fluorescent Proteins. Methods in Cell Biology, 2008, 85, 353-380.	0.5	5
66	Quantifying dynamic resource allocation illuminates foraging strategy in Phanerochaete velutina. Fungal Genetics and Biology, 2008, 45, 1111-1121.	0.9	24
67	Chapter 1 Mycelial networks: Structure and dynamics. British Mycological Society Symposia Series, 2008, 28, 3-18.	0.5	25
68	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
69	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
70	Imaging Thiol-Based Redox Processes in Live Cells. Advances in Photosynthesis and Respiration, 2008, , 483-501.	1.0	3
71	The Interplay between Structure and Function in Fungal Networks. Topologica, 2008, 1, 004.	0.3	13
72	Biological solutions to transport network design. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 2307-2315.	1.2	123

#	Article	IF	Citations
73	Fourier-based spatial mapping of oscillatory phenomena in fungi. Fungal Genetics and Biology, 2007, 44, 1077-1084.	0.9	31
74	Emergence of self-organised oscillatory domains in fungal mycelia. Fungal Genetics and Biology, 2007, 44, 1085-1095.	0.9	40
75	Imaging complex nutrient dynamics in mycelial networks. , 2007, , 3-21.		9
76	QUANTITATIVE FLUORESCENCE MICROSCOPY: From Art to Science. Annual Review of Plant Biology, 2006, 57, 79-107.	8.6	90
77	The role of wood decay fungi in the carbon and nitrogen dynamics of the forest floor. , 2006, , 151-181.		54
78	Ratiometric Fluorescence-Imaging Assays of Plant Membrane Traffic Using Polyproteins. Traffic, 2006, 7, 1701-1723.	1.3	64
79	Interplay between function and structure in complex networks. Physical Review E, 2006, 74, 026116.	0.8	32
80	Nitrite Reduces Cytoplasmic Acidosis under Anoxia. Plant Physiology, 2006, 142, 1710-1717.	2.3	60
81	The Vacuole System Is a Significant Intracellular Pathway for Longitudinal Solute Transport in Basidiomycete Fungi. Eukaryotic Cell, 2006, 5, 1111-1125.	3.4	87
82	New approaches to investigating the function of mycelial networks. The Mycologist, 2005, 19, 11-17.	0.5	25
83	Simulating colonial growth of fungi with the Neighbour-Sensing model of hyphal growth. Mycological Research, 2004, 108, 1241-1256.	2.5	47
84	Cell-specific measurement of cytosolic glutathione in poplar leaves*. Plant, Cell and Environment, 2003, 26, 965-975.	2.8	68
85	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
86	Control of Demand-Driven Biosynthesis of Glutathione in Green Arabidopsis Suspension Culture Cells. Plant Physiology, 2002, 130, 1927-1937.	2.3	93
87	The diagnostic challenge of peritoneal mesothelioma. Archives of Gynecology and Obstetrics, 2002, 266, 130-132.	0.8	13
88	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
89	A greener world: The revolution in plant bioimaging. Nature Reviews Molecular Cell Biology, 2002, 3, 520-530.	16.1	114
90	Polyurethane-Covered Dacron Mesh Versus Polytetrafluoroethylene DualMesh for Intraperitoneal Hernia Repair in Rats. Surgery Today, 2002, 32, 884-886.	0.7	23

#	Article	IF	Citations
91	Confocal imaging of metabolism in vivo: pitfalls and possibilities. Journal of Experimental Botany, 2001, 52, 631-640.	2.4	42
92	Quantitativein vivomeasurement of glutathione inArabidopsiscells. Plant Journal, 2001, 27, 67-78.	2.8	114
93	Confocal imaging of metabolism in vivo: pitfalls and possibilities. Journal of Experimental Botany, 2001, 52, 631-40.	2.4	29
94	Measurement of glutathione levels in intact roots of Arabidopsis. Journal of Microscopy, 2000, 198, 162-173.	0.8	67
95	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
96	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
97	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
98	The role of calcium in blue-light-dependent chloroplast movement in Lemna trisulca L.. Plant Journal, 1999, 20, 461-473.	2.8	60
99	Imaging techniques in plant transport: meeting review. Journal of Experimental Botany, 1999, 50, 1089-1100.	2.4	13
100	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
101	Quantitative Confocal Fluorescence Measurements in Living Tissue. , 1998, , 409-441.		4
102	Quantitative imaging of intact cells and tissues by multi-dimensional confocal fluorescence microscopy. , 1998, , 417-448.		1
103	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
104	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
105	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
106	Quantitative imaging of intact cells and tissues by multi-dimensional confocal fluorescence microscopy. Experimental Biology Online, 1997, 2, 1-23.	1.0	7
107	Stomata. , 1996, , .		270
108	Aberration control in quantitative imaging of botanical specimens by multidimensional fluorescence microscopy. Journal of Microscopy, 1996, 181, 99-116.	0.8	116

#	Article	IF	Citations
109	Multidimensional Fluorescence Microscopy: Optical Distortions in Quantitative Imaging of Biological Specimens. , 1996, , 47-56.		4
110	Purification, sequencing and functions of calreticulin from maize. Journal of Experimental Botany, 1995, 46, 1603-1613.	2.4	78
111	Genomic Sequence of a Calnexin Homolog from Arabidopsis thaliana. Plant Physiology, 1994, 106, 1691-1691.	2.3	29
112	Two Transduction Pathways Mediate Rapid Effects of Abscisic Acid in Commelina Guard Cells.. Plant Cell, 1994, 6, 1319-1328.	3.1	230
113	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
114	Fluorescencein situhybridisation of multiple probes on a single microscope slide. Nucleic Acids Research, 1994, 22, 3689-3692.	6.5	9
115	Two Transduction Pathways Mediate Rapid Effects of Abscisic Acid in Commelina Guard Cells. Plant Cell, 1994, 6, 1319.	3.1	60
116	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
117	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
118	Confocal Fluorescence Ratio Imaging of pH in Plant Cells. , 1993, , 153-163.		2
119	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
120	Wavelength considerations in confocal microscopy of botanical specimens. Journal of Microscopy, 1992, 166, 29-42.	0.8	49
121	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
122	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
123	Stomatal Responses Measured Using a Viscous Flow (Liquid) Porometer. Journal of Experimental Botany, 1991, 42, 747-755.	2.4	4
124	Role of Calcium in Signal Transduction of Commelina Guard Cells.. Plant Cell, 1991, 3, 333-344.	3.1	280
125	Role of Calcium in Signal Transduction of Commelina Guard Cells. Plant Cell, 1991, 3, 333.	3.1	76
126	Visualisation and measurement of the calcium message in guard cells. Symposia of the Society for Experimental Biology, 1991, 45, 177-90.	0.0	5

#	Article	IF	Citations
127	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
128	Nitrate-Sensitive ATPase Activity and Proton Pumping in Guard Cell Protoplasts ofCommelina. Journal of Experimental Botany, 1990, 41, 193-198.	2.4	10
129	Vanadate Sensitive ATPase and Phosphatase Activity in Guard Cell Protoplasts ofCommelina. Journal of Experimental Botany, 1987, 38, 642-648.	2.4	27
130	The Mycelium as a Network. , 0, , 335-367.		15