# Andrew J Mcelrone

List of Publications by Year
in descending order

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|---|---|---|---|
| 108 papers | 5,805 citations | 76294 40 h-index | 85498 71 g-index |
| 112 all docs | 112 docs citations | 112 times ranked | 5569 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | The Dynamics of Embolism Repair in Xylem: In Vivo Visualizations Using High-Resolution Computed Tomography Â Â Â. Plant Physiology, 2010, 154, 1088-1095. | 2.3 | 335 |
| 2 | Maintenance of xylem Network Transport Capacity: A Review of Embolism Repair in Vascular Plants. Frontiers in Plant Science, 2013, 4, 108. | 1.7 | 248 |
| 3 | Variation in xylem structure and function in stems and roots of trees to 20Âm depth. New Phytologist, 2004, 163, 507-517. | 3.5 | 243 |
| 4 | Outside-Xylem Vulnerability, Not Xylem Embolism, Controls Leaf Hydraulic Decline during Dehydration. Plant Physiology, 2017, 173, 1197-1210. | 2.3 | 195 |
| 5 | Sugar and abscisic acid signaling orthologs are activated at the onset of ripening in grape. Planta, 2010, 232, 219-234. | 1.6 | 183 |
| 6 | Influence of atmospheric and climatic change on plantâ€“pathogen interactions. Plant Pathology, 2011, 60, 54-69. | 1.2 | 181 |
| 7 | In Vivo Visualizations of Drought-Induced Embolism Spread in Vitis vinifera Â Â Â. Plant Physiology, 2013, 161, 1820-1829. | 2.3 | 179 |
| 8 | Measurement of vulnerability to water stress-induced cavitation in grapevine: a comparison of four techniques applied to a long-vesseled species. Plant, Cell and Environment, 2010, 33, no-no. | 2.8 | 175 |
| 9 | Direct X-Ray Microtomography Observation Confirms the Induction of Embolism upon Xylem Cutting under Tension. Plant Physiology, 2015, 167, 40-43. | 2.3 | 156 |
| 10 | Water uptake and hydraulic redistribution across large woody root systems to 20â€ƒm depth. Plant, Cell and Environment, 2010, 33, 2132-2148. | 2.8 | 147 |
| 11 | Synchrotron Xâ€ray microtomography of xylem embolism in Sequoia sempervirens saplings during cycles of drought and recovery. New Phytologist, 2015, 205, 1095-1105. | 3.5 | 127 |
| 12 | Automated analysis of threeâ€dimensional xylem networks using highâ€resolution computed tomography. New Phytologist, 2011, 191, 1168-1179. | 3.5 | 122 |
| 13 | Mechanical Failure of Fine Root Cortical Cells Initiates Plant Hydraulic Decline during Drought. Plant Physiology, 2016, 172, 1669-1678. | 2.3 | 120 |
| 14 | Elevated atmospheric carbon dioxide and ozone alter soybean diseases at SoyFACE. Global Change Biology, 2010, 16, 320-330. | 4.2 | 113 |
| 15 | Water Uptake along the Length of Grapevine Fine Roots: Developmental Anatomy, Tissue-Specific Aquaporin Expression, and Pathways of Water Transport Â Â. Plant Physiology, 2013, 163, 1254-1265. | 2.3 | 109 |
| 16 | The relationship between root hydraulics and scion vigour across Vitis rootstocks: what role do root aquaporins play?. Journal of Experimental Botany, 2012, 63, 6445-6455. | 2.4 | 103 |
| 17 | Leaf vein xylem conduit diameter influences susceptibility to embolism and hydraulic decline. New Phytologist, 2017, 213, 1076-1092. | 3.5 | 102 |
| 18 | Elevated CO2 reduces disease incidence and severity of a red maple fungal pathogen via changes in host physiology and leaf chemistry. Global Change Biology, 2005, 11, 1828-1836. | 4.2 | 100 |

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|---|---|---|---|
| 19 | Interactive effects of water stress and xylem-limited bacterial infection on the water relations of a host vine. Journal of Experimental Botany, 2003, 54, 419-430. | 2.4 | 99 |
| 20 | Effects of Water Stress on Symptomatology and Growth of Parthenocissus quinquefolia Infected by Xylella fastidiosa. Plant Disease, 2001, 85, 1160-1164. | 0.7 | 89 |
| 21 | The Grape Remote Sensing Atmospheric Profile and Evapotranspiration Experiment. Bulletin of the American Meteorological Society, 2018, 99, 1791-1812. | 1.7 | 88 |
| 22 | Grapevine species from varied native habitats exhibit differences in embolism formation/repair associated with leaf gas exchange and root pressure. Plant, Cell and Environment, 2015, 38, 1503-1513. | 2.8 | 85 |
| 23 | In Situ Visualization of the Dynamics in Xylem Embolism Formation and Removal in the Absence of Root Pressure: A Study on Excised Grapevine Stems Â. Plant Physiology, 2016, 171, 1024-1036. | 2.3 | 85 |
| 24 | Bark water uptake promotes localized hydraulic recovery in coastal redwood crown. Plant, Cell and Environment, 2016, 39, 320-328. | 2.8 | 84 |
| 25 | Aquaporinâ€mediated changes in hydraulic conductivity of deep tree roots accessed via caves. Plant, Cell and Environment, 2007, 30, 1411-1421. | 2.8 | 82 |
| 26 | Grapevine petioles are more sensitive to drought induced embolism than stems: evidence from in vivo MRI and microcomputed tomography observations of hydraulic vulnerability segmentation. Plant, Cell and Environment, 2016, 39, 1886-1894. | 2.8 | 82 |
| 27 | Functional Status of Xylem Through Time. Annual Review of Plant Biology, 2019, 70, 407-433. | 8.6 | 79 |
| 28 | Beyond Porosity: 3D Leaf Intercellular Airspace Traits That Impact Mesophyll Conductance. Plant Physiology, 2018, 178, 148-162. | 2.3 | 75 |
| 29 | Differential responses of grapevine rootstocks to water stress are associated with adjustments in fine root hydraulic physiology and suberization. Journal of Experimental Botany, 2015, 66, 6069-6078. | 2.4 | 71 |
| 30 | Calcium partitioning and allocation and blossom-end rot development in tomato plants in response to whole-plant and fruit-specific abscisic acid treatments. Journal of Experimental Botany, 2014, 65, 235-247. | 2.4 | 68 |
| 31 | Response of three eastern tree species to supplemental UV-B radiation: leaf chemistry and gas exchange. Agricultural and Forest Meteorology, 2003, 120, 219-228. | 1.9 | 65 |
| 32 | Xylem vessel relays contribute to radial connectivity in grapevine stems (Vitis vinifera and V.) Tj ETQq0 0 0 rgBT /Overlock 10 T | 0.8 | 60 |
| 33 | The bias of a twoâ€dimensional view: comparing twoâ€dimensional and threeâ€dimensional mesophyll surface area estimates using noninvasive imaging. New Phytologist, 2017, 215, 1609-1622. | 3.5 | 57 |
| 34 | In vivo visualization of the final stages of xylem vessel refilling in grapevine (Vitis) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 142 Tc | 3.5 | 56 |
| 35 | X-ray micro-tomography at the Advanced Light Source. Proceedings of SPIE, 2012, , . | 0.8 | 54 |
| 36 | Patterns of drought-induced embolism formation and spread in living walnut saplings visualized using X-ray microtomography. Tree Physiology, 2015, 35, 744-755. | 1.4 | 53 |

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|---|---|---|---|
| 37 | Maximum CO<sub>2</sub>diffusion inside leaves is limited by the scaling of cell size and genome size. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20203145. | 1.2 | 52 |
| 38 | Centrifuge technique consistently overestimates vulnerability to water stressâ€induced cavitation in grapevines as confirmed with highâ€resolution computed tomography. New Phytologist, 2012, 196, 661-665. | 3.5 | 50 |
| 39 | The Causes of Leaf Hydraulic Vulnerability and Its Influence on Gas Exchange in Arabidopsis thaliana. Plant Physiology, 2018, 178, 1584-1601. | 2.3 | 50 |
| 40 | Differences in grapevine rootstock sensitivity and recovery from drought are linked to fine root cortical lacunae and root tip function. New Phytologist, 2021, 229, 272-283. | 3.5 | 50 |
| 41 | Water Transport Properties of the Grape Pedicel during Fruit Development: Insights into Xylem Anatomy and Function Using Microtomography. Plant Physiology, 2015, 168, 1590-1602. | 2.3 | 48 |
| 42 | Aquaporins and Root Water Uptake. Signaling and Communication in Plants, 2017, , 133-153. | 0.5 | 47 |
| 43 | Genes Expressed in Grapevine Leaves Reveal Latent Wood Infection by the Fungal Pathogen Neofusicoccum parvum. PLoS ONE, 2015, 10, e0121828. | 1.1 | 44 |
| 44 | Hydraulic disruption and passive migration by a bacterial pathogen in oak tree xylem. Journal of Experimental Botany, 2008, 59, 2649-2657. | 2.4 | 42 |
| 45 | In vivo pressure gradient heterogeneity increases flow contribution of small diameter vessels in grapevine. Nature Communications, 2019, 10, 5645. | 5.8 | 41 |
| 46 | Spatiotemporal Coupling of Vessel Cavitation and Discharge of Stored Xylem Water in a Tree Sapling. Plant Physiology, 2019, 179, 1658-1668. | 2.3 | 39 |
| 47 | Predicting Stomatal Closure and Turgor Loss in Woody Plants Using Predawn and Midday Water Potential. Plant Physiology, 2020, 184, 881-894. | 2.3 | 39 |
| 48 | In vivo quantification of plant starch reserves at micrometer resolution using Xâ€ray micro<scp>CT</scp> imaging and machine learning. New Phytologist, 2018, 218, 1260-1269. | 3.5 | 38 |
| 49 | Combined effects of elevated CO2 and natural climatic variation on leaf spot diseases of redbud and sweetgum trees. Environmental Pollution, 2010, 158, 108-114. | 3.7 | 37 |
| 50 | Extreme heat effects on perennial crops and strategies for sustaining future production. Plant Science, 2020, 295, 110397. | 1.7 | 36 |
| 51 | The role of tyloses in crown hydraulic failure of mature walnut trees afflicted by apoplexy disorder. Tree Physiology, 2010, 30, 761-772. | 1.4 | 35 |
| 52 | Structure Function Analysis of Two-Scale Scalar Ramps. Part II: Ramp Characteristics and Surface Renewal Flux Estimation. Boundary-Layer Meteorology, 2012, 145, 27-44. | 1.2 | 35 |
| 53 | Using High Resolution Computed Tomography to Visualize the Three Dimensional Structure and Function of Plant Vasculature. Journal of Visualized Experiments, 2013, , . | 0.2 | 32 |
| 54 | Copper oxide nanoparticle effects on root growth and hydraulic conductivity of two vegetable crops. Plant and Soil, 2018, 431, 333-345. | 1.8 | 32 |

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|---|---|---|---|
| 55 | Xylem network connectivity and embolism spread in grapevine(Vitis viniferaL.). Plant Physiology, 2021, 186, 373-387. | 2.3 | 32 |
| 56 | Structure Function Analysis of Two-Scale Scalar Ramps. Part I: Theory and Modelling. Boundary-Layer Meteorology, 2012, 145, 5-25. | 1.2 | 31 |
| 57 | Storage Compartments for Capillary Water Rarely Refill in an Intact Woody Plant Â. Plant Physiology, 2017, 175, 1649-1660. | 2.3 | 31 |
| 58 | Cover Crops and Tillage in a Mature Merlot Vineyard Show Few Effects on Grapevines. American Journal of Enology and Viticulture, 2013, 64, 515-521. | 0.9 | 28 |
| 59 | Excess Diffuse Light Absorption in Upper Mesophyll Limits CO<sub>2</sub> Drawdown and Depresses Photosynthesis. Plant Physiology, 2017, 174, 1082-1096. | 2.3 | 28 |
| 60 | Water uptake can occur through woody portions of roots and facilitates localized embolism repair in grapevine. New Phytologist, 2018, 218, 506-516. | 3.5 | 28 |
| 61 | Evaluating the potential of a novel dual heat-pulse sensor to measure volumetric water use in grapevines under a range of flow conditions. Functional Plant Biology, 2014, 41, 874. | 1.1 | 27 |
| 62 | Analysis of HRCT-derived xylem network reveals reverse flow in some vessels. Journal of Theoretical Biology, 2013, 333, 146-155. | 0.8 | 25 |
| 63 | Variations in xylem embolism susceptibility under drought between intact saplings of three walnut species. Tree Physiology, 2018, 38, 1180-1192. | 1.4 | 25 |
| 64 | Effects of Various Vineyard Floor Management Techniques on Weed Community Shifts and Grapevine Water Relations. American Journal of Enology and Viticulture, 2016, 67, 153-162. | 0.9 | 24 |
| 65 | In Vivo Tracking of Copper-64 Radiolabeled Nanoparticles in Lactuca sativa. Environmental Science & Technology, 2017, 51, 12537-12546. | 4.6 | 23 |
| 66 | Digitally deconstructing leaves in 3D using Xâ€ray microcomputed tomography and machine learning. Applications in Plant Sciences, 2020, 8, e11380. | 0.8 | 23 |
| 67 | Photosynthetic Responses of a Temperate Liana toXylella fastidiosaInfection and Water Stress. Journal of Phytopathology, 2004, 152, 9-20. | 0.5 | 22 |
| 68 | Crop Water Stress Index of an irrigated vineyard in the Central Valley of California. Irrigation Science, 2019, 37, 297-313. | 1.3 | 21 |
| 69 | Xylella fastidiosa causes transcriptional shifts that precede tylose formation and starch depletion in xylem. Molecular Plant Pathology, 2021, 22, 175-188. | 2.0 | 21 |
| 70 | An intercomparison of radiation partitioning models in vineyard canopies. Irrigation Science, 2019, 37, 239-252. | 1.3 | 18 |
| 71 | Revisiting the Source of Wilt Symptoms: X-Ray Microcomputed Tomography Provides Direct Evidence ThatRalstoniaBiomass Clogs Xylem Vessels. PhytoFrontiers, 2022, 2, 41-51. | 0.8 | 18 |
| 72 | Coordinated decline of leaf hydraulic and stomatal conductances under drought is not linked to leaf xylem embolism for different grapevine cultivars. Journal of Experimental Botany, 2020, 71, 7286-7300. | 2.4 | 18 |

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|---|---|---|---|
| 73 | A comparative study on physiological responses to drought in walnut genotypes (RX1, Vlach, VX211) commercially available as rootstocks. Trees - Structure and Function, 2020, 34, 665-678. | 0.9 | 17 |
| 74 | Differences in hydraulic traits of grapevine rootstocks are not conferred to a common Vitis vinifera scion. Functional Plant Biology, 2019, 46, 228. | 1.1 | 16 |
| 75 | Spatialâ€“temporal modeling of root zone soil moisture dynamics in a vineyard using machine learning and remote sensing. Irrigation Science, 2022, 40, 761-777. | 1.3 | 15 |
| 76 | Desiccation of the leaf mesophyll and its implications for CO<sub>2</sub> diffusion and light processing. Plant, Cell and Environment, 2022, 45, 1362-1381. | 2.8 | 15 |
| 77 | Functional hydraulic sectoring in grapevines as evidenced by sap flow, dye infusion, leaf removal and micro-computed tomography. AoB PLANTS, 2021, 13, plab003. | 1.2 | 14 |
| 78 | LAI estimation across California vineyards using sUAS multi-seasonal multi-spectral, thermal, and elevation information and machine learning. Irrigation Science, 2022, 40, 731-759. | 1.3 | 14 |
| 79 | Determining Evapotranspiration by Using Combination Equation Models with Sentinel-2 Data and Comparison with Thermal-Based Energy Balance in a California Irrigated Vineyard. Remote Sensing, 2021, 13, 3720. | 1.8 | 13 |
| 80 | Root pressureâ€“volume curve traits capture rootstock drought tolerance. Annals of Botany, 2022, 129, 389-402. | 1.4 | 13 |
| 81 | Vine water status mapping with multispectral UAV imagery and machine learning. Irrigation Science, 2022, 40, 715-730. | 1.3 | 12 |
| 82 | Comparison of a stand-alone surface renewal method to weighing lysimetry and eddy covariance for determining vineyard evapotranspiration and vine water stress. Irrigation Science, 2019, 37, 737-749. | 1.3 | 11 |
| 83 | Impact of advection on two-source energy balance (TSEB) canopy transpiration parameterization for vineyards in the California Central Valley. Irrigation Science, 2022, 40, 575-591. | 1.3 | 11 |
| 84 | Application of a remote-sensing three-source energy balance model to improve evapotranspiration partitioning in vineyards. Irrigation Science, 2022, 40, 593-608. | 1.3 | 11 |
| 85 | Modification of a gas exchange system to measure active and passive chlorophyll fluorescence simultaneously under field conditions. AoB PLANTS, 2021, 13, plaa066. | 1.2 | 10 |
| 86 | Detecting short-term stress and recovery events in a vineyard using tower-based remote sensing of photochemical reflectance index (PRI). Irrigation Science, 2022, 40, 683-696. | 1.3 | 10 |
| 87 | Evapotranspiration uncertainty at micrometeorological scales: the impact of the eddy covariance energy imbalance and correction methods. Irrigation Science, 2022, 40, 445-461. | 1.3 | 10 |
| 88 | Improving the spatiotemporal resolution of remotely sensed ET information for water management through Landsat, Sentinel-2, ECOSTRESS and VIIRS data fusion. Irrigation Science, 2022, 40, 609-634. | 1.3 | 10 |
| 89 | Ecologically driven selection of nonstructural carbohydrate storage in oak trees. New Phytologist, 2021, 232, 567-578. | 3.5 | 9 |
| 90 | Response and Recovery of Grapevine to Water Deficit: From Genes to Physiology. Compendium of Plant Genomes, 2019, , 223-245. | 0.3 | 8 |

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|---|---|---|---|
| 91 | Structural and functional leaf diversity lead to variability in photosynthetic capacity across a range of Juglans regia genotypes. Plant, Cell and Environment, 2022, 45, 2351-2365. | 2.8 | 8 |
| 92 | Surface Renewal: An Advanced Micrometeorological Method for Measuring and Processing Field-Scale Energy Flux Density Data. Journal of Visualized Experiments, 2013, , e50666. | 0.2 | 7 |
| 93 | Microbial response to copper oxide nanoparticles in soils is controlled by land use rather than copper fate. Environmental Science: Nano, 2021, 8, 3560-3576. | 2.2 | 7 |
| 94 | Water Management of Irrigated Cabernet Sauvignon Grapevines in Semi-Arid Areas. American Journal of Enology and Viticulture, 2017, 68, 458-467. | 0.9 | 6 |
| 95 | Inherent and Stress-Induced Responses of Fine Root Morphology and Anatomy in Commercial Grapevine Rootstocks with Contrasting Drought Resistance. Plants, 2021, 10, 1121. | 1.6 | 6 |
| 96 | Application of the vineyard data assimilation (VIDA) system to vineyard root-zone soil moisture monitoring in the California Central Valley. Irrigation Science, 0, , 1. | 1.3 | 6 |
| 97 | Anatomical and hydraulic responses to desiccation in emergent conifer seedlings. American Journal of Botany, 2020, 107, 1177-1188. | 0.8 | 5 |
| 98 | Inter-annual variability of land surface fluxes across vineyards: the role of climate, phenology, and irrigation management. Irrigation Science, 2022, 40, 463-480. | 1.3 | 5 |
| 99 | Gas exchange responses of a desert herbaceous perennial to variable sunlight in contrasting microhabitats. Journal of Arid Environments, 2004, 58, 439-449. | 1.2 | 4 |
| 100 | Genomic <scp>DNA</scp>â€based absolute quantification of gene expression in Vitis. Physiologia Plantarum, 2013, 148, 334-343. | 2.6 | 4 |
| 101 | Comparison of vineyard evapotranspiration estimates from surface renewal using measured and modelled energy balance components in the GRAPEX project. Irrigation Science, 2019, 37, 333-343. | 1.3 | 4 |
| 102 | Evapotranspiration partitioning assessment using a machine-learning-based leaf area index and the two-source energy balance model with sUAV information. , 2021, 11747, . | | 4 |
| 103 | Interactive effects of water stress and xylemâ€limited bacterial infection on the water relations of a host vine. , 0, . | | 4 |
| 104 | Influence ofÂmodelingÂdomain and meteorological forcingÂdataÂonÂdaily evapotranspiration estimates from aÂShuttleworthâ€“Wallace modelÂusingÂSentinel-2 surface reflectance data. Irrigation Science, 0, , 1. | 1.3 | 4 |
| 105 | Evaluating different metrics from the thermal-based two-source energy balance model for monitoring grapevine water stress. Irrigation Science, 0, , . | 1.3 | 4 |
| 106 | Modeling vegetative vigour in grapevine: unraveling underlying mechanisms. Heliyon, 2020, 6, e05708. | 1.4 | 2 |
| 107 | <title>Effects of UV-B radiation on phenolic composition and deposition patterns and leaf physiology in three Eastern tree species</title>. , 2002, , . | | 1 |
| 108 | Evaluating the Potential of Well Profiling Technology to Limit Irrigation Water Salinity in California Vineyards. Applied Engineering in Agriculture, 2012, 28, 657-664. | 0.3 | 0 |