

Melanie A Mayes

List of Publications by Year in descending order

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Version: 2024-02-01

65
papers

3,527
citations

201674

27
h-index

144013

57
g-index

85
all docs

85
docs citations

85
times ranked

4653
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | Soil carbon stocks in temperate grasslands differ strongly across sites but are insensitive to decade-long fertilization. <i>Global Change Biology</i> , 2022, 28, 1659-1677. | 9.5 | 34 |
| 2 | Dynamics of Fungal and Bacterial Biomass Carbon in Natural Ecosystems: Site-Level Applications of the CLM-Microbe Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2021, 13, e2020MS002283. | 3.8 | 11 |
| 3 | How much carbon can be added to soil by sorption?. <i>Biogeochemistry</i> , 2021, 152, 127-142. | 3.5 | 27 |
| 4 | Evaluation of engineered sorbents for the sorption of mercury from contaminated bank soils: a column study. <i>Environmental Science and Pollution Research</i> , 2021, 28, 22651-22663. | 5.3 | 3 |
| 5 | Bringing function to structure: Root-soil interactions shaping phosphatase activity throughout a soil profile in Puerto Rico. <i>Ecology and Evolution</i> , 2021, 11, 1150-1164. | 1.9 | 28 |
| 6 | Biological mechanisms may contribute to soil carbon saturation patterns. <i>Global Change Biology</i> , 2021, 27, 2633-2644. | 9.5 | 33 |
| 7 | Representing methane emissions from wet tropical forest soils using microbial functional groups constrained by soil diffusivity. <i>Biogeosciences</i> , 2021, 18, 1769-1786. | 3.3 | 3 |
| 8 | Microbial seasonality promotes soil respiratory carbon emission in natural ecosystems: A modeling study. <i>Global Change Biology</i> , 2021, 27, 3035-3051. | 9.5 | 16 |
| 9 | Differential Organic Carbon Mineralization Responses to Soil Moisture in Three Different Soil Orders Under Mixed Forested System. <i>Frontiers in Environmental Science</i> , 2021, 9, . | 3.3 | 7 |
| 10 | Intensified Soil Moisture Extremes Decrease Soil Organic Carbon Decomposition: A Mechanistic Modeling Analysis. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2021, 126, e2021JG006392. | 3.0 | 3 |
| 11 | Phosphorus rather than nitrogen enhances CO ₂ emissions in tropical forest soils: Evidence from a laboratory incubation study. <i>European Journal of Soil Science</i> , 2020, 71, 495-510. | 3.9 | 21 |
| 12 | Investigating drivers of microbial activity and respiration in a forested bog. <i>Pedosphere</i> , 2020, 30, 135-145. | 4.0 | 7 |
| 13 | Plant roots stimulate the decomposition of complex, but not simple, soil carbon. <i>Functional Ecology</i> , 2020, 34, 899-910. | 3.6 | 28 |
| 14 | COSORE: A community database for continuous soil respiration and other soil-atmosphere greenhouse gas flux data. <i>Global Change Biology</i> , 2020, 26, 7268-7283. | 9.5 | 50 |
| 15 | Multi-year incubation experiments boost confidence in model projections of long-term soil carbon dynamics. <i>Nature Communications</i> , 2020, 11, 5864. | 12.8 | 18 |
| 16 | Modeling the processes of soil moisture in regulating microbial and carbon-nitrogen cycling. <i>Journal of Hydrology</i> , 2020, 585, 124777. | 5.4 | 27 |
| 17 | Nitrogen Fertilization Restructured Spatial Patterns of Soil Organic Carbon and Total Nitrogen in Switchgrass and Gamagrass Croplands in Tennessee USA. <i>Scientific Reports</i> , 2020, 10, 1211. | 3.3 | 7 |
| 18 | Exploring the sustainability and sealing mechanisms of unlined ponds for growing algae for fuel and other commodity-scale products. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 121, 109708. | 16.4 | 8 |

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|----|---|------|-----------|
| 19 | Effects of nitrogen fertilization and bioenergy crop type on topsoil organic carbon and total Nitrogen contents in middle Tennessee USA. <i>PLoS ONE</i> , 2020, 15, e0230688. | 2.5 | 6 |
| 20 | Dissolved organic matter reduces the effectiveness of sorbents for mercury removal. <i>Science of the Total Environment</i> , 2019, 690, 410-416. | 8.0 | 42 |
| 21 | The global soil community and its influence on biogeochemistry. <i>Science</i> , 2019, 365, . | 12.6 | 586 |
| 22 | Evaluating the E3SM land model version 0 (ELMv0) at a temperate forest site using flux and soil water measurements. <i>Geoscientific Model Development</i> , 2019, 12, 1601-1612. | 3.6 | 7 |
| 23 | Source relationships between streambank soils and streambed sediments in a mercury-contaminated stream. <i>Journal of Soils and Sediments</i> , 2019, 19, 2007-2019. | 3.0 | 18 |
| 24 | Soil Carbon Accumulation and Nutrient Availability in Managed and Unmanaged Ecosystems of East Tennessee. <i>Soil Science Society of America Journal</i> , 2019, 83, 458-465. | 2.2 | 7 |
| 25 | Genome-Resolved Proteomic Stable Isotope Probing of Soil Microbial Communities Using ¹³ C ₂ O ₂ and ¹³ C-Methanol. <i>Frontiers in Microbiology</i> , 2019, 10, 2706. | 3.5 | 23 |
| 26 | Soil moisture drives microbial controls on carbon decomposition in two subtropical forests. <i>Soil Biology and Biochemistry</i> , 2019, 130, 185-194. | 8.8 | 42 |
| 27 | Reduced carbon use efficiency and increased microbial turnover with soil warming. <i>Global Change Biology</i> , 2019, 25, 900-910. | 9.5 | 70 |
| 28 | Soil sealing by algae: An alternative to plastic pond liners for outdoor algal cultivation. <i>Algal Research</i> , 2019, 38, 101414. | 4.6 | 5 |
| 29 | Phosphorus sorption on tropical soils with relevance to Earth system model needs. <i>Soil Research</i> , 2019, 57, 17. | 1.1 | 20 |
| 30 | Phosphate addition increases tropical forest soil respiration primarily by deconstraining microbial population growth. <i>Soil Biology and Biochemistry</i> , 2019, 130, 43-54. | 8.8 | 26 |
| 31 | Differential effects of warming and nitrogen fertilization on soil respiration and microbial dynamics in switchgrass croplands. <i>GCB Bioenergy</i> , 2018, 10, 565-576. | 5.6 | 21 |
| 32 | Community proteogenomics reveals the systemic impact of phosphorus availability on microbial functions in tropical soil. <i>Nature Ecology and Evolution</i> , 2018, 2, 499-509. | 7.8 | 116 |
| 33 | The Millennial model: in search of measurable pools and transformations for modeling soil carbon in the new century. <i>Biogeochemistry</i> , 2018, 137, 51-71. | 3.5 | 139 |
| 34 | Multiple models and experiments underscore large uncertainty in soil carbon dynamics. <i>Biogeochemistry</i> , 2018, 141, 109-123. | 3.5 | 169 |
| 35 | Effect of long-term irrigation patterns on phosphorus forms and distribution in the brown soil zone. <i>PLoS ONE</i> , 2017, 12, e0188361. | 2.5 | 15 |
| 36 | Soil extracellular enzyme activities, soil carbon and nitrogen storage under nitrogen fertilization: A meta-analysis. <i>Soil Biology and Biochemistry</i> , 2016, 101, 32-43. | 8.8 | 483 |

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|----|---|------|-----------|
| 37 | Chemical and isotope compositions of shallow groundwater in areas impacted by hydraulic fracturing and surface mining in the Central Appalachian Basin, Eastern United States. <i>Applied Geochemistry</i> , 2016, 71, 73-85. | 3.0 | 22 |
| 38 | Interactions among roots, mycorrhizas and free-living microbial communities differentially impact soil carbon processes. <i>Journal of Ecology</i> , 2015, 103, 1442-1453. | 4.0 | 64 |
| 39 | Microbial dormancy improves development and experimental validation of ecosystem model. <i>ISME Journal</i> , 2015, 9, 226-237. | 9.8 | 113 |
| 40 | Representation of Dormant and Active Microbial Dynamics for Ecosystem Modeling. <i>PLoS ONE</i> , 2014, 9, e89252. | 2.5 | 59 |
| 41 | Substrate quality alters the microbial mineralization of added substrate and soil organic carbon. <i>Biogeosciences</i> , 2014, 11, 4665-4678. | 3.3 | 56 |
| 42 | Soil carbon sensitivity to temperature and carbon use efficiency compared across microbial-ecosystem models of varying complexity. <i>Biogeochemistry</i> , 2014, 119, 67-84. | 3.5 | 89 |
| 43 | Spatial Arrangement of Organic Compounds on a Model Mineral Surface: Implications for Soil Organic Matter Stabilization. <i>Environmental Science & Technology</i> , 2014, 48, 79-84. | 10.0 | 29 |
| 44 | Decomposition of added and native organic carbon from physically separated fractions of diverse soils. <i>Biology and Fertility of Soils</i> , 2014, 50, 613-621. | 4.3 | 23 |
| 45 | Investigation of laser-induced breakdown spectroscopy and multivariate analysis for differentiating inorganic and organic C in a variety of soils. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2013, 87, 100-107. | 2.9 | 32 |
| 46 | Development of microbial-enzyme-mediated decomposition model parameters through steady-state and dynamic analyses. <i>Ecological Applications</i> , 2013, 23, 255-272. | 3.8 | 190 |
| 47 | Neutron reflectometry reveals the internal structure of organic compounds deposited on aluminum oxide. <i>Geoderma</i> , 2013, 192, 182-188. | 5.1 | 13 |
| 48 | Role of soil organic carbon and colloids in sorption and transport of TNT, RDX and HMX in training range soils. <i>Chemosphere</i> , 2013, 92, 993-1000. | 8.2 | 27 |
| 49 | Kinetic parameters of phosphatase: A quantitative synthesis. <i>Soil Biology and Biochemistry</i> , 2013, 65, 105-113. | 8.8 | 61 |
| 50 | Activation Energy of Extracellular Enzymes in Soils from Different Biomes. <i>PLoS ONE</i> , 2013, 8, e59943. | 2.5 | 45 |
| 51 | Relation between Soil Order and Sorption of Dissolved Organic Carbon in Temperate Subsoils. <i>Soil Science Society of America Journal</i> , 2012, 76, 1027-1037. | 2.2 | 65 |
| 52 | Transport of Explosive Residue Surrogates in Saturated Porous Media. <i>Water, Air, and Soil Pollution</i> , 2012, 223, 1983-1993. | 2.4 | 2 |
| 53 | Parameter estimation for models of ligninolytic and cellulolytic enzyme kinetics. <i>Soil Biology and Biochemistry</i> , 2012, 48, 28-38. | 8.8 | 77 |
| 54 | Selective Sorption of Dissolved Organic Carbon Compounds by Temperate Soils. <i>PLoS ONE</i> , 2012, 7, e50434. | 2.5 | 33 |

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|----|---|------|-----------|
| 55 | Response of Alamo switchgrass tissue chemistry and biomass to nitrogen fertilization in West Tennessee, USA. <i>Agriculture, Ecosystems and Environment</i> , 2011, 140, 289-297. | 5.3 | 42 |
| 56 | Impact of Uranyl-Calcium Carbonate Complexes on Uranium(VI) Adsorption to Synthetic and Natural Sediments. <i>Environmental Science & Technology</i> , 2010, 44, 928-934. | 10.0 | 169 |
| 57 | CXTFIT/Excel: A modular adaptable code for parameter estimation, sensitivity analysis and uncertainty analysis for laboratory or field tracer experiments. <i>Computers and Geosciences</i> , 2010, 36, 1200-1209. | 4.2 | 56 |
| 58 | Influence of Sedimentary Bedding on Reactive Transport Parameters under Unsaturated Conditions. <i>Soil Science Society of America Journal</i> , 2009, 73, 1938-1946. | 2.2 | 4 |
| 59 | Improving parameter estimation for column experiments by multi-model evaluation and comparison. <i>Journal of Hydrology</i> , 2009, 376, 567-578. | 5.4 | 20 |
| 60 | Estimating Effective Hydraulic Parameters of Unsaturated Layered Sediments Using a Cantor Bar Composite Medium Model. <i>Vadose Zone Journal</i> , 2008, 7, 493-499. | 2.2 | 4 |
| 61 | Quantifying the physical and chemical mass transfer processes for the fate and transport of Co(II)EDTA in a partially-weathered limestone shale saprolite. <i>Journal of Contaminant Hydrology</i> , 2007, 90, 184-202. | 3.3 | 6 |
| 62 | Transport of Sr ²⁺ and SrEDTA ²⁻ in partially-saturated and heterogeneous sediments. <i>Journal of Contaminant Hydrology</i> , 2007, 91, 267-287. | 3.3 | 23 |
| 63 | Vadose Zone Flow and Transport of Dissolved Organic Carbon at Multiple Scales in Humid Regimes. <i>Vadose Zone Journal</i> , 2006, 5, 140-152. | 2.2 | 39 |
| 64 | Coupled Hydrological and Geochemical Processes Governing the Fate and Transport of Sr and U in the Hanford Vadose Zone. <i>ACS Symposium Series</i> , 2005, , 229-250. | 0.5 | 1 |
| 65 | Quantifying the Effects of Small-Scale Heterogeneities on Flow and Transport in Undisturbed Cores from the Hanford Formation. <i>Vadose Zone Journal</i> , 2003, 2, 664-676. | 2.2 | 16 |