

Teamrat A Ghezzehei

List of Publications by Year in descending order

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Version: 2024-02-01

72
papers

3,489
citations

186265

28
h-index

144013

57
g-index

104
all docs

104
docs citations

104
times ranked

4423
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | A new method for rapid determination of carbohydrate and total carbon concentrations using UV spectrophotometry. <i>Carbohydrate Polymers</i> , 2013, 97, 253-261. | 10.2 | 482 |
| 2 | Modeling Soil Processes: Review, Key Challenges, and New Perspectives. <i>Vadose Zone Journal</i> , 2016, 15, 1-57. | 2.2 | 445 |
| 3 | Effectiveness of Biochar for Sorption of Ammonium and Phosphate from Dairy Effluent. <i>Journal of Environmental Quality</i> , 2013, 42, 1545-1554. | 2.0 | 156 |
| 4 | Soil structure is an important omission in Earth System Models. <i>Nature Communications</i> , 2020, 11, 522. | 12.8 | 138 |
| 5 | Modeling post-tillage soil structural dynamics: a review. <i>Soil and Tillage Research</i> , 2002, 64, 41-59. | 5.6 | 129 |
| 6 | Rheological Properties of Wet Soils and Clays under Steady and Oscillatory Stresses. <i>Soil Science Society of America Journal</i> , 2001, 65, 624-637. | 2.2 | 128 |
| 7 | Modeling the dynamics of the soil pore-size distribution. <i>Soil and Tillage Research</i> , 2002, 64, 61-78. | 5.6 | 108 |
| 8 | Using Machine Learning for Prediction of Saturated Hydraulic Conductivity and Its Sensitivity to Soil Structural Perturbations. <i>Water Resources Research</i> , 2019, 55, 5715-5737. | 4.2 | 103 |
| 9 | Effects of Root-Induced Compaction on Rhizosphere Hydraulic Properties - X-ray Microtomography Imaging and Numerical Simulations. <i>Environmental Science & Technology</i> , 2011, 45, 425-431. | 10.0 | 101 |
| 10 | Impact of Biochar Enriched with Dairy Manure Effluent on Carbon and Nitrogen Dynamics. <i>Journal of Environmental Quality</i> , 2012, 41, 1107-1114. | 2.0 | 99 |
| 11 | Stochastic model for posttillage soil pore space evolution. <i>Water Resources Research</i> , 2000, 36, 1641-1652. | 4.2 | 96 |
| 12 | Interplay between soil drying and root exudation in rhizosheath development. <i>Plant and Soil</i> , 2014, 374, 739-751. | 3.7 | 85 |
| 13 | Development and analysis of the Soil Water Infiltration Global database. <i>Earth System Science Data</i> , 2018, 10, 1237-1263. | 9.9 | 85 |
| 14 | Biochar can be used to capture essential nutrients from dairy wastewater and improve soil physico-chemical properties. <i>Solid Earth</i> , 2014, 5, 953-962. | 2.8 | 84 |
| 15 | Dynamics of soil aggregate coalescence governed by capillary and rheological processes. <i>Water Resources Research</i> , 2000, 36, 367-379. | 4.2 | 83 |
| 16 | Quantifying coupled deformation and water flow in the rhizosphere using X-ray microtomography and numerical simulations. <i>Plant and Soil</i> , 2014, 376, 95-110. | 3.7 | 57 |
| 17 | Correspondence of the Gardner and van Genuchten-Mualem relative permeability function parameters. <i>Water Resources Research</i> , 2007, 43, . | 4.2 | 50 |
| 18 | Analytical Models for Soil Pore-Size Distribution After Tillage. <i>Soil Science Society of America Journal</i> , 2002, 66, 1104-1114. | 2.2 | 47 |

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|----|--|------|-----------|
| 19 | Confronting the water potential information gap. <i>Nature Geoscience</i> , 2022, 15, 158-164. | 12.9 | 47 |
| 20 | On the role of soil water retention characteristic on aerobic microbial respiration. <i>Biogeosciences</i> , 2019, 16, 1187-1209. | 3.3 | 44 |
| 21 | Degradation of moist soil aggregates by rapid temperature rise under low intensity fire. <i>Plant and Soil</i> , 2013, 362, 335-344. | 3.7 | 42 |
| 22 | Alteration of physical and chemical characteristics of clayey soils by irrigation with treated waste water. <i>Geoderma</i> , 2016, 276, 33-40. | 5.1 | 40 |
| 23 | Spatial distribution of rhizodeposits provides built-in water potential gradient in the rhizosphere. <i>Ecological Modelling</i> , 2015, 298, 53-63. | 2.5 | 38 |
| 24 | Modeling Coupled Evaporation and Seepage in Ventilated Cavities. <i>Vadose Zone Journal</i> , 2004, 3, 806-818. | 2.2 | 35 |
| 25 | Liquid fragmentation and intermittent flow regimes in unsaturated fractured media. <i>Water Resources Research</i> , 2005, 41, . | 4.2 | 34 |
| 26 | On the transport of emulsions in porous media. <i>Journal of Colloid and Interface Science</i> , 2007, 313, 1-4. | 9.4 | 33 |
| 27 | Water for Carbon, Carbon for Water. <i>Vadose Zone Journal</i> , 2016, 15, 1-10. | 2.2 | 33 |
| 28 | Hydraulic Redistribution by Native Sahelian Shrubs: Bioirrigation to Resist In-Season Drought. <i>Frontiers in Environmental Science</i> , 2018, 6, . | 3.3 | 33 |
| 29 | Influence of Calcium Carbonate and Charcoal Applications on Organic Matter Storage in Silt-Sized Aggregates Formed during a Microcosm Experiment. <i>Soil Science Society of America Journal</i> , 2014, 78, 1624-1631. | 2.2 | 29 |
| 30 | Physics-Informed Neural Networks With Monotonicity Constraints for Richardson-Richards Equation: Estimation of Constitutive Relationships and Soil Water Flux Density From Volumetric Water Content Measurements. <i>Water Resources Research</i> , 2021, 57, e2020WR027642. | 4.2 | 29 |
| 31 | Constraints for flow regimes on smooth fracture surfaces. <i>Water Resources Research</i> , 2004, 40, . | 4.2 | 28 |
| 32 | Traveling liquid bridges in unsaturated fractured porous media. <i>Transport in Porous Media</i> , 2007, 68, 129-151. | 2.6 | 28 |
| 33 | Physicochemical controls on initiation and evolution of desiccation cracks in sand-bentonite mixtures: X-ray CT imaging and stochastic modeling. <i>Journal of Contaminant Hydrology</i> , 2011, 126, 100-112. | 3.3 | 28 |
| 34 | Steering operational synergies in terrestrial observation networks: opportunity for advancing Earth system dynamics modelling. <i>Earth System Dynamics</i> , 2018, 9, 593-609. | 7.1 | 28 |
| 35 | Evolution of unsaturated hydraulic conductivity of aggregated soils due to compressive forces. <i>Water Resources Research</i> , 2008, 44, . | 4.2 | 27 |
| 36 | Using National Ambient Air Quality Standards for fine particulate matter to assess regional wildland fire smoke and air quality management. <i>Journal of Environmental Management</i> , 2017, 201, 345-356. | 7.8 | 27 |

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|----|--|-----|-----------|
| 37 | Decomposition of distinct organic matter pools is regulated by moisture status in structured wetland soils. <i>Soil Biology and Biochemistry</i> , 2015, 81, 28-37. | 8.8 | 25 |
| 38 | Dripping into subterranean cavities from unsaturated fractures under evaporative conditions. <i>Water Resources Research</i> , 2000, 36, 381-393. | 4.2 | 24 |
| 39 | Water Distribution in an Arid Zone Soil: Numerical Analysis of Data from a Large Weighing Lysimeter. <i>Vadose Zone Journal</i> , 2018, 17, 1-17. | 2.2 | 24 |
| 40 | Pore Space Dynamics in a Soil Aggregate Bed under a Static External Load. <i>Soil Science Society of America Journal</i> , 2003, 67, 12-19. | 2.2 | 20 |
| 41 | Early Spring, Severe Frost Events, and Drought Induce Rapid Carbon Loss in High Elevation Meadows. <i>PLoS ONE</i> , 2014, 9, e106058. | 2.5 | 19 |
| 42 | Soil Structural Degradation During Low Severity Burns. <i>Geophysical Research Letters</i> , 2018, 45, 5553-5561. | 4.0 | 18 |
| 43 | Advances in soil moisture retrieval from multispectral remote sensing using unoccupied aircraft systems and machine learning techniques. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 2739-2758. | 4.9 | 18 |
| 44 | Errors in determination of soil water content using time domain reflectometry caused by soil compaction around waveguides. <i>Water Resources Research</i> , 2008, 44, . | 4.2 | 17 |
| 45 | Linking sub-pore scale heterogeneity of biological and geochemical deposits with changes in permeability. <i>Advances in Water Resources</i> , 2012, 39, 1-6. | 3.8 | 16 |
| 46 | Vulnerability of Physically Protected Soil Organic Carbon to Loss Under Low Severity Fires. <i>Frontiers in Environmental Science</i> , 2018, 6, . | 3.3 | 15 |
| 47 | Heterogeneous seepage at the Nopal I natural analogue site, Chihuahua, Mexico. <i>Hydrogeology Journal</i> , 2012, 20, 155-166. | 2.1 | 13 |
| 48 | Quantifying the Effect of Subcritical Water Repellency on Sorptivity: A Physically Based Model. <i>Water Resources Research</i> , 2020, 56, e2020WR027942. | 4.2 | 13 |
| 49 | Infiltration into fractured bedrock. <i>Water Resources Research</i> , 2008, 44, . | 4.2 | 12 |
| 50 | An Index for Degree of Hysteresis in Water Retention. <i>Soil Science Society of America Journal</i> , 2011, 75, 2122-2127. | 2.2 | 12 |
| 51 | A modified multiple tension upward infiltration method to estimate the soil hydraulic properties. <i>Hydrological Processes</i> , 2016, 30, 2991-3003. | 2.6 | 12 |
| 52 | Upward infiltration-evaporation method to estimate soil hydraulic properties. <i>Hydrological Sciences Journal</i> , 2017, 62, 1683-1693. | 2.6 | 11 |
| 53 | Alteration of soil physical properties and processes after ten years of intercropping with native shrubs in the Sahel. <i>Soil and Tillage Research</i> , 2018, 182, 153-163. | 5.6 | 11 |
| 54 | Stress-induced volume reduction of isolated pores in wet soil. <i>Water Resources Research</i> , 2003, 39, . | 4.2 | 10 |

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|----|--|-----|-----------|
| 55 | Intercropping with two native woody shrubs improves water status and development of interplanted groundnut and pearl millet in the Sahel. <i>Plant and Soil</i> , 2019, 435, 143-159. | 3.7 | 10 |
| 56 | Modeling Coupled Evaporation and Seepage in Ventilated Cavities. <i>Vadose Zone Journal</i> , 2004, 3, 806-818. | 2.2 | 10 |
| 57 | Root uptake under mismatched distributions of water and nutrients in the root zone. <i>Biogeosciences</i> , 2020, 17, 6377-6392. | 3.3 | 10 |
| 58 | Stratigraphy of the PB-1 Well, Nopal I Uranium Deposit, Sierra Peñón Blanca, Chihuahua, Mexico. <i>International Geology Review</i> , 2008, 50, 959-974. | 2.1 | 9 |
| 59 | Using Wastewater in Irrigation: The Effects on Infiltration Process in a Clayey Soil. <i>Water (Switzerland)</i> , 2020, 12, 968. | 2.7 | 8 |
| 60 | Effect of Cover Crop on Carbon Distribution in Size and Density Separated Soil Aggregates. <i>Soil Systems</i> , 2020, 4, 6. | 2.6 | 8 |
| 61 | Pore-Space Dynamics in a Soil Aggregate Bed under a Static External Load. <i>Soil Science Society of America Journal</i> , 2003, 67, 12. | 2.2 | 8 |
| 62 | The role of the physical properties of soil in determining biogeochemical responses to soil warming. , 2019, , 209-244. | | 7 |
| 63 | Long-term impact of cover crop and reduced disturbance tillage on soil pore size distribution and soil water storage. <i>Soil</i> , 2022, 8, 177-198. | 4.9 | 7 |
| 64 | Synchrotron X-Ray Microtomography-New Means to Quantify Root Induced Changes of Rhizosphere Physical Properties. <i>SSSA Special Publication Series</i> , 2015, , 39-67. | 0.2 | 6 |
| 65 | EXPLAINING LONGITUDINAL HYDRODYNAMIC DISPERSION USING VARIANCE OF PORE SIZE DISTRIBUTION. <i>Journal of Porous Media</i> , 2013, 16, 11-19. | 1.9 | 6 |
| 66 | Comment on "Computer simulation of two-phase immiscible fluid motion in unsaturated complex fractures using a volume of fluid method" by Hai Huang, Paul Meakin, and Moubin Liu. <i>Water Resources Research</i> , 2006, 42, . | 4.2 | 4 |
| 67 | An overlooked local resource: Shrub-intercropping for food production, drought resistance and ecosystem restoration in the Sahel. <i>Agriculture, Ecosystems and Environment</i> , 2021, 319, 107523. | 5.3 | 4 |
| 68 | Synergy between compost and cover crops in a Mediterranean row crop system leads to increased subsoil carbon storage. <i>Soil</i> , 2022, 8, 59-83. | 4.9 | 4 |
| 69 | Flow diversion around cavities in fractured media. <i>Water Resources Research</i> , 2005, 41, . | 4.2 | 2 |
| 70 | A method for characterizing desiccation-induced consolidation and permeability loss of organic soils. <i>Water Resources Research</i> , 2015, 51, 775-786. | 4.2 | 2 |
| 71 | Intercropping with <i>Guiera senegalensis</i> in a semi-arid area to mitigate early-season abiotic stress in <i>A. hypogea</i> and <i>P. glaucum</i> . <i>Journal of Agronomy and Crop Science</i> , 2022, 208, 158-167. | 3.5 | 1 |
| 72 | The drift shadow phenomenon in an unsaturated fractured environment. , 2008, , 761-764. | | 0 |