

Markus Tuller

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8932983/publications.pdf>

Version: 2024-02-01

126
papers

5,607
citations

94433

37
h-index

85541

71
g-index

132
all docs

132
docs citations

132
times ranked

5438
citing authors

#	ARTICLE	IF	CITATIONS
1	Genome Wide Association Study Uncovers the QTLome for Osmotic Adjustment and Related Drought Adaptive Traits in Durum Wheat. <i>Genes</i> , 2022, 13, 293.	2.4	12
2	Short- and mid-term forecasts of actual evapotranspiration with deep learning. <i>Journal of Hydrology</i> , 2022, 612, 128078.	5.4	15
3	Cation exchange capacity and soil pore system play key roles in water vapour sorption. <i>Geoderma</i> , 2022, 424, 116017.	5.1	5
4	Estimating Atterberg limits of soils from hygroscopic water content. <i>Geoderma</i> , 2021, 381, 114698.	5.1	16
5	The feasibility of shortwave infrared imaging and inverse numerical modeling for rapid estimation of soil hydraulic properties. <i>Vadose Zone Journal</i> , 2021, 20, e20089.	2.2	3
6	Information depth of NIR/SWIR soil reflectance spectroscopy. <i>Remote Sensing of Environment</i> , 2021, 256, 112315.	11.0	18
7	Estimating specific surface area: Incorporating the effect of surface roughness and probing molecule size. <i>Soil Science Society of America Journal</i> , 2021, 85, 534-545.	2.2	5
8	Effects of increasing water activity on the relationship between water vapor sorption and clay content. <i>Soil Science Society of America Journal</i> , 2021, 85, 520-525.	2.2	4
9	Adaptation and validation of the ParSWMS numerical code for simulation of water flow and solute transport in soilless greenhouse substrates. <i>Journal of Hydrology</i> , 2021, 596, 126053.	5.4	4
10	Linking water vapor sorption to water repellency in soils with high organic carbon contents. <i>Soil Science Society of America Journal</i> , 2021, 85, 1037-1049.	2.2	4
11	Combining Vis-NIR spectroscopy and advanced statistical analysis for estimation of soil chemical properties relevant for forest road construction. <i>Soil Science Society of America Journal</i> , 2021, 85, 1073-1090.	2.2	6
12	Estimation of root zone soil moisture from ground and remotely sensed soil information with multisensor data fusion and automated machine learning. <i>Remote Sensing of Environment</i> , 2021, 260, 112434.	11.0	56
13	The effects of irrigation frequency on water and heat regimes in different substrates and their mixtures: tomato as a case study. <i>Acta Horticulturae</i> , 2021, , 31-38.	0.2	0
14	Estimation of soil specific surface area from adsorbed soil water content. <i>European Journal of Soil Science</i> , 2021, 72, 1718-1725.	3.9	7
15	Clay content and mineralogy, organic carbon and cation exchange capacity affect water vapour sorption hysteresis of soil. <i>European Journal of Soil Science</i> , 2020, 71, 204-214.	3.9	28
16	Global Estimates of Land Surface Water Fluxes from SMOS and SMAP Satellite Soil Moisture Data. <i>Journal of Hydrometeorology</i> , 2020, 21, 241-253.	1.9	27
17	Characterization of Physicochemical and Hydraulic Properties of Organic and Mineral Soilless Culture Substrates and Mixtures. <i>Agronomy</i> , 2020, 10, 1403.	3.0	18
18	A new mathematical formulation for remote sensing of soil moisture based on the Red-NIR space. <i>International Journal of Remote Sensing</i> , 2020, 41, 8034-8047.	2.9	5

#	ARTICLE	IF	CITATIONS
19	Combining visible near-infrared spectroscopy and water vapor sorption for soil specific surface area estimation. <i>Vadose Zone Journal</i> , 2020, 19, e20007.	2.2	7
20	Application of Satellite Remote Sensing for Estimation of Dust Emission Probability in the Urmia Lake Basin in Iran. <i>Soil Science Society of America Journal</i> , 2019, 83, 993-1002.	2.2	25
21	Improved estimation of clay content from water content for soils rich in smectite and kaolinite. <i>Geoderma</i> , 2019, 350, 40-45.	5.1	8
22	Global environmental changes impact soil hydraulic functions through biophysical feedbacks. <i>Global Change Biology</i> , 2019, 25, 1895-1904.	9.5	60
23	Ground, Proximal, and Satellite Remote Sensing of Soil Moisture. <i>Reviews of Geophysics</i> , 2019, 57, 530-616.	23.0	307
24	Inorganic and Synthetic Organic Components of Soilless Culture and Potting Mixtures. , 2019, , 259-301.		13
25	A New Optical Remote Sensing Technique for High-Resolution Mapping of Soil Moisture. <i>Frontiers in Big Data</i> , 2019, 2, 37.	2.9	26
26	An analytical model for estimation of land surface net water flux from near-surface soil moisture observations. <i>Journal of Hydrology</i> , 2019, 570, 26-37.	5.4	35
27	The Paramount Societal Impact of Soil Moisture. <i>Eos</i> , 2019, 100, .	0.1	4
28	Applicability of the Guggenheim-Anderson-Boer water vapour sorption model for estimation of soil specific surface area. <i>European Journal of Soil Science</i> , 2018, 69, 245-255.	3.9	43
29	Mapping soil moisture with the OPTical TRapezoid Model (OPTRAM) based on long-term MODIS observations. <i>Remote Sensing of Environment</i> , 2018, 211, 425-440.	11.0	105
30	Particle size effects on soil reflectance explained by an analytical radiative transfer model. <i>Remote Sensing of Environment</i> , 2018, 210, 375-386.	11.0	37
31	A Novel Shortwave Infrared Proximal Sensing Approach to Quantify the Water Stability of Soil Aggregates. <i>Soil Science Society of America Journal</i> , 2018, 82, 1358-1366.	2.2	6
32	Modeling temperature and moisture dependent emissions of carbon dioxide and methane from drying dairy cow manure. <i>Frontiers of Agricultural Science and Engineering</i> , 2018, .	1.4	2
33	A TDR Array Probe for Monitoring Near-Surface Soil Moisture Distribution. <i>Vadose Zone Journal</i> , 2017, 16, 1-8.	2.2	25
34	The optical trapezoid model: A novel approach to remote sensing of soil moisture applied to Sentinel-2 and Landsat-8 observations. <i>Remote Sensing of Environment</i> , 2017, 198, 52-68.	11.0	251
35	Hydraulic conductivity of stratified unsaturated soils: Effects of random variability and layering. <i>Journal of Hydrology</i> , 2017, 546, 81-89.	5.4	13
36	Prediction of the soil water retention curve for structured soil from saturation to oven-dryness. <i>European Journal of Soil Science</i> , 2017, 68, 57-65.	3.9	40

#	ARTICLE	IF	CITATIONS
37	Advancing NASA's AirMOSS P-Band Radar Root Zone Soil Moisture Retrieval Algorithm via Incorporation of Richards' Equation. <i>Remote Sensing</i> , 2017, 9, 17.	4.0	41
38	Retrieval of AirMOSS root-zone soil moisture profile with a richards' equation-based approach. , 2017, , ,		1
39	High-Resolution Shortwave Infrared Imaging of Water Infiltration into Dry Soil. <i>Vadose Zone Journal</i> , 2017, 16, 1-10.	2.2	5
40	Prediction of biopore- and matrix-dominated flow from X-ray CT-derived macropore network characteristics. <i>Hydrology and Earth System Sciences</i> , 2016, 20, 4017-4030.	4.9	33
41	Predicting Near-Surface Moisture Content of Saline Soils from Near-Infrared Reflectance Spectra with a Modified Gaussian Model. <i>Soil Science Society of America Journal</i> , 2016, 80, 1496-1506.	2.2	18
42	A critical evaluation of the Miller and Miller similar media theory for application to natural soils. <i>Water Resources Research</i> , 2016, 52, 3829-3846.	4.2	13
43	Evaluation of theoretical and empirical water vapor sorption isotherm models for soils. <i>Water Resources Research</i> , 2016, 52, 190-205.	4.2	50
44	Adsorption and Capillary Processes in Variably Saturated Porous Media-Pore Scale Hydrostatic and Hydrodynamic Considerations. <i>SSSA Special Publication Series</i> , 2015, , 1-50.	0.2	0
45	Effects of Soil Bulk Density on Gas Transport Parameters and Pore-Network Properties across a Sandy Field Site. <i>Vadose Zone Journal</i> , 2015, 14, 1-12.	2.2	13
46	Quantification of Soil Pore Network Complexity with X-ray Computed Tomography and Gas Transport Measurements. <i>Soil Science Society of America Journal</i> , 2015, 79, 1577-1589.	2.2	29
47	Reply to comments on "Column-scale unsaturated hydraulic conductivity estimates in coarse-textured homogeneous and layered soils derived under steady-state evaporation from a water table" [J. Hydrol. 519 (2014), 1238-1248]. <i>Journal of Hydrology</i> , 2015, 529, 1277-1281.	5.4	5
48	Effects of Soil Compaction and Organic Carbon Content on Preferential Flow in Loamy Field Soils. <i>Soil Science</i> , 2015, 180, 10-20.	0.9	11
49	Effects of CT Number Derived Matrix Density on Preferential Flow and Transport in a Macroporous Agricultural Soil. <i>Vadose Zone Journal</i> , 2015, 14, 1-13.	2.2	43
50	A New Two-Stage Approach to predicting the soil water characteristic from saturation to oven-dryness. <i>Journal of Hydrology</i> , 2015, 521, 498-507.	5.4	74
51	The Landscape Evolution Observatory: A large-scale controllable infrastructure to study coupled Earth-surface processes. <i>Geomorphology</i> , 2015, 244, 190-203.	2.6	47
52	Effects of biochar and manure amendments on water vapor sorption in a sandy loam soil. <i>Geoderma</i> , 2015, 243-244, 175-182.	5.1	50
53	Prediction of clay content from water vapour sorption isotherms considering hysteresis and soil organic matter content. <i>European Journal of Soil Science</i> , 2015, 66, 206-217.	3.9	40
54	Rapid and Fully Automated Measurement of Water Vapor Sorption Isotherms: New Opportunities for Vadose Zone Research. <i>Vadose Zone Journal</i> , 2014, 13, 1-7.	2.2	25

#	ARTICLE	IF	CITATIONS
55	Physical and Thermal Characteristics of Dairy Cattle Manure. <i>Journal of Environmental Quality</i> , 2014, 43, 2115-2129.	2.0	9
56	Column-scale unsaturated hydraulic conductivity estimates in coarse-textured homogeneous and layered soils derived under steady-state evaporation from a water table. <i>Journal of Hydrology</i> , 2014, 519, 1238-1248.	5.4	38
57	Modeling gravity effects on water retention and gas transport characteristics in plant growth substrates. <i>Advances in Space Research</i> , 2014, 54, 797-808.	2.6	7
58	Soil structure and microbial activity dynamics in 20-month field-incubated organic-amended soils. <i>European Journal of Soil Science</i> , 2014, 65, 218-230.	3.9	16
59	Methods and Techniques for Measuring Gas Emissions from Agricultural and Animal Feeding Operations. <i>Critical Reviews in Analytical Chemistry</i> , 2014, 44, 200-219.	3.5	22
60	Relating soil specific surface area, water film thickness, and water vapor adsorption. <i>Water Resources Research</i> , 2014, 50, 7873-7885.	4.2	59
61	Gas diffusion-derived tortuosity governs saturated hydraulic conductivity in sandy soils. <i>Journal of Hydrology</i> , 2014, 512, 388-396.	5.4	26
62	Impact of long-term fertilization practice on soil structure evolution. <i>Geoderma</i> , 2014, 217-218, 181-189.	5.1	83
63	Pore Structure of Natural and Regenerated Soil Aggregates: An X-Ray Computed Tomography Analysis. <i>Soil Science Society of America Journal</i> , 2014, 78, 377-386.	2.2	19
64	Simultaneous Loss of Soil Biodiversity and Functions along a Copper Contamination Gradient: When Soil Goes to Sleep. <i>Soil Science Society of America Journal</i> , 2014, 78, 1239-1250.	2.2	35
65	On the Value of Soil Resources in the Context of Natural Capital and Ecosystem Service Delivery. <i>Soil Science Society of America Journal</i> , 2014, 78, 685-700.	2.2	91
66	Evaluation of a Fully Automated Analyzer for Rapid Measurement of Water Vapor Sorption Isotherms for Applications in Soil Science. <i>Soil Science Society of America Journal</i> , 2014, 78, 754-760.	2.2	29
67	New Perspectives for the Application of High-Resolution Benchtop X-Ray MicroCT for Quantifying Void, Solid and Liquid Phases in Soils. , 2014, , 261-281.		9
68	Integral parameters for characterizing water, energy, and aeration properties of soilless plant growth media. <i>Journal of Hydrology</i> , 2013, 502, 120-127.	5.4	19
69	Electromagnetic induction for mapping textural contrasts of mine tailing deposits. <i>Journal of Applied Geophysics</i> , 2013, 89, 11-20.	2.1	11
70	Density and permeability of a loess soil: Long-term organic matter effect and the response to compressive stress. <i>Geoderma</i> , 2013, 193-194, 236-245.	5.1	53
71	Evaluation of Standard Calibration Functions for Eight Electromagnetic Soil Moisture Sensors. <i>Vadose Zone Journal</i> , 2013, 12, 1-16.	2.2	148
72	Soil Specific Surface Area and Non-Singularity of Soil-Water Retention at Low Saturations. <i>Soil Science Society of America Journal</i> , 2013, 77, 43-53.	2.2	64

#	ARTICLE	IF	CITATIONS
73	Gas Diffusivity-Based Design and Characterization of Greenhouse Growth Substrates. <i>Vadose Zone Journal</i> , 2013, 12, 1-13.	2.2	9
74	Measurement Accuracy of a Multiplexed Portable FTIR - Surface Chamber System for Estimating Gas Emissions. , 2013, , .		0
75	Prediction of the Soil Water Characteristic from Soil Particle Volume Fractions. <i>Soil Science Society of America Journal</i> , 2012, 76, 1946-1956.	2.2	16
76	Simple Predictive Models for Saturated Hydraulic Conductivity of Technosands. <i>Soil Science</i> , 2012, 177, 153-157.	0.9	3
77	Beyond Earth: Designing Root Zone Environments for Reduced Gravity Conditions. <i>Vadose Zone Journal</i> , 2012, 11, .	2.2	19
78	Soil Architecture and Physicochemical Functions: An Introduction. <i>Vadose Zone Journal</i> , 2012, 11, .	2.2	7
79	Three-Dimensional Multiphase Segmentation of X-Ray CT Data of Porous Materials Using a Bayesian Markov Random Field Framework. <i>Vadose Zone Journal</i> , 2012, 11, .	2.2	36
80	Robotic lake lander test bed for autonomous surface and subsurface exploration of Titan lakes. , 2012, , .		3
81	Natural Capital, Ecosystem Services, and Soil Change: Why Soil Science Must Embrace an Ecosystems Approach. <i>Vadose Zone Journal</i> , 2012, 11, .	2.2	101
82	A Multiplexing System for Monitoring Greenhouse and Regulated Gas Emissions from Manure Sources using a Portable FTIR Gas Analyzer. , 2012, , .		1
83	Estimation of Soil Clay Content from Hygroscopic Water Content Measurements. <i>Soil Science Society of America Journal</i> , 2012, 76, 1529-1535.	2.2	56
84	Relationship between specific surface area and the dry end of the water retention curve for soils with varying clay and organic carbon contents. <i>Water Resources Research</i> , 2011, 47, .	4.2	80
85	Modeling and correction of soil penetration resistance for varying soil water content. <i>Geoderma</i> , 2011, 166, 92-101.	5.1	128
86	Numerical evaluation of subsurface soil water evaporation derived from sensible heat balance. <i>Water Resources Research</i> , 2011, 47, .	4.2	43
87	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
88	Evaluation of an Advanced Benchtop Micro-Computed Tomography System for Quantifying Porosities and Pore-Size Distributions of Two Brazilian Oxisols. <i>Soil Science Society of America Journal</i> , 2011, 75, 832-841.	2.2	40
89	Quantitative Pore-Scale Investigations of Multiphase Bio/Geo/Chemical Processes. <i>Vadose Zone Journal</i> , 2010, 9, 573-575.	2.2	1
90	Application of Segmentation for Correction of Intensity Bias in X-Ray Computed Tomography Images. <i>Vadose Zone Journal</i> , 2010, 9, 187.	2.2	45

#	ARTICLE	IF	CITATIONS
91	Multifractal analysis of discretized X-ray CT images for the characterization of soil macropore structures. <i>Geoderma</i> , 2010, 156, 32-42.	5.1	135
92	Liquid Behavior in Partially Saturated Porous Media under Variable Gravity. <i>Soil Science Society of America Journal</i> , 2009, 73, 341-350.	2.2	17
93	Economical and environmental implications of solid waste compost applications to agricultural fields in Punjab, Pakistan. <i>Waste Management</i> , 2009, 29, 2437-2445.	7.4	30
94	Segmentation of X-ray computed tomography images of porous materials: A crucial step for characterization and quantitative analysis of pore structures. <i>Water Resources Research</i> , 2009, 45, .	4.2	460
95	PHYSICAL CHARACTERIZATION OF GREENHOUSE SUBSTRATES FOR AUTOMATED IRRIGATION MANAGEMENT. <i>Acta Horticulturae</i> , 2008, , 333-338.	0.2	3
96	Measurements and Modeling of Variable Gravity Effects on Water Distribution and Flow in Unsaturated Porous Media. <i>Vadose Zone Journal</i> , 2007, 6, 713-724.	2.2	22
97	Reply to comment by Stefan Finsterle on "Seepage into drifts and tunnels in unsaturated fractured rock". <i>Water Resources Research</i> , 2006, 42, .	4.2	0
98	Hydraulic Properties of Swelling Clay-Sand Mixtures: Microscale Modeling and Measurements. , 2006, , 2186.		2
99	Sampling Silica and Ferrihydrite Colloids with Fiberglass Wicks under Unsaturated Conditions. <i>Journal of Environmental Quality</i> , 2006, 35, 1127-1134.	2.0	9
100	LINKING THE GARDNER AND CAMPBELL MODELS FOR WATER RETENTION AND HYDRAULIC CONDUCTIVITY IN NEAR-SATURATED SOIL. <i>Soil Science</i> , 2006, 171, 573-584.	0.9	9
101	Seepage into drifts and tunnels in unsaturated fractured rock. <i>Water Resources Research</i> , 2005, 41, .	4.2	9
102	Water films and scaling of soil characteristic curves at low water contents. <i>Water Resources Research</i> , 2005, 41, .	4.2	253
103	Physical and Hydraulic Properties of Baked Ceramic Aggregates Used for Plant Growth Medium. <i>Journal of the American Society for Horticultural Science</i> , 2005, 130, 767-774.	1.0	21
104	Physical and hydraulic properties of baked ceramic aggregates used for plant growth medium. <i>Journal of the American Society for Horticultural Science</i> , 2005, 130, 767-74.	1.0	2
105	Flow and Distribution of Fluid Phases through Porous Plant Growth Media in Microgravity. , 2004, , 325.		3
106	Liquid-Gas Interfacial Configurations in Angular Pores under Microgravity. , 2004, , 346.		1
107	Field Methods for Monitoring Solute Transport. , 2004, , 309-355.		0
108	Hydraulic conductivity of partially saturated fractured porous media: flow in a cross-section. <i>Advances in Water Resources</i> , 2003, 26, 883-898.	3.8	30

#	ARTICLE	IF	CITATIONS
109	Reply to comment by N. Kartal Toker, John T. Germaine, and Patricia J. Culligan on "Cavitation during desaturation of porous media under tension" Water Resources Research, 2003, 39, .	4.2	9
110	Hydraulic functions for swelling soils: pore scale considerations. Journal of Hydrology, 2003, 272, 50-71.	5.4	81
111	Unsaturated Hydraulic Conductivity of Structured Porous Media: A Review of Liquid Configuration-Based Models. Vadose Zone Journal, 2002, 1, 14-37.	2.2	20
112	Unsaturated Hydraulic Conductivity of Structured Porous Media: A Review of Liquid Configuration-Based Models. Vadose Zone Journal, 2002, 1, 14-37.	2.2	71
113	Cavitation during desaturation of porous media under tension. Water Resources Research, 2002, 38, 19-1-19-14.	4.2	102
114	Unsaturated Hydraulic Conductivity of Structured Porous Media. Vadose Zone Journal, 2002, 1, 14.	2.2	3
115	Hydraulic conductivity of variably saturated porous media: Film and corner flow in angular pore space. Water Resources Research, 2001, 37, 1257-1276.	4.2	265
116	Flow in unsaturated fractured porous media: Hydraulic conductivity of rough surfaces. Water Resources Research, 2000, 36, 1165-1177.	4.2	129
117	Liquid retention and interfacial area in variably saturated porous media: Upscaling from single-pore to sample-scale model. Water Resources Research, 1999, 35, 3591-3605.	4.2	258
118	Adsorption and capillary condensation in porous media: Liquid retention and interfacial configurations in angular pores. Water Resources Research, 1999, 35, 1949-1964.	4.2	505
119	Hydraulic Functions for Macroporous Soils. , 0, , .		0
120	Flow and Distribution of Fluid Phases through Porous Plant Growth Media in Microgravity: Progress to Date. , 0, , .		5
121	Measurement of Porous Media Hydraulic Properties During Parabolic Flight Induced Microgravity. , 0, , .		6
122	Challenges to Understanding Fluid Behavior in Plant Growth Media Under Microgravity. , 0, , .		5
123	The Application of X-ray Computed Tomography for Characterization of Surface Crack Networks in Bentonite-Sand Mixtures. , 0, , 207-212.		5
124	Providing Optimal Root-Zone Fluid Fluxes: Effects of Hysteresis on Capillary-Dominated Water Distributions in Reduced Gravity. , 0, , .		4
125	Segmentation of X-Ray CT Data of Porous Materials: A Review of Global and Locally Adaptive Algorithms. SSSA Special Publication Series, 0, , 157-182.	0.2	16
126	Controlled Experiments of Hillslope Coevolution at the Biosphere 2 Landscape Evolution Observatory: Toward Prediction of Coupled Hydrological, Biogeochemical, and Ecological Change. , 0, , .		9