Peter Lehmann

List of Publications by Year
in descending order

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92	4,468	109321	110387
papers	citations	35 h-index	64 g-index

114	114	114	3991
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Limited role of soil texture in mediating natural vegetation response to rainfall anomalies. Environmental Research Letters, 2022, 17, 034012.	5.2	5
2	Investigation of measurement data of low-coherence interferometry at tilted surfaces in the 3D spatial frequency domain. TM Technisches Messen, 2022, .	0.7	1
3	Global Mapping of Soil Water Characteristics Parametersâ€" Fusing Curated Data with Machine Learning and Environmental Covariates. Remote Sensing, 2022, 14, 1947.	4.0	9
4	Outlier Elimination in Rough Surface Profilometry with Focus Variation Microscopy. Metrology, 2022, 2, 263-273.	1.5	4
5	Enhanced Rainfallâ€Induced Shallow Landslide Activity Following Seismic Disturbanceâ€"From Triggering to Healing. Journal of Geophysical Research F: Earth Surface, 2021, 126, .	2.8	6
6	Analysis of interference microscopy in the spatial frequency domain. JPhys Photonics, 2021, 3, 014006.	4.6	9
7	Choice of Pedotransfer Functions Matters when Simulating Soil Water Balance Fluxes. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002404.	3.8	22
8	SoilKsatDB: global database of soil saturated hydraulic conductivity measurements for geoscience applications. Earth System Science Data, 2021, 13, 1593-1612.	9.9	23
9	Global Prediction of Soil Saturated Hydraulic Conductivity Using Random Forest in a Covariateâ€Based GeoTransfer Function (CoGTF) Framework. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002242.	3.8	28
10	Evaporation Suppression From Small Reservoirs Using Floating Coversâ€"Field Study and Modeling. Water Resources Research, 2021, 57, e2020WR028753.	4.2	8
11	Annual precipitation explains variability in dryland vegetation greenness globally but not locally. Global Change Biology, 2021, 27, 4367-4380.	9.5	44
12	Threeâ€dimensional transfer function of optical microscopes in reflection mode. Journal of Microscopy, 2021, 284, 45-55.	1.8	6
13	Simulated or measured soil moisture: which one is adding more value to regional landslide early warning?. Hydrology and Earth System Sciences, 2021, 25, 4585-4610.	4.9	8
14	Clays Are Not Created Equal: How Clay Mineral Type Affects Soil Parameterization. Geophysical Research Letters, 2021, 48, e2021GL095311.	4.0	21
15	Three-Dimensional Transfer Functions of Interference Microscopes. Metrology, 2021, 1, 122-141.	1.5	8
16	The Lasting Signatures of Past Landslides on Soil Stripping From Landscapes. Water Resources Research, 2021, 57, .	4.2	6
17	Rainfall Intensity Temporal Patterns Affect Shallow Landslide Triggering and Hazard Evolution. Geophysical Research Letters, 2020, 47, e2019GL085994.	4.0	20
18	Two-dimensional modelling of systematic surface height deviations in optical interference microscopy based on rigorous near field calculation. Journal of Modern Optics, 2020, 67, 963-973.	1.3	12

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19	Assessing the potential of soil moisture measurements for regional landslide early warning. Landslides, 2020, 17, 1881-1896.	5.4	84
20	Distribution of small seasonal reservoirs in semi-arid regions and associated evaporative losses. Environmental Research Communications, 2020, 2, 061002.	2.3	21
21	Physical Constraints for Improved Soil Hydraulic Parameter Estimation by Pedotransfer Functions. Water Resources Research, 2020, 56, e2019WR025963.	4.2	15
22	Surface Evaporation in Arid Regions: Insights From Lysimeter Decadal Record and Global Application of a Surface Evaporation Capacitor (SEC) Model. Geophysical Research Letters, 2019, 46, 9648-9657.	4.0	23
23	Deforestation Effects on Rainfallâ€Induced Shallow Landslides: Remote Sensing and Physicallyâ€Based Modelling. Water Resources Research, 2019, 55, 9962-9976.	4.2	22
24	Evaporation Suppression From Water Bodies Using Floating Covers: Laboratory Studies of Cover Type, Wind, and Radiation Effects. Water Resources Research, 2019, 55, 4839-4853.	4.2	28
25	High-speed laser interferometric distance sensor with reference mirror oscillating at ultrasonic frequencies. TM Technisches Messen, 2019, 86, 164-174.	0.7	6
26	Surface Evaporative Capacitance: How Soil Type and Rainfall Characteristics Affect Globalâ€Scale Surface Evaporation. Water Resources Research, 2019, 55, 519-539.	4.2	66
27	Evaporation suppression and energy balance of water reservoirs covered with self-assembling floating elements. Hydrology and Earth System Sciences, 2018, 22, 4015-4032.	4.9	38
28	Fiber-bundle model with time-dependent healing mechanisms to simulate progressive failure of snow. Physical Review E, 2018, 98, 023002.	2.1	12
29	Soil Texture Effects on Surface Resistance to Bareâ€Soil Evaporation. Geophysical Research Letters, 2018, 45, 10,398.	4.0	59
30	Coherence scanning and phase imaging optical interference microscopy at the lateral resolution limit. Optics Express, 2018, 26, 7376.	3.4	29
31	How Landslides Become Disasters. Eos, 2018, 99, .	0.1	2
32	Load redistribution rules for progressive failure in shallow landslides: Threshold mechanical models. Geophysical Research Letters, 2017, 44, 228-235.	4.0	4
33	Capillary flows across layers and textural interfaces â€“ Pathways and colloid transport considerations in unsaturated layered porous media. Journal of Colloid and Interface Science, 2017, 504, 294-304.	9.4	6
34	The foam drainage equation for drainage dynamics in unsaturated porous media. Water Resources Research, 2017, 53, 5706-5724.	4.2	6
35	Unstable Infiltration Experiments in Dry Porous Media. Vadose Zone Journal, 2017, 16, 1-13.	2.2	8
36	Linking rainfall-induced landslides with debris flows runout patterns towards catchment scale hazard assessment. Geomorphology, 2017, 280, 1-15.	2.6	49

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37	Effects of soil spatial variability at the hillslope and catchment scales on characteristics of rainfallâ€induced landslides. Water Resources Research, 2016, 52, 1781-1799.	4.2	51
38	A new form measurement system based on subaperture stitching with a line-scanning interferometer. Advanced Optical Technologies, 2016, 5, 415-422.	1.7	3
39	Drainage mechanisms in porous media: From pistonâ€like invasion to formation of corner flow networks. Water Resources Research, 2016, 52, 8413-8436.	4.2	22
40	Drainage dynamics controlled by corner flow: Application of the foam drainage equation. Water Resources Research, 2016, 52, 8402-8412.	4.2	8
41	3D nanoimprint for NIR Fabry-PÃ©rot filter arrays: fabrication, characterization and comparison of different cavity designs. Applied Nanoscience (Switzerland), 2016, 6, 1127-1135.	3.1	14
42	Linking rainfall-induced landslides with predictions of debris flow runout distances. Landslides, 2016, 13, 1097-1107.	5.4	23
43	Special Section Guest Editorial: Speckle Metrology. Optical Engineering, 2016, 55, 121701.	1.0	1
44	The formation of viscous limited saturation zones behind rapid drainage fronts in porous media. Water Resources Research, 2015, 51, 9862-9890.	4.2	11
45	Effects of hydromechanical loading history and antecedent soil mechanical damage on shallow landslide triggering. Journal of Geophysical Research F: Earth Surface, 2015, 120, 1990-2015.	2.8	22
46	High-resolution fiber-coupled interferometric point sensor for micro- and nano-metrology. TM Technisches Messen, 2015, 82, 367-376.	0.7	8
47	Effects of stomata clustering on leaf gas exchange. New Phytologist, 2015, 207, 1015-1025.	7.3	64
48	Natural length scales define the range of applicability of the Richards equation for capillary flows. Water Resources Research, 2015, 51, 7130-7144.	4.2	37
49	Monitoring and prediction in early warning systems for rapid mass movements. Natural Hazards and Earth System Sciences, 2015, 15, 905-917.	3.6	107
50	Comment on â€œColumn-scale unsaturated hydraulic conductivity estimates in coarse-textured homogeneous and layered soils derived under steady-state evaporation from a water tableâ€• by M. Sadeghi, M. Tuller, M.R. Gohardoust and S.B. Jones. Journal of Hydrology, 2015, 529, 1274-1276.	5.4	3
51	3-D Optical Interference Microscopy at the Lateral Resolution. International Journal of Optomechatronics, 2014, 8, 231-241.	6.6	15
52	Effects of rainfall spatial variability and intermittency on shallow landslide triggering patterns at a catchment scale. Water Resources Research, 2014, 50, 7780-7799.	4.2	45
53	Effect of wetness patchiness on evaporation dynamics from drying porous surfaces. Water Resources Research, 2013, 49, 8250-8262.	4.2	29
54	Evaporation rates across a convective air boundary layer are dominated by diffusion. Water Resources Research, 2013, 49, 1602-1610.	4.2	92

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55	Rainfall-triggered shallow landslides at catchment scale: Threshold mechanics-based modeling for abruptness and localization. Water Resources Research, 2013, 49, 6266-6285.	4.2	56
56	Advances in Soil Evaporation Physicsâ€"A Review. Vadose Zone Journal, 2013, 12, 1-16.	2.2	286
57	Evolution of soil wetting patterns preceding a hydrologically induced landslide inferred from electrical resistivity survey and point measurements of volumetric water content and pore water pressure. Water Resources Research, 2013, 49, 7992-8004.	4.2	75
58	Transfer characteristics of rectangular phase gratings in interference microscopy. Optics Letters, 2012, 37, 758.	3.3	19
59	Dynamics of Fluid Interfaces and Flow and Transport across Material Interfaces in Porous Media-Modeling and Observations. Vadose Zone Journal, 2012, 11, vzj2012.0105.	2.2	5
60	Coupling of evaporative fluxes from drying porous surfaces with air boundary layer: Characteristics of evaporation from discrete pores. Water Resources Research, 2012, 48, .	4.2	152
61	Two approaches to modeling the initiation and development of rills in a manâ€made catchment. Water Resources Research, 2012, 48, .	4.2	26
62	Hydromechanical triggering of landslides: From progressive local failures to mass release. Water Resources Research, 2012, 48, .	4.2	82
63	Spatial statistical modeling of shallow landslidesâ€"Validating predictions for different landslide inventories and rainfall events. Geomorphology, 2011, 133, 11-22.	2.6	64
64	Modelling subsurface drainage pathways in an artificial catchment. Physics and Chemistry of the Earth, 2011, 36, 101-112.	2.9	14
65	Quantifying lateral root reinforcement in steep slopes â€“ from a bundle of roots to tree stands. Earth Surface Processes and Landforms, 2010, 35, 354-367.	2.5	199
66	Quantifying the role of vegetation in slope stability: A case study in Tuscany (Italy). Ecological Engineering, 2010, 36, 285-291.	3.6	209
67	Liquid-phase continuity and solute concentration dynamics during evaporation from porous media: Pore-scale processes near vaporization surface. Physical Review E, 2010, 81, 046308.	2.1	64
68	Evaporation from layered porous media. Journal of Geophysical Research, 2010, 115, .	3.3	79
69	Vertical scanning white-light interference microscopy on curved microstructures. Optics Letters, 2010, 35, 1768.	3.3	30
70	Evaporation and capillary coupling across vertical textural contrasts in porous media. Physical Review E, 2009, 80, 046318.	2.1	90
71	Critical evaluation of enhancement factors for vapor transport through unsaturated porous media. Water Resources Research, 2009, 45, .	4.2	128
72	Fiber bundle model for multiscale modeling of hydromechanical triggering of shallow landslides. Water Resources Research, 2009, 45, .	4.2	65

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73	Characteristics of evaporation from partially wettable porous media. Water Resources Research, 2009, 45, .	4.2	94
74	From the pore scale to the lab scale: 3-D lab experiment and numerical simulation of drainage in heterogeneous porous media. Advances in Water Resources, 2008, 31, 1253-1268.	3.8	25
75	Unsaturated water flow across soil aggregate contacts. Advances in Water Resources, 2008, 31, 1221-1232.	3.8	93
76	Measuring the effect of structural connectivity on the water dynamics in heterogeneous porous media using speedy neutron tomography. Advances in Water Resources, 2008, 31, 1233-1241.	3.8	29
77	Drainage in heterogeneous sand columns with different geometric structures. Advances in Water Resources, 2008, 31, 1205-1220.	3.8	32
78	Impact of geometrical properties on permeability and fluid phase distribution in porous media. Advances in Water Resources, 2008, 31, 1188-1204.	3.8	53
79	Prediction of capillary hysteresis in a porous material using lattice-Boltzmann methods and comparison to experimental data and a morphological pore network model. Advances in Water Resources, 2008, 31, 1151-1173.	3.8	164
80	Quantitative links between porous media structures and flow behavior across scales. Advances in Water Resources, 2008, 31, 1127-1128.	3.8	3
81	Assessment of structural evolution of aggregated soil using neutron tomography. Water Resources Research, 2008, 44, .	4.2	13
82	Drying front and water content dynamics during evaporation from sand delineated by neutron radiography. Water Resources Research, 2008, 44, .	4.2	171
83	Characteristic lengths affecting evaporative drying of porous media. Physical Review E, 2008, 77, 056309.	2.1	358
84	Effects of hydrophobic layers on evaporation from porous media. Geophysical Research Letters, 2008, 35, .	4.0	78
85	Hydraulic contacts controlling water flow across porous grains. Physical Review E, 2007, 76, 026311.	2.1	11
86	Rainfall threshold for hillslope outflow: an emergent property of flow pathway connectivity. Hydrology and Earth System Sciences, 2007, 11, 1047-1063.	4.9	148
87	Using a pore-scale model to quantify the effect of particle re-arrangement on pore structure and hydraulic properties. Hydrological Processes, 2007, 21, 989-997.	2.6	6
88	Water flow between soil aggregates. Transport in Porous Media, 2007, 68, 219-236.	2.6	39
89	Tomographical Imaging and Mathematical Description of Porous Media Used for the Prediction of Fluid Distribution. Vadose Zone Journal, 2006, 5, 80-97.	2.2	85
90	A Fractal Approach to Model Soil Structure and to Calculate Thermal Conductivity of Soils. Transport in Porous Media, 2003, 52, 313-332.	2.6	24

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91	Effect of hysteresis on water flow in a sand column with a fluctuating capillary fringe. Journal of Contaminant Hydrology, 1998, 33, 81-100.	3.3	83
92	Effect of water content on solute transport in a porous medium containing reactive micro-aggregates. Journal of Contaminant Hydrology, 1998, 33, 211-230.	3.3	28