# Sascha E Oswald

List of Publications by Year
in descending order



| 83 | 3,446 | 109321 | 149698 |
|---|---|---|---|
| papers | citations | 35 h-index | 56 g-index |

| 100 | 100 | 100 | 3271 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A satellite-based approach to estimating spatially distributed groundwater recharge rates in a tropical wet sedimentary region despite cloudy conditions. Journal of Hydrology, 2022, 607, 127503. | 5.4 | 2 |
| 2 | Assessing the feasibility of a directional cosmic-ray neutron sensing sensor for estimating soil moisture. Geoscientific Instrumentation, Methods and Data Systems, 2022, 11, 75-92. | 1.6 | 7 |
| 3 | COSMOS-Europe: a European network of cosmic-ray neutron soil moisture sensors. Earth System Science Data, 2022, 14, 1125-1151. | 9.9 | 33 |
| 4 | An Alternative Incoming Correction for Cosmicâ€Ray Neutron Sensing Observations Using Local Muon Measurement. Geophysical Research Letters, 2022, 49, . | 4.0 | 3 |
| 5 | Seasonal dynamics modifies fate of oxygen, nitrate, and organic micropollutants during bank filtrationÂâ€"Âtemperature-dependent reactive transport modeling of field data. Environmental Science and Pollution Research, 2021, 28, 9682-9700. | 5.3 | 15 |
| 6 | Non-invasive detection and localization of microplastic particles in a sandy sediment by complementary neutron and X-ray tomography. Journal of Soils and Sediments, 2021, 21, 1476-1487. | 3.0 | 15 |
| 7 | Three-dimensional in vivo analysis of water uptake and translocation in maize roots by fast neutron tomography. Scientific Reports, 2021, 11, 10578. | 3.3 | 11 |
| 8 | Dynamic groundwater recharge simulations based on cosmicâ€ray neutron sensing in a tropical wet experimental basin. Vadose Zone Journal, 2021, 20, e20145. | 2.2 | 7 |
| 9 | Spatio-temporal soil moisture retrieval at the catchment scale using a dense network of cosmic-ray neutron sensors. Hydrology and Earth System Sciences, 2021, 25, 4807-4824. | 4.9 | 12 |
| 10 | Neutron computed laminography yields 3D root system architecture and complements investigations of spatiotemporal rhizosphere patterns. Plant and Soil, 2021, 469, 489-501. | 3.7 | 6 |
| 11 | Assessment of a new non-invasive soil moisture sensor based on cosmic-ray neutrons. , 2021, , . | | 1 |
| 12 | Neutrons on Rails: Transregional Monitoring of Soil Moisture and Snow Water Equivalent. Geophysical Research Letters, 2021, 48, . | 4.0 | 14 |
| 13 | Impact of river reconstruction on groundwater flow during bank filtration assessed by transient three-dimensional modelling of flow and heat transport. Hydrogeology Journal, 2020, 28, 723-743. | 2.1 | 11 |
| 14 | A profile shape correction to reduce the vertical sensitivity of cosmicâ€ray neutron sensing of soil moisture. Vadose Zone Journal, 2020, 19, e20083. | 2.2 | 18 |
| 15 | A dense network of cosmic-ray neutron sensors for soil moisture observation in a highly instrumented pre-Alpine headwater catchment in Germany. Earth System Science Data, 2020, 12, 2289-2309. | 9.9 | 44 |
| 16 | What comes NeXT? â€“ High-Speed Neutron Tomography at ILL. Optics Express, 2019, 27, 28640. | 3.4 | 39 |
| 17 | Temperature-dependent redox zonation, nitrate removal and attenuation of organic micropollutants during bank filtration. Water Research, 2019, 162, 225-235. | 11.3 | 44 |
| 18 | Combination of Magnetic Resonance Imaging and Neutron Computed Tomography for Threeâ€Dimensional Rhizosphere Imaging. Vadose Zone Journal, 2019, 18, 1-11. | 2.2 | 17 |

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|---|---|---|---|
| 19 | Sensing Areaâ€Average Snow Water Equivalent with Cosmicâ€Ray Neutrons: The Influence of Fractional Snow Cover. Water Resources Research, 2019, 55, 10796-10812. | 4.2 | 30 |
| 20 | Multi-temporal surveys for microplastic particles enabled by a novel and fast application of SWIR imaging spectroscopy â€“ Study of an urban watercourse traversing the city of Berlin, Germany. Environmental Pollution, 2018, 239, 579-589. | 7.5 | 82 |
| 21 | Imaging of root zone processes using MRI T 1 mapping. Microporous and Mesoporous Materials, 2018, 269, 43-46. | 4.4 | 5 |
| 22 | Intercomparison of cosmic-ray neutron sensors and water balance monitoring in an urban environment. Geoscientific Instrumentation, Methods and Data Systems, 2018, 7, 83-99. | 1.6 | 44 |
| 23 | Cosmicâ€ray Neutron Rover Surveys of Field Soil Moisture and the Influence of Roads. Water Resources Research, 2018, 54, 6441-6459. | 4.2 | 53 |
| 24 | Multitemporal soil moisture monitoring by use of optical remote sensing data in a dike relocation area. , 2018, , . | | 0 |
| 25 | The Bode hydrological observatory: a platform for integrated, interdisciplinary hydro-ecological research within the TERENO Harz/Central German Lowland Observatory. Environmental Earth Sciences, 2017, 76, 1. | 2.7 | 93 |
| 26 | Continuous monitoring of snowpack dynamics in alpine terrain by aboveground neutron sensing. Water Resources Research, 2017, 53, 3615-3634. | 4.2 | 72 |
| 27 | Mapping water, oxygen, and pH dynamics in the rhizosphere of young maize roots. Journal of Plant Nutrition and Soil Science, 2017, 180, 336-346. | 1.9 | 26 |
| 28 | Capturing 3D Water Flow in Rooted Soil by Ultra-fast Neutron Tomography. Scientific Reports, 2017, 7, 6192. | 3.3 | 74 |
| 29 | Coupled Longâ€Term Simulation of Reachâ€Scale Water and Heat Fluxes Across the Riverâ€Groundwater Interface for Retrieving Hyporheic Residence Times and Temperature Dynamics. Water Resources Research, 2017, 53, 8900-8924. | 4.2 | 29 |
| 30 | Improving calibration and validation of cosmic-ray neutron sensors in the light of spatial sensitivity. Hydrology and Earth System Sciences, 2017, 21, 5009-5030. | 4.9 | 93 |
| 31 | Analysis of riverbed temperatures to determine the geometry of subsurface water flow around in-stream geomorphological structures. Journal of Hydrology, 2016, 539, 74-87. | 5.4 | 25 |
| 32 | Combining Neutron and Magnetic Resonance Imaging to Study the Interaction of Plant Roots and Soil. Physics Procedia, 2015, 69, 237-243. | 1.2 | 15 |
| 33 | Hydraulic controls of inâ€stream gravel bar hyporheic exchange and reactions. Water Resources Research, 2015, 51, 2243-2263. | 4.2 | 76 |
| 34 | Non-invasive imaging techniques to study O2 micro-patterns around pesticide treated lupine roots. Geoderma, 2015, 239-240, 257-264. | 5.1 | 15 |
| 35 | A scaling approach for the assessment of biomass changes and rainfall interception using cosmic-ray neutron sensing. Journal of Hydrology, 2015, 525, 264-276. | 5.4 | 54 |
| 36 | A field investigation on transport of carbon-supported nanoscale zero-valent iron (nZVI) in groundwater. Journal of Contaminant Hydrology, 2015, 181, 59-68. | 3.3 | 56 |

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| 37 | Mapping compensating root water uptake in heterogeneous soil conditions via neutron radiography. Plant and Soil, 2015, 397, 273-287. | 3.7 | 23 |
| 38 | Inverse modelling of cosmicâ€ray soil moisture for fieldâ€scale soil hydraulic parameters. European Journal of Soil Science, 2014, 65, 876-886. | 3.9 | 17 |
| 39 | A multi-imaging approach to study the rootâ€“soil interface. Annals of Botany, 2014, 114, 1779-1787. | 2.9 | 22 |
| 40 | Investigations on mobility of carbon colloid supported nanoscale zero-valent iron (nZVI) in a column experiment and a laboratory 2D-aquifer test system. Environmental Science and Pollution Research, 2014, 21, 10908-10916. | 5.3 | 20 |
| 41 | Transport of carbon colloid supported nanoscale zero-valent iron in saturated porous media. Journal of Contaminant Hydrology, 2014, 164, 25-34. | 3.3 | 31 |
| 42 | Spatio-temporal mapping of local soil pH changes induced by roots of lupin and soft-rush. Plant and Soil, 2013, 369, 669-680. | 3.7 | 43 |
| 43 | Numerical modeling analysis of VOC removal processes in different aerobic vertical flow systems for groundwater remediation. Journal of Contaminant Hydrology, 2013, 154, 53-69. | 3.3 | 11 |
| 44 | Relating P Lability in Stream Sediments to Watershed Land Use via an Effective Sequential Extraction Scheme. Water, Air, and Soil Pollution, 2013, 224, 1. | 2.4 | 3 |
| 45 | Is the Rhizosphere Temporarily Water Repellent?. Vadose Zone Journal, 2012, 11, vzj2011.0120. | 2.2 | 83 |
| 46 | Evaluation of groundwater dynamics and quality in the Najd aquifers located in the Sultanate of Oman. Environmental Earth Sciences, 2012, 66, 1195-1211. | 2.7 | 21 |
| 47 | Removal of Volatile Organic Compounds in Vertical Flow Filters: Predictions from Reactive Transport Modeling. Ground Water Monitoring and Remediation, 2012, 32, 106-121. | 0.8 | 9 |
| 48 | Dynamic oxygen mapping in the root zone by fluorescence dye imaging combined with neutron radiography. Journal of Soils and Sediments, 2012, 12, 63-74. | 3.0 | 38 |
| 49 | How the Rhizosphere May Favor Water Availability to Roots. Vadose Zone Journal, 2011, 10, 988-998. | 2.2 | 81 |
| 50 | Remediation of groundwater contaminated with MTBE and benzene: The potential of vertical-flow soil filter systems. Water Research, 2011, 45, 5063-5074. | 11.3 | 58 |
| 51 | Sand box experiments to evaluate the influence of subsurface temperature probe design on temperature based water flux calculation. Hydrology and Earth System Sciences, 2011, 15, 3495-3510. | 4.9 | 25 |
| 52 | Integral quantification of seasonal soil moisture changes in farmland by cosmic-ray neutrons. Hydrology and Earth System Sciences, 2011, 15, 3843-3859. | 4.9 | 74 |
| 53 | Three-dimensional visualization and quantification of water content in the rhizosphere. New Phytologist, 2011, 192, 653-663. | 7.3 | 140 |
| 54 | Nitrogen as an indicator of mass transfer during in-situ gas sparging. Journal of Contaminant Hydrology, 2011, 126, 8-18. | 3.3 | 8 |

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| 55 | Treatment of volatile organic contaminants in a vertical flow filter: Relevance of different removal processes. Ecological Engineering, 2011, 37, 1292-1303. | 3.6 | 24 |
| 56 | Neutron radiography and tomography of water distribution in the root zone. Journal of Plant Nutrition and Soil Science, 2010, 173, 757-764. | 1.9 | 57 |
| 57 | Analysis of nickel concentration profiles around the roots of the hyperaccumulator plant Berkheya coddii using MRI and numerical simulations. Plant and Soil, 2010, 328, 291-302. | 3.7 | 27 |
| 58 | Dynamics of soil water content in the rhizosphere. Plant and Soil, 2010, 332, 163-176. | 3.7 | 308 |
| 59 | Mapping of nickel in root cross-sections of the hyperaccumulator plant Berkheya coddii using laser ablation ICP-MS. Environmental and Experimental Botany, 2010, 69, 24-31. | 4.2 | 51 |
| 60 | When Roots Lose Contact. Vadose Zone Journal, 2009, 8, 805-809. | 2.2 | 131 |
| 61 | Neutron radiography as a tool for revealing root development in soil: capabilities and limitations. Plant and Soil, 2009, 318, 243-255. | 3.7 | 81 |
| 62 | Magnetic resonance imaging methods to reveal the realâ€time distribution of nickel in porous media. European Journal of Soil Science, 2008, 59, 476-485. | 3.9 | 21 |
| 63 | Quantitative Imaging of Infiltration, Root Growth, and Root Water Uptake via Neutron Radiography. Vadose Zone Journal, 2008, 7, 1035-1047. | 2.2 | 107 |
| 64 | Interplay between oxygen demand reactions and kinetic gasâ€“water transfer in porous media. Water Research, 2008, 42, 3579-3590. | 11.3 | 11 |
| 65 | Biodegradation Processes in a Laboratory-Scale Groundwater Contaminant Plume Assessed by Fluorescence Imaging and Microbial Analysis. Applied and Environmental Microbiology, 2007, 73, 3865-3876. | 3.1 | 31 |
| 66 | Kinetic Gasâ^'Water Transfer and Gas Accumulation in Porous Media during Pulsed Oxygen Sparging. Environmental Science & Technology, 2007, 41, 4428-4434. | 10.0 | 16 |
| 67 | Visualization of root growth in heterogeneously contaminated soil using neutron radiography. European Journal of Soil Science, 2007, 58, 802-810. | 3.9 | 74 |
| 68 | Three-dimensional saltwaterâ€“freshwater fingering in porous media: contrast agent MRI as basis for numerical simulations. Magnetic Resonance Imaging, 2007, 25, 537-540. | 1.8 | 11 |
| 69 | Numerical simulation of three-dimensional saltwaterâ€“freshwater fingering instabilities observed in a porous medium. Advances in Water Resources, 2006, 29, 1690-1704. | 3.8 | 39 |
| 70 | Verification and intercomparison of reactive transport codes to describe root-uptake. Plant and Soil, 2006, 285, 305-321. | 3.7 | 45 |
| 71 | A lumped parameter approach to model the treatment of organic contaminants by a granular iron filled fracture. Advances in Water Resources, 2006, 29, 624-638. | 3.8 | 5 |
| 72 | Advantages of using adaptive remeshing and parallel processing for modelling biodegradation in groundwater. Advances in Water Resources, 2005, 28, 1143-1158. | 3.8 | 11 |

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| 73 | Water regime of metal-contaminated soil under juvenile forest vegetation. Plant and Soil, 2005, 271, 227-241. | 3.7 | 51 |
| 74 | Modeling the Dynamics of Fermentation and Respiratory Processes in a Groundwater Plume of Phenolic Contaminants Interpreted from Laboratory- to Field-Scale. Environmental Science & Technology, 2005, 39, 8829-8839. | 10.0 | 40 |
| 75 | Three-dimensional physical benchmark experiments to test variable-density flow models. Journal of Hydrology, 2004, 290, 22-42. | 5.4 | 88 |
| 76 | Modeling Kinetic Processes Controlling Hydrogen and Acetate Concentrations in an Aquifer-Derived Microcosm. Environmental Science & Technology, 2003, 37, 3910-3919. | 10.0 | 62 |
| 77 | Dissolved Oxygen Imaging in a Porous Medium to Investigate Biodegradation in a Plume with Limited Electron Acceptor Supply. Environmental Science & Technology, 2003, 37, 1905-1911. | 10.0 | 85 |
| 78 | The importance of dispersive mixing for modelling of density-dependent and reactive transport. Developments in Water Science, 2002, , 501-506. | 0.1 | 0 |
| 79 | Nuclear Magnetic Resonance Imaging for Studies of Flow and Transport in Porous Media. Journal of Environmental Quality, 2002, 31, 477. | 2.0 | 24 |
| 80 | The saltpool benchmark problem â€“ numerical simulation of saltwater upconing in a porous medium. Advances in Water Resources, 2002, 25, 335-348. | 3.8 | 84 |
| 81 | Title is missing!. Transport in Porous Media, 2002, 47, 169-193. | 2.6 | 21 |
| 82 | Observation of flow and transport processes in artificial porous media via magnetic resonance imaging in three dimensions. Geoderma, 1997, 80, 417-429. | 5.1 | 66 |
| 83 | Applications of Neutron Imaging in Soil-Water-Root Systems. SSSA Special Publication Series, 0, , 113-136. | 0.2 | 6 |