

Stefan Finsterle

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4524655/publications.pdf>

Version: 2024-02-01

116
papers

3,293
citations

147801

31
h-index

189892

50
g-index

123
all docs

123
docs citations

123
times ranked

2812
citing authors

#	ARTICLE	IF	CITATIONS
1	Pragmatic Validation of Numerical Models Used for the Assessment of Radioactive Waste Repositories: A Perspective. <i>Energies</i> , 2022, 15, 3585.	3.1	4
2	Two-dimensional liquid water flow through snow at the plot scale in continental snowpacks: simulations and field data comparisons. <i>Cryosphere</i> , 2021, 15, 1423-1434.	3.9	10
3	Sealing of a Deep Horizontal Borehole Repository for Nuclear Waste. <i>Energies</i> , 2021, 14, 91.	3.1	6
4	Post-Closure Safety Analysis of Nuclear Waste Disposal in Deep Vertical Boreholes. <i>Energies</i> , 2021, 14, 6356.	3.1	4
5	Imaging of a fluid injection process using geophysical data – A didactic example. <i>Geophysics</i> , 2020, 85, W1-W16.	2.6	10
6	Post-Closure Safety Calculations for the Disposal of Spent Nuclear Fuel in a Generic Horizontal Drillhole Repository. <i>Energies</i> , 2020, 13, 2599.	3.1	3
7	Three-dimensional fracture continuum characterization aided by surface time-domain electromagnetics and hydrogeophysical joint inversion – proof-of-concept. <i>Computational Geosciences</i> , 2020, 24, 1895-1909.	2.4	4
8	Modeling of coupled wellbore-reservoir flow in steam-like supercritical geothermal systems. <i>Geothermics</i> , 2020, 86, 101793.	3.4	15
9	Thermal Evolution near Heat-Generating Nuclear Waste Canisters Disposed in Horizontal Drillholes. <i>Energies</i> , 2019, 12, 596.	3.1	24
10	Conceptual uncertainties in modelling the interaction between engineered and natural barriers of nuclear waste repositories in crystalline rocks. <i>Geological Society Special Publication</i> , 2019, 482, 261-283.	1.3	7
11	Disposal of High-Level Nuclear Waste in Deep Horizontal Drillholes. <i>Energies</i> , 2019, 12, 2052.	3.1	16
12	Corrosion Performance of Engineered Barrier System in Deep Horizontal Drillholes. <i>Energies</i> , 2019, 12, 1491.	3.1	11
13	Iterative Importance Sampling Algorithms for Parameter Estimation. <i>SIAM Journal of Scientific Computing</i> , 2018, 40, B329-B352.	2.8	13
14	Using distributed temperature sensing to detect CO ₂ leakage along the injection well casing. <i>International Journal of Greenhouse Gas Control</i> , 2018, 74, 9-18.	4.6	16
15	Estimating the reaction parameters of oil shale pyrolysis and oil shale grade using temperature transient analysis and inverse modeling. <i>Journal of Petroleum Science and Engineering</i> , 2018, 165, 765-776.	4.2	17
16	The Effect of Anisotropy on Multi-dimensional Pressure-Pulse-Decay Experiments. <i>Transport in Porous Media</i> , 2018, 123, 545-562.	2.6	8
17	Multi-Level CO ₂ Injection Testing and Monitoring at the South West Hub In-Situ Laboratory. <i>Energy Procedia</i> , 2018, 154, 151-156.	1.8	3
18	Advances in Multiphase Flow and Transport in the Subsurface Environment. <i>Geofluids</i> , 2018, 2018, 1-2.	0.7	5

#	ARTICLE	IF	CITATIONS
19	Commemorating Dr. Gudmundur Böðvarsson (1951–2006), a Leader of the Deep Unsaturated Flow and Transport Investigations. <i>Water (Switzerland)</i> , 2018, 10, 18.	2.7	13
20	Analyzing the impact of reaction models on the production of hydrocarbons from thermally upgraded oil shales. <i>Journal of Petroleum Science and Engineering</i> , 2018, 168, 448-464.	4.2	18
21	Simulations of CO ₂ injection into fractures and faults for improving their geophysical characterization at EGS sites. <i>Geothermics</i> , 2017, 69, 189-201.	3.4	17
22	Ion Diffusion Within Water Films in Unsaturated Porous Media. <i>Environmental Science & Technology</i> , 2017, 51, 4338-4346.	10.0	24
23	Implicit sampling combined with reduced order modeling for the inversion of vadose zone hydrological data. <i>Computers and Geosciences</i> , 2017, 108, 21-32.	4.2	7
24	Inverse modeling of ground surface uplift and pressure with iTOUGH-PEST and TOUGH-FLAC: The case of CO ₂ injection at In Salah, Algeria. <i>Computers and Geosciences</i> , 2017, 108, 98-109.	4.2	33
25	TOUGH3: A new efficient version of the TOUGH suite of multiphase flow and transport simulators. <i>Computers and Geosciences</i> , 2017, 108, 2-7.	4.2	60
26	iTOUGH2: A multiphysics simulation-optimization framework for analyzing subsurface systems. <i>Computers and Geosciences</i> , 2017, 108, 8-20.	4.2	28
27	Water Saturation Relations and Their Diffusion-Limited Equilibration in Gas Shale: Implications for Gas Flow in Unconventional Reservoirs. <i>Water Resources Research</i> , 2017, 53, 9757-9770.	4.2	41
28	Coupled geomechanics and flow modeling of thermally induced compaction in heavy oil diatomite reservoirs under cyclic steaming. <i>Journal of Petroleum Science and Engineering</i> , 2016, 147, 474-484.	4.2	12
29	Evaluation of multiple reduced-order models to enhance confidence in global sensitivity analyses. <i>International Journal of Greenhouse Gas Control</i> , 2016, 49, 217-226.	4.6	14
30	Fast high-resolution prediction of multi-phase flow in fractured formations. <i>Advances in Water Resources</i> , 2016, 88, 80-85.	3.8	2
31	Practical notes on local data-worth analysis. <i>Water Resources Research</i> , 2015, 51, 9904-9924.	4.2	35
32	Hydrologic and Water Quality Models: Sensitivity. <i>Transactions of the ASABE</i> , 2015, 58, 1721-1744.	1.1	25
33	An iTOUGH2 equation-of-state module for modeling supercritical conditions in geothermal reservoirs. <i>Geothermics</i> , 2015, 57, 8-17.	3.4	12
34	Reduced order modeling in iTOUGH2. <i>Computers and Geosciences</i> , 2014, 65, 118-126.	4.2	11
35	Making sense of global sensitivity analyses. <i>Computers and Geosciences</i> , 2014, 65, 84-94.	4.2	149
36	Integrating structural geological data into the inverse modelling framework of iTOUGH2. <i>Computers and Geosciences</i> , 2014, 65, 95-109.	4.2	22

#	ARTICLE	IF	CITATIONS
37	MPITOUGH2: A parallel parameter estimation framework for hydrological and hydrogeophysical applications. <i>Computers and Geosciences</i> , 2014, 65, 127-135.	4.2	22
38	A high-performance workflow system for subsurface simulation. <i>Environmental Modelling and Software</i> , 2014, 55, 176-189.	4.5	14
39	Advances in subsurface modeling using the TOUGH suite of simulators. <i>Computers and Geosciences</i> , 2014, 65, 2-12.	4.2	35
40	Site characterization of the Yucca Mountain disposal system for spent nuclear fuel and high-level radioactive waste. <i>Reliability Engineering and System Safety</i> , 2014, 122, 32-52.	8.9	26
41	Experimental examination of the relationships among chemico-osmotic, hydraulic, and diffusion parameters of Wakkanaï mudstones. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 4178-4201.	3.4	29
42	Comparison of Radionuclide Releases from a Conceptual Geological Repository for RBMK-1500 and BWR Spent Nuclear Fuel. <i>Nuclear Technology</i> , 2014, 185, 322-335.	1.2	8
43	Reduced order models for many-query subsurface flow applications. <i>Computational Geosciences</i> , 2013, 17, 705-721.	2.4	21
44	Model evaluation of denitrification under rapid infiltration basin systems. <i>Journal of Contaminant Hydrology</i> , 2013, 152, 18-34.	3.3	20
45	Modeling the performance of large-scale CO ₂ storage systems: A comparison of different sensitivity analysis methods. <i>International Journal of Greenhouse Gas Control</i> , 2013, 17, 189-205.	4.6	65
46	Microhole arrays for improved heat mining from enhanced geothermal systems. <i>Geothermics</i> , 2013, 47, 104-115.	3.4	27
47	Constraining CO ₂ simulations by coupled modeling and inversion of electrical resistance and gas composition data. <i>International Journal of Greenhouse Gas Control</i> , 2013, 18, 510-522.	4.6	32
48	Hydrogeophysical joint inversion capabilities and impact of petrophysical assumptions. , 2013, , .		0
49	Comparing Nonlinear Regression and Markov Chain Monte Carlo Methods for Assessment of Prediction Uncertainty in Vadose Zone Modeling. <i>Vadose Zone Journal</i> , 2012, 11, vzt2011.0147.	2.2	18
50	Numerical simulations of the Macondo well blowout reveal strong control of oil flow by reservoir permeability and exsolution of gas. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 20254-20259.	7.1	22
51	Application of a Coupled Overland Flow-Vadose Zone Model to Rapid Infiltration Basin Systems. <i>Vadose Zone Journal</i> , 2012, 11, vzt2011.0140.	2.2	6
52	TOUGH: Model Use, Calibration, and Validation. <i>Transactions of the ASABE</i> , 2012, 55, 1275-1290.	1.1	11
53	On parameterization of the inverse problem for estimating aquifer properties using tracer data. <i>Water Resources Research</i> , 2012, 48, .	4.2	18
54	Coupled modeling of hydrogeochemical and electrical resistivity data for exploring the impact of recharge on subsurface contamination. <i>Water Resources Research</i> , 2011, 47, .	4.2	35

#	ARTICLE	IF	CITATIONS
55	A truncated Levenberg-Marquardt algorithm for the calibration of highly parameterized nonlinear models. <i>Computers and Geosciences</i> , 2011, 37, 731-738.	4.2	31
56	Bentonite Alteration Due to Thermal-Hydro-Chemical Processes During the Early Thermal Period in a Nuclear Waste Repository. <i>Nuclear Technology</i> , 2011, 174, 438-451.	1.2	5
57	ADVANCED SIMULATION CAPABILITY FOR ENVIRONMENTAL MANAGEMENT (ASCEM): AN OVERVIEW OF INITIAL RESULTS. <i>Technology and Innovation</i> , 2011, 13, 175-199.	0.2	6
58	Factors Governing Sustainable Groundwater Pumping near a River. <i>Ground Water</i> , 2011, 49, 432-444.	1.3	36
59	An axisymmetric diffusion experiment for the determination of diffusion and sorption coefficients of rock samples. <i>Journal of Contaminant Hydrology</i> , 2011, 123, 114-129.	3.3	9
60	A time-convolution approach for modeling heat exchange between a wellbore and surrounding formation. <i>Geothermics</i> , 2011, 40, 261-266.	3.4	38
61	Error handling strategies in multiphase inverse modeling. <i>Computers and Geosciences</i> , 2011, 37, 724-730.	4.2	14
62	Estimation of Landfill Gas Generation Rate and Gas Permeability Field of Refuse Using Inverse Modeling. <i>Transport in Porous Media</i> , 2011, 90, 41-58.	2.6	15
63	Single-well experimental design for studying residual trapping of supercritical carbon dioxide. <i>International Journal of Greenhouse Gas Control</i> , 2011, 5, 88-98.	4.6	48
64	Solving iTOUGH2 simulation and optimization problems using the PEST protocol. <i>Environmental Modelling and Software</i> , 2011, 26, 959-968.	4.5	59
65	A Sensitivity Study on Regional Pressure Buildup from Large-Scale CO ₂ Storage Projects. <i>Energy Procedia</i> , 2011, 4, 4371-4378.	1.8	30
66	Estimating CO ₂ residual trapping from a single-well test: Experimental design calculations. <i>Energy Procedia</i> , 2011, 4, 5044-5049.	1.8	5
67	Percolation-theory and fuzzy rule-based probability estimation of fault leakage at geologic carbon sequestration sites. <i>Environmental Earth Sciences</i> , 2010, 59, 1447-1459.	2.7	21
68	Dynamic inversion for hydrological process monitoring with electrical resistance tomography under model uncertainties. <i>Water Resources Research</i> , 2010, 46, .	4.2	45
69	THE USE OF NUMERICAL MODELS IN SUPPORT OF SITE CHARACTERIZATION AND PERFORMANCE ASSESSMENT STUDIES FOR GEOLOGICAL REPOSITORIES. <i>Nuclear Engineering and Technology</i> , 2010, 42, 145-150.	2.3	2
70	Dynamical inversion of geophysical ERT data: state estimation in the vadose zone. <i>Inverse Problems in Science and Engineering</i> , 2009, 17, 715-736.	1.2	37
71	Probability estimation of CO ₂ leakage through faults at geologic carbon sequestration sites. <i>Energy Procedia</i> , 2009, 1, 41-46.	1.8	17
72	Parameter estimation from flowing fluid temperature logging data in unsaturated fractured rock using multiphase inverse modeling. <i>Water Resources Research</i> , 2009, 45, .	4.2	3

#	ARTICLE	IF	CITATIONS
73	A qualitative assessment of microclimatic perturbations in a tunnel. <i>International Journal of Climatology</i> , 2008, 28, 2081-2087.	3.5	3
74	Inverse modeling and forecasting for the exploitation of the Pauzhetsky geothermal field, Kamchatka, Russia. <i>Geothermics</i> , 2008, 37, 540-562.	3.4	20
75	Corrosion-induced gas generation in a nuclear waste repository: Reactive geochemistry and multiphase flow effects. <i>Applied Geochemistry</i> , 2008, 23, 3423-3433.	3.0	47
76	Investigation of two-phase flow phenomena associated with corrosion in an SF/HLW repository in Opalinus Clay, Switzerland. <i>Physics and Chemistry of the Earth</i> , 2008, 33, S317-S326.	2.9	26
77	Ground surface temperature reconstructions: Using in situ estimates for thermal conductivity acquired with a fiber-optic distributed thermal perturbation sensor. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	102
78	Advanced Vadose Zone Simulations Using TOUGH. <i>Vadose Zone Journal</i> , 2008, 7, 601-609.	2.2	34
79	Sensitivity Analysis for Joint Inversion of Ground-Penetrating Radar and Thermal-Hydrological Data from a Large-Scale Underground Heater Test. <i>Nuclear Technology</i> , 2008, 164, 169-179.	1.2	6
80	Joint Hydrological-Geophysical Inversion for Soil Structure Identification. <i>Vadose Zone Journal</i> , 2008, 7, 287-293.	2.2	43
81	Electrokinetic coupling in unsaturated porous media. <i>Journal of Colloid and Interface Science</i> , 2007, 313, 315-327.	9.4	205
82	System-level modeling for economic evaluation of geological CO ₂ storage in gas reservoirs. <i>Energy Conversion and Management</i> , 2007, 48, 1827-1833.	9.2	27
83	Approximation errors and truncation of computational domains with application to geophysical tomography. <i>Inverse Problems and Imaging</i> , 2007, 1, 371-389.	1.1	69
84	Inversion of tracer test data using tomographic constraints. <i>Water Resources Research</i> , 2006, 42, .	4.2	64
85	Effects of diffusive property heterogeneity on effective matrix diffusion coefficient for fractured rock. <i>Water Resources Research</i> , 2006, 42, .	4.2	15
86	Comment on "Seepage into drifts and tunnels in unsaturated fractured rock" by Dani Or, Markus Tuller, and Randall Fedors. <i>Water Resources Research</i> , 2006, 42, .	4.2	1
87	Demonstration of optimization techniques for groundwater plume remediation using iTOUGH2. <i>Environmental Modelling and Software</i> , 2006, 21, 665-680.	4.5	22
88	Estimation of field-scale soil hydraulic and dielectric parameters through joint inversion of GPR and hydrological data. <i>Water Resources Research</i> , 2005, 41, .	4.2	202
89	Physical and Numerical Model of Colloidal Silica Injection for Passive Site Stabilization. <i>Vadose Zone Journal</i> , 2004, 3, 917-925.	2.2	26
90	Simulating unsaturated flow fields based on saturation measurements. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2004, 42, 121-129.	1.7	7

#	ARTICLE	IF	CITATIONS
91	Transport of radon gas into a tunnel at Yucca Mountain—estimating large-scale fractured tuff hydraulic properties and implications for the operation of the ventilation system. <i>Journal of Contaminant Hydrology</i> , 2004, 70, 153-171.	3.3	15
92	Multiphase Inverse Modeling: Review and iTOUGH2 Applications. <i>Vadose Zone Journal</i> , 2004, 3, 747-762.	2.2	14
93	Estimating flow parameter distributions using ground-penetrating radar and hydrological measurements during transient flow in the vadose zone. <i>Advances in Water Resources</i> , 2004, 27, 583-599.	3.8	131
94	Numerical trajectory calculations for the efficient inversion of transient flow and tracer observations. <i>Water Resources Research</i> , 2004, 40, .	4.2	31
95	Physical and Numerical Model of Colloidal Silica Injection for Passive Site Stabilization. <i>Vadose Zone Journal</i> , 2004, 3, 917-925.	2.2	11
96	Modeling Coupled Evaporation and Seepage in Ventilated Cavities. <i>Vadose Zone Journal</i> , 2004, 3, 806-818.	2.2	10
97	Multiphase Inverse Modeling: Review and iTOUGH2 Applications. <i>Vadose Zone Journal</i> , 2004, 3, 747-762.	2.2	76
98	Research Advances in Vadose Zone Hydrology through Simulations with the TOUGH Codes: Preface from the Guest Editors. <i>Vadose Zone Journal</i> , 2004, 3, 737-737.	2.2	0
99	Flow and transport in the drift shadow in a dual-continuum model. <i>Journal of Contaminant Hydrology</i> , 2003, 62-63, 133-156.	3.3	12
100	Inverse and predictive modeling of seepage into underground openings. <i>Journal of Contaminant Hydrology</i> , 2003, 62-63, 89-109.	3.3	40
101	Thermal-hydraulic experiments with bentonite/crushed rock mixtures and estimation of effective parameters by inverse modeling. <i>Applied Clay Science</i> , 2003, 23, 111-120.	5.2	28
102	Experimental and Numerical Investigation of Flow Phenomena in Nonisothermal, Variably Saturated Bentonite—Crushed Rock Mixtures. <i>Vadose Zone Journal</i> , 2003, 2, 239-246.	2.2	11
103	Experimental and Numerical Investigation of Flow Phenomena in Nonisothermal, Variably Saturated Bentonite-Crushed Rock Mixtures. <i>Vadose Zone Journal</i> , 2003, 2, 239-246.	2.2	3
104	Information entropy to measure temporal and spatial complexity of unsaturated flow in heterogeneous media. <i>Water Resources Research</i> , 2002, 38, 49-1-49-11.	4.2	39
105	Migration of a water pulse through fractured porous media. <i>Journal of Contaminant Hydrology</i> , 2002, 54, 37-57.	3.3	20
106	Evaluation of geothermal well behavior using inverse modeling. <i>Geophysical Monograph Series</i> , 2000, , 377-387.	0.1	3
107	Using the continuum approach to model unsaturated flow in fractured rock. <i>Water Resources Research</i> , 2000, 36, 2055-2066.	4.2	60
108	Tensiometry in fractured rocks. , 2000, , .		6

#	ARTICLE	IF	CITATIONS
109	Inverse modeling of a radial multistep outflow experiment for determining unsaturated hydraulic properties. <i>Advances in Water Resources</i> , 1999, 22, 431-444.	3.8	27
110	Characterization and prediction of subsurface pneumatic response at Yucca Mountain, Nevada. <i>Journal of Contaminant Hydrology</i> , 1999, 38, 47-68.	3.3	45
111	Field tests and model analyses of seepage into drift. <i>Journal of Contaminant Hydrology</i> , 1999, 38, 323-347.	3.3	56
112	Evaluation of alternative designs for an injectable subsurface barrier at the Brookhaven National Laboratory Site, Long Island, New York. <i>Water Resources Research</i> , 1999, 35, 2937-2953.	4.2	22
113	Development of a mechanistic model for the movement of chemical signatures from buried land mines/UXO. , 1999, , .		14
114	Robust estimation of hydrogeologic model parameters. <i>Water Resources Research</i> , 1998, 34, 2939-2947.	4.2	38
115	Determining permeability of tight rock samples using inverse modeling. <i>Water Resources Research</i> , 1997, 33, 1803-1811.	4.2	55
116	Solving the Estimation-Identification Problem in Two-Phase Flow Modeling. <i>Water Resources Research</i> , 1995, 31, 913-924.	4.2	60