Frank T-C Tsai

List of Publications by Year
in descending order

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73 papers	2,340 citations	201674 27 h-index	223800 46 g-index
73 all docs	73 docs citations	73 times ranked	2074 citing authors

#	Article	IF	Citations
1	Optimization of Large-Scale Hydropower System Operations. Journal of Water Resources Planning and Management - ASCE, 2003, 129, 178-188.	2.6	224
2	A comparison study of DRASTIC methods with various objective methods for groundwater vulnerability assessment. Science of the Total Environment, 2018, 642, 1032-1049.	8.0	151
3	Optimization of DRASTIC method by supervised committee machine artificial intelligence to assess groundwater vulnerability for Maraghehâ€“Bonab plain aquifer, Iran. Journal of Hydrology, 2013, 503, 89-100.	5.4	138
4	Prediction of effluent quality parameters of a wastewater treatment plant using a supervised committee fuzzy logic model. Journal of Cleaner Production, 2018, 180, 539-549.	9.3	126
5	Lattice Boltzmann method with two relaxation times for advectionâ€“diffusion equation: Third order analysis and stability analysis. Advances in Water Resources, 2008, 31, 1113-1126.	3.8	82
6	Inverse groundwater modeling for hydraulic conductivity estimation using Bayesian model averaging and variance window. Water Resources Research, 2008, 44, .	4.2	77
7	Optimization of an adaptive neuro-fuzzy inference system for groundwater potential mapping. Hydrogeology Journal, 2019, 27, 2511-2534.	2.1	76
8	Prediction and structural uncertainty analyses of artificial neural networks using hierarchical Bayesian model averaging. Journal of Hydrology, 2015, 528, 52-62.	5.4	69
9	Global-local optimization for parameter structure identification in three-dimensional groundwater modeling. Water Resources Research, 2003, 39, .	4.2	68
10	A Combinatorial Optimization Scheme for Parameter Structure Identification in Ground Water Modeling. Ground Water, 2003, 41, 156-169.	1.3	61
11	Bayesian model averaging for groundwater head prediction and uncertainty analysis using multimodel and multimethod. Water Resources Research, 2009, 45, .	4.2	61
12	Non-negativity and stability analyses of lattice Boltzmann method for advectionâ€“diffusion equation. Journal of Computational Physics, 2009, 228, 236-256.	3.8	60
13	Supervised committee machine with artificial intelligence for prediction of fluoride concentration. Journal of Hydroinformatics, 2013, 15, 1474-1490.	2.4	60
14	Bayesian Artificial Intelligence Model Averaging for Hydraulic Conductivity Estimation. Journal of Hydrologic Engineering - ASCE, 2014, 19, 520-532.	1.9	52
15	Optimization of Water Distribution and Water Quality by Hybrid Genetic Algorithm. Journal of Water Resources Planning and Management - ASCE, 2005, 131, 431-440.	2.6	50
16	Hydrogeochemical analysis for Tasuj plain aquifer, Iran. Journal of Earth System Science, 2013, 122, 1091-1105.	1.3	47
17	Characterization and identification of aquifer heterogeneity with generalized parameterization and Bayesian estimation. Water Resources Research, 2004, 40, .	4.2	46
18	Analysis and Assessment of Hydrochemical Characteristics of Maragheh-Bonab Plain Aquifer, Northwest of Iran. Water Resources Management, 2017, 31, 765-780.	3.9	42

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19	Hierarchical Bayesian model averaging for hydrostratigraphic modeling: Uncertainty segregation and comparative evaluation. Water Resources Research, 2013, 49, 5520-5536.	4.2	40
20	Saltwater intrusion modeling in heterogeneous confined aquifers using two-relaxation-time lattice Boltzmann method. Advances in Water Resources, 2009, 32, 620-631.	3.8	38
21	Bayesian model averaging assessment on groundwater management under model structure uncertainty. Stochastic Environmental Research and Risk Assessment, 2010, 24, 845-861.	4.0	38
22	Constructive epistemic modeling of groundwater flow with geological structure and boundary condition uncertainty under the Bayesian paradigm. Journal of Hydrology, 2014, 517, 105-119.	5.4	38
23	Salinity and Soluble Organic Matter on Virus Sorption in Sand and Soil Columns. Ground Water, 2010, 48, 42-52.	1.3	33
24	Conjunctive management of surface and groundwater resources under projected future climate change scenarios. Journal of Hydrology, 2016, 540, 397-411.	5.4	33
25	Twoâ€relaxationâ€time lattice Boltzmann method for the anisotropic dispersive Henry problem. Water Resources Research, 2010, 46, .	4.2	32
26	GPU accelerated lattice Boltzmann model for shallow water flow and mass transport. International Journal for Numerical Methods in Engineering, 2011, 86, 316-334.	2.8	32
27	Multilayer shallow water flow using lattice Boltzmann method with high performance computing. Advances in Water Resources, 2009, 32, 1767-1776.	3.8	30
28	Parallel Inverse Modeling and Uncertainty Quantification for Computationally Demanding Groundwater-Flow Models Using Covariance Matrix Adaptation. Journal of Hydrologic Engineering - ASCE, 2015, 20, .	1.9	28
29	Geophysical parameterization and parameter structure identification using natural neighbors in groundwater inverse problems. Journal of Hydrology, 2005, 308, 269-283.	5.4	27
30	Modeling complex aquifer systems: a case study in Baton Rouge, Louisiana (USA). Hydrogeology Journal, 2017, 25, 601-615.	2.1	27
31	Saltwater scavenging optimization under surrogate uncertainty for a multi-aquifer system. Journal of Hydrology, 2018, 565, 698-710.	5.4	26
32	Bayesian set pair analysis and machine learning based ensemble surrogates for optimal multi-aquifer system remediation design. Journal of Hydrology, 2020, 580, 124280.	5.4	26
33	Conjunctive Management of Large-Scale Pressurized Water Distribution and Groundwater Systems in Semi-Arid Area with Parallel Genetic Algorithm. Water Resources Management, 2009, 23, 1497-1517.	3.9	24
34	Optimal observation network design for conceptual model discrimination and uncertainty reduction. Water Resources Research, 2016, 52, 1245-1264.	4.2	24
35	Multiobjective Spatial Pumping Optimization for Groundwater Management in a Multiaquifer System. Journal of Water Resources Planning and Management - ASCE, 2020, 146, .	2.6	22
36	Indicator geostatistics for reconstructing Baton Rouge aquifer-fault hydrostratigraphy, Louisiana, USA. Hydrogeology Journal, 2013, 21, 1731-1747.	2.1	21

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37	Fluid dispersion effects on density-driven thermohaline flow and transport in porous media. Advances in Water Resources, 2013, 61, 12-28.	3.8	21
38	GIS-Based Water Budget Framework for High-Resolution Groundwater Recharge Estimation of Large-Scale Humid Regions. Journal of Hydrologic Engineering - ASCE, 2014, 19, .	1.9	20
39	Comparative study of climate-change scenarios on groundwater recharge, southwestern Mississippi and southeastern Louisiana, USA. Hydrogeology Journal, 2015, 23, 789-806.	2.1	19
40	Enhancing random heterogeneity representation by mixing the kriging method with the zonation structure. Water Resources Research, 2006, 42, .	4.2	18
41	Mixed Integer Linear Fractional Programming for Conjunctive Use of Surface Water and Groundwater. Journal of Water Resources Planning and Management - ASCE, 2016, 142, .	2.6	16
42	Multiple Parameterization for Hydraulic Conductivity Identification. Ground Water, 2008, 46, 851-864.	1.3	15
43	A Hierarchical Bayesian Model Averaging Framework for Groundwater Prediction under Uncertainty. Ground Water, 2015, 53, 305-316.	1.3	15
44	Bayesian experimental design for identification of model propositions and conceptual model uncertainty reduction. Advances in Water Resources, 2015, 83, 148-159.	3.8	15
45	Reply to comment by Ming Ye et al. on â€œInverse groundwater modeling for hydraulic conductivity estimation using Bayesian model averaging and variance windowâ€• Water Resources Research, 2010, 46, .	4.2	12
46	Uncertainty Segregation and Comparative Evaluation in Groundwater Remediation Designs: A Chance-Constrained Hierarchical Bayesian Model Averaging Approach. Journal of Water Resources Planning and Management - ASCE, 2015, 141, .	2.6	12
47	Ensemble Averaging Methods for Quantifying Uncertainty Sources in Modeling Climate Change Impact on Runoff Projection. Journal of Hydrologic Engineering - ASCE, 2017, 22, .	1.9	12
48	Model Development and Calibration of a Saltwater Intrusion Model in Southern California. Journal of the American Water Resources Association, 2007, 43, 1329-1343.	2.4	10
49	Bayesian Chanceâ€Constrained Hydraulic Barrier Design under Geological Structure Uncertainty. Ground Water, 2015, 53, 908-919.	1.3	10
50	Steady-State Approximate Freshwaterâ€“Saltwater Interface in a Two-Horizontal-Well Scavenging System. Journal of Hydrologic Engineering - ASCE, 2019, 24, .	1.9	10
51	Applying Zonation Methods and Tabu Search to Improve the Groundâ€Water Modeling¹. Journal of the American Water Resources Association, 2008, 44, 107-120.	2.4	9
52	Soil density, elasticity, and the soil-water characteristic curve inverted from field-based seismic P- and S-wave velocity in shallow nearly saturated layered soils. Geophysics, 2015, 80, WB11-WB19.	2.6	8
53	Bayesian Hierarchical Model Uncertainty Quantification for Future Hydroclimate Projections in Southern Hills-Gulf Region, USA. Water (Switzerland), 2019, 11, 268.	2.7	8
54	Modelling and comparing 3-D soil stratigraphy using subsurface borings and cone penetrometer tests in coastal Louisiana, USA. Georisk, 2020, 14, 158-176.	3.5	8

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55	Assessment of Aquifer Storage and Recovery Feasibility Using Numerical Modeling and Geospatial Analysis: Application in Louisiana. Journal of the American Water Resources Association, 2021, 57, 505-526.	2.4	8
56	MRT-Lattice Boltzmann Model for Multilayer Shallow Water Flow. Water (Switzerland), 2019, 11, 1623.	2.7	7
57	Accounting for uncertainty in complex alluvial aquifer modeling by Bayesian multi-model approach. Journal of Hydrology, 2021, 601, 126682.	5.4	7
58	Geophysical data integration, stochastic simulation and significance analysis of groundwater responses using ANOVA in the Chicot Aquifer system, Louisiana, USA. Hydrogeology Journal, 2008, 16, 749-764.	2.1	6
59	Indicator Generalized Parameterization for Interpolation Point Selection in Groundwater Inverse Modeling. Journal of Hydrologic Engineering - ASCE, 2009, 14, 233-242.	1.9	6
60	Constructing large-scale complex aquifer systems with big well log data: Louisiana model. Computers and Geosciences, 2021, 148, 104687.	4.2	6
61	Irrigation-Intensive Groundwater Modeling of Complex Aquifer Systems Through Integration of Big Geological Data. Frontiers in Water, 2021, 3, .	2.3	5
62	Understanding impacts of groundwater dynamics on flooding and levees in Greater New Orleans. Journal of Hydrology: Regional Studies, 2020, 32, 100740.	2.4	4
63	Multiobjective Optimization of Relief Well Operations to Improve Levee Safety. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2021, 147, .	3.0	4
64	Aquifer Characterization and Parameter Heterogeneity Estimation with a Coupled Zonation-Geostatistical Method and Natural Neighbors. , 2004, , 1.		3
65	Coupled Semivariogram Uncertainty of Hydrogeological and Geophysical Data on Capture Zone Uncertainty Analysis. Journal of Hydrologic Engineering - ASCE, 2008, 13, 915-925.	1.9	3
66	Modeling sediment texture of river-deltaic wetlands in the Lower Barataria Bay and Lower Breton Sound, Louisiana, USA. Geo-Marine Letters, 2019, 39, 161-173.	1.1	3
67	Advances in analytical solutions for time-dependent solute transport model. Journal of Earth System Science, 2022, 131, .	1.3	3
68	A three-dimensional stratigraphic model of the Mississippi River Delta, USA: implications for river deltaic hydrogeology. Hydrogeology Journal, 2020, 28, 2341-2358.	2.1	2
69	Understanding dynamics of groundwater flows in the Mississippi River Delta. Journal of Hydrology, 2020, 583, 124616.	5.4	2
70	Relief Well Evaluation: Three-Dimensional Modeling and Blanket Theory. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2021, 147, .	3.0	2
71	A Novel Radial Basis Function Approach for Infiltration-Induced Landslides in Unsaturated Soils. Water (Switzerland), 2022, 14, 1036.	2.7	2
72	Model Calibration and Parameter Structure Identification in Characterization of Groundwater Systems. , 2011, , 159-202.		0

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73	Review of Groundwater Reactive Transport Models by F. Zhang, G.-T. Yeh, and J. C. ParkerBentham Science Publishers, Oak Park, IL; 2012; ISBN 978-1-60805-306-3; 244 pp., $44.. Journal of Hydrologic Engineering - ASCE, 2014, 19, 1497-1497.	1.9	0