

Stanford



Peter K. Kitanidis

Professor of Civil and Environmental Engineering

Bio

BIO

Kitanidis develops methods for the solution of interpolation and inverse problems utilizing observations and mathematical models of flow and transport. He studies dilution and mixing of soluble substances in heterogeneous geologic formations, issues of scale in mass transport in heterogeneous porous media, and techniques to speed up the decay of pollutants in situ. He also develops methods for hydrologic forecasting and the optimization of sampling and control strategies.

ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Member, Bio-X
- Member, Institute for Computational and Mathematical Engineering (ICME)

HONORS AND AWARDS

- L. G. Straub Award, Lorenz G. Straub Memorial (1979)
- W. L. Huber Civil Engineering Research Prize, ASCE (1994)
- Fellow, American Geophysical Union (2001)
- Highly Cited Researcher, ISI (2001)
- 2011 Hydrologic Sciences Award, AGU's Hydrology Section (2011)
- Pioneers in Groundwater Lecturer, ASCE (2011)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editor in Chief, Journal of Hydrology (2013 - 2019)

PROFESSIONAL EDUCATION

- Dipl., Nat. Tech. Univ., Athens, Civil Engineering (1974)
- M.S., MIT, Civil Engineering (1976)
- PhD, MIT, Water Resources (1978)

LINKS

- <https://web.stanford.edu/~peterk>: <https://web.stanford.edu/~peterk>

Teaching

COURSES

2023-24

- Computations in Civil and Environmental Engineering: CEE 101D, CEE 201D (Aut)
- Data Assimilation: CEE 261D (Win)
- Environmental Geophysics: GEOPHYS 385B (Aut)
- Imaging with Incomplete Information: CEE 260G, CME 262 (Spr)
- Water Resources Systems Analysis: CEE 266G (Spr)

2022-23

- Computations in Civil and Environmental Engineering: CEE 101D, CEE 201D (Aut)
- Data Assimilation: CEE 261D (Win)
- Imaging with Incomplete Information: CEE 260G, CME 262, GEOPHYS 260G (Spr)

2021-22

- Imaging with Incomplete Information: CEE 362G, CME 262 (Spr)

2020-21

- Computations in Civil and Environmental Engineering: CEE 101D, CEE 201D (Aut)
- Imaging with Incomplete Information: CEE 362G, CME 262 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Zach Perzan, Yizhou Qian

Master's Program Advisor

Dhruv Choudhary, Yuchen Fu, Zhuorui Li, Shambhavi Rathore, Jie Shen, Yuqin Wang

Doctoral (Program)

Nora AlMaqsseed, Yitong Li

Publications

PUBLICATIONS

- **Aquifer conditions, not irradiance determine the potential of photovoltaic energy for groundwater pumping across Africa** *COMMUNICATIONS EARTH & ENVIRONMENT*
Meunier, S., Kitanidis, P. K., Cordier, A., MacDonald, A. M.
2023; 4 (1)
- **Variational encoder geostatistical analysis (VEGAS) with an application to large scale riverine bathymetry** *ADVANCES IN WATER RESOURCES*
Forghani, M., Qian, Y., Lee, J., Farthing, M., Hesser, T., Kitanidis, P. K., Darve, E. F.
2022; 170
- **Integration of Deep Learning-Based Inversion and Upscaled Mass-Transfer Model for DNAPL Mass-Discharge Estimation and Uncertainty Assessment** *WATER RESOURCES RESEARCH*
Kang, X., Kokkinaki, A., Shi, X., Yoon, H., Lee, J., Kitanidis, P. K., Wu, J.
2022; 58 (10)
- **Hierarchical Bayesian Inversion of Global Variables and Large-Scale Spatial Fields** *WATER RESOURCES RESEARCH*

-
- Wang, L., Kitanidis, P. K., Caers, J.
2022; 58 (5)
- **An information inequality for Bayesian analysis in imaging problems** *GEM-INTERNATIONAL JOURNAL ON GEOMATHEMATICS*
Kitanidis, P. K.
2021; 12 (1)
 - **Integrating deep learning-based data assimilation and hydrogeophysical data for improved monitoring of DNAPL source zones during remediation** *JOURNAL OF HYDROLOGY*
Kang, X., Kokkinaki, A., Power, C., Kitanidis, P. K., Shi, X., Duan, L., Liu, T., Wu, J.
2021; 601
 - **Application of deep learning to large scale riverine flow velocity estimation** *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*
Forghani, M., Qian, Y., Lee, J., Farthing, M. W., Hesser, T., Kitanidis, P. K., Darve, E. F.
2021
 - **Hydrogeophysical Characterization of Nonstationary DNAPL Source Zones by Integrating a Convolutional Variational Autoencoder and Ensemble Smoother** *WATER RESOURCES RESEARCH*
Kang, X., Kokkinaki, A., Kitanidis, P. K., Shi, X., Lee, J., Mo, S., Wu, J.
2021; 57 (2)
 - **Deep learning technique for fast inference of large-scale riverine bathymetry** *ADVANCES IN WATER RESOURCES*
Ghorbanidehno, H., Lee, J., Farthing, M., Hesser, T., Darve, E. F., Kitanidis, P. K.
2021; 147
 - **Routing algorithms as tools for integrating social distancing with emergency evacuation.** *Scientific reports*
Tsai, Y., Rastogi, C., Kitanidis, P. K., Field, C. B.
2021; 11 (1): 19623
 - **Sensitivity Analysis of Photovoltaic Pumping Systems for Domestic Water Supply**
Meunier, S., Queval, L., Darga, A., Dessante, P., Marchand, C., Heinrich, M., Cherni, J. A., de la Fresnaye, E. A., Vido, L., Multon, B., Kitanidis, P. K.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2020: 6734–43
 - **Improved Characterization of DNAPL Source Zones via Sequential Hydrogeophysical Inversion of Hydraulic-Head, Self-Potential and Partitioning Tracer Data** *WATER RESOURCES RESEARCH*
Kang, X., Kokkinaki, A., Kitanidis, P. K., Shi, X., Revil, A., Lee, J., Ahmed, A., Wu, J.
2020; 56 (8)
 - **Borehole water level model for photovoltaic water pumping systems** *APPLIED ENERGY*
Vezin, T., Meunier, S., Queval, L., Cherni, J. A., Vido, L., Darga, A., Dessante, P., Kitanidis, P. K., Marchand, C.
2020; 258
 - **Aquifer Imaging with Oscillatory Hydraulic Tomography: Application at the Field Scale.** *Ground water*
Cardiff, M., Zhou, Y., Barrash, W., Kitanidis, P. K.
2019
 - **A validated model of a photovoltaic water pumping system for off-grid rural communities** *APPLIED ENERGY*
Meunier, S., Heinrich, M., Queval, L., Cherni, J. A., Vido, L., Darga, A., Dessante, P., Multon, B., Kitanidis, P. K., Marchand, C.
2019; 241: 580–91
 - **Novel Data Assimilation Algorithm for Nearshore Bathymetry** *JOURNAL OF ATMOSPHERIC AND OCEANIC TECHNOLOGY*
Ghorbanidehno, H., Lee, J., Farthing, M., Hesser, T., Kitanidis, P. K., Darve, E. F.
2019; 36 (4): 699–715
 - **Effect of irradiance data on the optimal sizing of photovoltaic water pumping systems**
Meunier, S., Queval, L., Heinrich, M., de la Fresnaye, E. A., Cherni, J. A., Vido, L., Darga, A., Dessante, P., Multon, B., Kitanidis, P. K., Marchand, C., IEEE
IEEE.2019: 653–58
 - **Modelling and Optimal Sizing of Photovoltaic Water Pumping Systems - Sensitivity Analysis**
Meunier, S., Queval, L., Darga, A., Dessante, P., Marchand, C., Heinrich, M., Cherni, J. A., de la Fresnaye, E. A., Vido, L., Multon, B., Kitanidis, P. K., IEEE
IEEE.2019

- **Fast Large-Scale Joint Inversion for Deep Aquifer Characterization Using Pressure and Heat Tracer Measurements**
Lee, J., Kokkinaki, A., Kitanidis, P. K.
SPRINGER.2018: 533–43
- **Longitudinal dispersion coefficients for numerical modeling of groundwater solute transport in heterogeneous formations.** *Journal of contaminant hydrology*
Lee, J., Rolle, M., Kitanidis, P. K.
2018; 212: 41–54
- **Riverine Bathymetry Imaging With Indirect Observations** *WATER RESOURCES RESEARCH*
Lee, J., Ghorbanidehno, H., Farthing, M. W., Hesser, T. J., Darve, E. F., Kitanidis, P. K.
2018; 54 (5): 3704–27
- **Optimal estimation and scheduling in aquifer management using the rapid feedback control method** *ADVANCES IN WATER RESOURCES*
Ghorbanidehno, H., Kokkinaki, A., Kitanidis, P. K., Darve, E.
2017; 110: 310–18
- **Smoothing-based compressed state Kalman filter for joint state-parameter estimation: Applications in reservoir characterization and CO2 storage monitoring** *WATER RESOURCES RESEARCH*
Li, Y. J., Kokkinaki, A., Darve, E. F., Kitanidis, P. K.
2017; 53 (8): 7190–7207
- **Teaching and communicating dispersion in hydrogeology, with emphasis on the applicability of the Fickian model** *ADVANCES IN WATER RESOURCES*
Kitanidis, P. K.
2017; 106: 11–23
- **Improved characterization of heterogeneous permeability in saline aquifers from transient pressure data during freshwater injection** *WATER RESOURCES RESEARCH*
Kang, P. K., Lee, J., Fu, X., Lee, S., Kitanidis, P. K., Juanes, R.
2017; 53 (5): 4444–58
- **Trace organic chemical attenuation during managed aquifer recharge: Insights from a variably saturated 2D tank experiment** *JOURNAL OF HYDROLOGY*
Regnery, J., Lee, J., Drumheller, Z. W., Drewes, J. E., Illangasekare, T. H., Kitanidis, P. K., McCray, J. E., Smits, K. M.
2017; 548: 641–51
- **Optimal Decision Making Algorithm for Managed Aquifer Recharge and Recovery Operation Using Near Real-Time Data: Benchtop Scale Laboratory Demonstration** *GROUND WATER MONITORING AND REMEDIATION*
Drumheller, Z., Smits, K. M., Illangasekare, T. H., Regnery, J., Lee, J., Kitanidis, P. K.
2017; 37 (1): 27-41
- **MULTIPRECONDITIONED GMRES FOR SHIFTED SYSTEMS** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*
Bakhos, T., Kitanidis, P. K., Ladenheim, S., Saibaba, A. K., Szyld, D. B.
2017; 39 (5): S222–S247
- **Scalable subsurface inverse modeling of huge data sets with an application to tracer concentration breakthrough data from magnetic resonance imaging** *WATER RESOURCES RESEARCH*
Lee, J., Yoon, H., Kitanidis, P. K., Werth, C. J., Valocchi, A. J.
2016; 52 (7): 5213-5231
- **Randomized algorithms for generalized Hermitian eigenvalue problems with application to computing Karhunen-Loeve expansion** *NUMERICAL LINEAR ALGEBRA WITH APPLICATIONS*
Saibaba, A. K., Lee, J., Kitanidis, P. K.
2016; 23 (2): 314-339
- **Hydraulic Tomography: Continuity and Discontinuity of High-K and Low-K Zones** *GROUNDWATER*
Hochstetler, D. L., Barrash, W., Leven, C., Cardiff, M., Chidichimo, F., Kitanidis, P. K.
2016; 54 (2): 171-185
- **Hydraulic Tomography: Continuity and Discontinuity of High-K and Low-K Zones.** *Ground water*
Hochstetler, D. L., Barrash, W., Leven, C., Cardiff, M., Chidichimo, F., Kitanidis, P. K.

2016; 54 (2): 171-185

- **Imaging geochemical heterogeneities using inverse reactive transport modeling: An example relevant for characterizing arsenic mobilization and distribution** *ADVANCES IN WATER RESOURCES*
Fakhreddine, S., Lee, J., Kitanidis, P. K., Fendorf, S., Rolle, M.
2016; 88: 186-197
- **Real-time data assimilation for large-scale systems: The spectral Kalman filter** *ADVANCES IN WATER RESOURCES*
Ghorbanidehno, H., Kokkinaki, A., Li, J. Y., Darve, E., Kitanidis, P. K.
2015; 86: 260-272
- **The compressed state Kalman filter for nonlinear state estimation: Application to large-scale reservoir monitoring** *WATER RESOURCES RESEARCH*
Li, J. Y., Kokkinaki, A., Ghorbanidehno, H., Darve, E. F., Kitanidis, P. K.
2015; 51 (12): 9942-9963
- **Frequency dependent hydraulic properties estimated from oscillatory pumping tests in an unconfined aquifer** *JOURNAL OF HYDROLOGY*
Rabinovich, A., Barrash, W., Cardiff, M., Hochstetler, D. L., Bakhos, T., Dagan, G., Kitanidis, P. K.
2015; 531: 2-16
- **A fast algorithm for parabolic PDE-based inverse problems based on Laplace transforms and flexible Krylov solvers** *JOURNAL OF COMPUTATIONAL PHYSICS*
Bakhos, T., Saibaba, A. K., Kitanidis, P. K.
2015; 299: 940-954
- **Fast computation of uncertainty quantification measures in the geostatistical approach to solve inverse problems** *ADVANCES IN WATER RESOURCES*
Saibaba, A. K., Kitanidis, P. K.
2015; 82: 124-138
- **Persistent questions of heterogeneity, uncertainty, and scale in subsurface flow and transport** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
2015; 51 (8): 5888-5904
- **Compressed state Kalman filter for large systems** *ADVANCES IN WATER RESOURCES*
Kitanidis, P. K.
2015; 76: 120-26
- **Fast Kalman filter using hierarchical matrices and a low-rank perturbative approach** *INVERSE PROBLEMS*
Saibaba, A. K., Miller, E. L., Kitanidis, P. K.
2015; 31 (1)
- **Relating relative hydraulic and electrical conductivity in the unsaturated zone** *WATER RESOURCES RESEARCH*
Mawer, C., Knight, R., Kitanidis, P. K.
2015; 51 (1): 599-618
- **Effects of compound-specific dilution on transient transport and solute breakthrough: A pore-scale analysis** *ADVANCES IN WATER RESOURCES*
Rolle, M., Kitanidis, P. K.
2014; 71: 186-199
- **Principal Component Geostatistical Approach for large-dimensional inverse problems** *WATER RESOURCES RESEARCH*
Kitanidis, P. K., Lee, J.
2014; 50 (7): 5428-5443
- **Principal Component Geostatistical Approach for large-dimensional inverse problems.** *Water resources research*
Kitanidis, P. K., Lee, J.
2014; 50 (7): 5428-5443
- **Large-scale hydraulic tomography and joint inversion of head and tracer data using the Principal Component Geostatistical Approach (PCGA)** *WATER RESOURCES RESEARCH*
Lee, J., Kitanidis, P. K.
2014; 50 (7): 5410-5427

- **A Kalman filter powered by H-2-matrices for quasi-continuous data assimilation problems** *WATER RESOURCES RESEARCH*
Li, J. Y., Ambikasaran, S., Darve, E. F., Kitanidis, P. K.
2014; 50 (5): 3734-3749
- **Stochastic modeling of short-term exposure close to an air pollution source in a naturally ventilated room: An autocorrelated random walk method** *JOURNAL OF EXPOSURE SCIENCE AND ENVIRONMENTAL EPIDEMIOLOGY*
Cheng, K., Acevedo-Bolton, V., Jiang, R., Klepeis, N. E., Ott, W. R., Kitanidis, P. K., Hildemann, L. M.
2014; 24 (3): 311-318
- **Estimating temporal changes in hydraulic head using InSAR data in the San Luis Valley, Colorado** *WATER RESOURCES RESEARCH*
Reeves, J. A., Knight, R., Zebker, H. A., Kitanidis, P. K., Schreueder, W. A.
2014; 50 (5): 4459-4473
- **Data processing for oscillatory pumping tests** *JOURNAL OF HYDROLOGY*
Bakhos, T., Cardiff, M., Barrash, W., Kitanidis, P. K.
2014; 511: 310-319
- **Long-term mass transfer and mixing-controlled reactions of a DNAPL plume from persistent residuals.** *Journal of contaminant hydrology*
Liu, Y., Illangasekare, T. H., Kitanidis, P. K.
2014; 157: 11-24
- **Fast iterative implementation of large-scale nonlinear geostatistical inverse modeling** *WATER RESOURCES RESEARCH*
Liu, X., Zhou, Q., Kitanidis, P. K., Birkholzer, J. T.
2014; 50 (1): 198-207
- **Large-scale stochastic linear inversion using hierarchical matrices** *COMPUTATIONAL GEOSCIENCES*
Ambikasaran, S., Li, J. Y., Kitanidis, P. K., Darve, E.
2013; 17 (6): 913-927
- **A mathematical and computational study of the dispersivity tensor in anisotropic porous media** *ADVANCES IN WATER RESOURCES*
Liu, Y., Kitanidis, P. K.
2013; 62: 303-316
- **Surge block method for controlling well clogging and sampling sediment during bioremediation.** *Water research*
Wu, W., Watson, D. B., Luo, J., Carley, J., Mehlhorn, T., Kitanidis, P. K., Jardine, P. M., Criddle, C. S.
2013; 47 (17): 6566-6573
- **Hydraulic conductivity imaging from 3-D transient hydraulic tomography at several pumping/observation densities** *WATER RESOURCES RESEARCH*
Cardiff, M., Barrash, W., Kitanidis, P. K.
2013; 49 (11): 7311-7326
- **Bayesian inversion with total variation prior for discrete geologic structure identification** *WATER RESOURCES RESEARCH*
Lee, J., Kitanidis, P. K.
2013; 49 (11): 7658-7669
- **On the importance of diffusion and compound-specific mixing for groundwater transport: An investigation from pore to field scale.** *Journal of contaminant hydrology*
Rolle, M., Chiogna, G., Hochstetler, D. L., Kitanidis, P. K.
2013; 153: 51-68
- **Aquifer heterogeneity characterization with oscillatory pumping: Sensitivity analysis and imaging potential** *WATER RESOURCES RESEARCH*
Cardiff, M., Bakhos, T., Kitanidis, P. K., Barrash, W.
2013; 49 (9): 5395-5410
- **Stochastic cost optimization of DNAPL remediation - Field application** *ENVIRONMENTAL MODELLING & SOFTWARE*
Kim, U., Parker, J., Kitanidis, P., Cardiff, M., Liu, X., Gillie, J.
2013; 46: 12-20
- **Integration of Artificial Recharge and Recovery Systems for Impaired Water Sources in Urban Settings: Overcoming Current Limitations and Engineering Challenges** *ENVIRONMENTAL ENGINEERING SCIENCE*

-
- Regnery, J., Lee, J., Kitanidis, P., Illangasekare, T., Sharp, J. O., Drewes, J. E.
2013; 30 (8): 409-420
- **Use of on-site bioreactors to estimate the biotransformation rate of N-ethyl perfluorooctane sulfonamidoethanol (N-EtFOSE) during activated sludge treatment.** *Chemosphere*
Rhoads, K. R., Rostkowski, K. H., Kitanidis, P. K., Criddle, C. S.
2013; 92 (6): 702-707
 - **Effects of compound-specific transverse mixing on steady-state reactive plumes: Insights from pore-scale simulations and Darcy-scale experiments** *ADVANCES IN WATER RESOURCES*
Hochstetler, D. L., Rolle, M., Chiogna, G., Haberer, C. M., Grathwohl, P., Kitanidis, P. K.
2013; 54: 1-10
 - **Electrical Resistivity for Characterization and Infiltration Monitoring beneath a Managed Aquifer Recharge Pond** *VADOSE ZONE JOURNAL*
Mawer, C., Kitanidis, P., Pidlisecky, A., Knight, R.
2013; 12 (1)
 - **The behavior of effective rate constants for bimolecular reactions in an asymptotic transport regime** *JOURNAL OF CONTAMINANT HYDROLOGY*
Hochstetler, D. L., Kitanidis, P. K.
2013; 144 (1): 88-98
 - **Fast Algorithms for Bayesian Inversion** *Computational Challenges in the Geosciences*
Ambikasaran, S., Saibaba, A. K., Darve, E. F., Kitanidis, Peter, K.
2013; 156: 101-142
 - **A FLEXIBLE KRYLOV SOLVER FOR SHIFTED SYSTEMS WITH APPLICATION TO OSCILLATORY HYDRAULIC TOMOGRAPHY** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*
Saibaba, A. K., Bakhos, T., Kitanidis, P. K.
2013; 35 (6): A3001-A3023
 - **Stochastic cost optimization of DNAPL remediation - Method description and sensitivity study** *ENVIRONMENTAL MODELLING & SOFTWARE*
Parker, J., Kim, U., Kitanidis, P., Cardiff, M., Liu, X., Beyke, G.
2012; 38: 74-88
 - **Applicability of the Dual-Domain Model to Nonaggregated Porous Media** *GROUND WATER*
Liu, Y., Kitanidis, P. K.
2012; 50 (6): 927-934
 - **Mixing, entropy and reactive solute transport** *GEOPHYSICAL RESEARCH LETTERS*
Chiogna, G., Hochstetler, D. L., Bellin, A., Kitanidis, P. K., Rolle, M.
2012; 39
 - **Application of Hierarchical Matrices to Linear Inverse Problems in Geostatistics** *OIL & GAS SCIENCE AND TECHNOLOGY-REVUE D IFP ENERGIES NOUVELLES*
Saibaba, A. K., Ambikasaran, S., Li, J. Y., Kitanidis, P. K., Darve, E. F.
2012; 67 (5): 857-875
 - **Experimental Investigation and Pore-Scale Modeling Interpretation of Compound-Specific Transverse Dispersion in Porous Media** *TRANSPORT IN POROUS MEDIA*
Rolle, M., Hochstetler, D., Chiogna, G., Kitanidis, P. K., Grathwohl, P.
2012; 93 (3): 347-362
 - **A field proof-of-concept of aquifer imaging using 3-D transient hydraulic tomography with modular, temporarily-emplaced equipment** *WATER RESOURCES RESEARCH*
Cardiff, M., Barrash, W., Kitanidis, P. K.
2012; 48
 - **Efficient methods for large-scale linear inversion using a geostatistical approach** *WATER RESOURCES RESEARCH*
Saibaba, A. K., Kitanidis, P. K.
2012; 48

- **Value of Information as a Context-Specific Measure of Uncertainty in Groundwater Remediation** *WATER RESOURCES MANAGEMENT*
Liu, X., Lee, J., Kitanidis, P. K., Parker, J., Kim, U.
2012; 26 (6): 1513-1535
- **Cost Optimization of DNAPL Remediation at Dover Air Force Base Site** *GROUND WATER MONITORING AND REMEDIATION*
Lee, J., Liu, X., Kitanidis, P. K., Kim, U., Parker, J., Bloom, A., Lyon, R.
2012; 32 (2): 48-56
- **Generalized priors in Bayesian inversion problems** *ADVANCES IN WATER RESOURCES*
Kitanidis, P. K.
2012; 36: 3-10
- **TRANSPORT AND MIXING DELIVERY AND MIXING IN THE SUBSURFACE: PROCESSES AND DESIGN PRINCIPLES FOR IN SITU REMEDIATION**
Kitanidis, P. K., Kitanidis, P. K., McCarty, P. L.
2012: 53-75
- **Delivery and Mixing in the Subsurface: Processes and Design Principles for In Situ Remediation INTRODUCTION DELIVERY AND MIXING IN THE SUBSURFACE: PROCESSES AND DESIGN PRINCIPLES FOR IN SITU REMEDIATION**
Kitanidis, P. K., McCarty, P. L., Kitanidis, P. K., McCarty, P. L.
2012: 1-6
- **Estimating Reaction Rate Coefficients Within a Travel-Time Modeling Framework** *GROUND WATER*
Gong, R., Lu, C., Wu, W., Cheng, H., Gu, B., Watson, D., Jardine, P. M., Brooks, S. C., Criddle, C. S., Kitanidis, P. K., Luo, J.
2011; 49 (2): 209-218
- **Increasing Confidence in Mass Discharge Estimates Using Geostatistical Methods** *GROUND WATER*
Cai, Z., Wilson, R. D., Cardiff, M. A., Kitanidis, P. K.
2011; 49 (2): 197-208
- **Large-scale inverse modeling with an application in hydraulic tomography** *WATER RESOURCES RESEARCH*
Liu, X., Kitanidis, P. K.
2011; 47
- **Effects of model formulation and calibration data on uncertainty in dense nonaqueous phase liquids source dissolution predictions** *WATER RESOURCES RESEARCH*
Parker, J. C., Kim, U., Widdowson, M., Kitanidis, P., Gentry, R.
2010; 46
- **Assessment of the Effectiveness of a Constructed Compound Channel River Restoration Project on an Incised Stream** *JOURNAL OF HYDRAULIC ENGINEERING-ASCE*
MacWilliams, M. L., Tompkins, M. R., Street, R. L., Kondolf, G. M., Kitanidis, P. K.
2010; 136 (12): 1042-1052
- **Fitting Data Under Omnidirectional Noise: A Probabilistic Method for Inferring Petrophysical and Hydrologic Relations** *MATHEMATICAL GEOSCIENCES*
Cardiff, M., Kitanidis, P. K.
2010; 42 (8): 877-909
- **Parameter estimation in nonlinear environmental problems** *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*
Liu, X., Cardiff, M. A., Kitanidis, P. K.
2010; 24 (7): 1003-1022
- **Significant Association between Sulfate-Reducing Bacteria and Uranium-Reducing Microbial Communities as Revealed by a Combined Massively Parallel Sequencing-Indicator Species Approach** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Cardenas, E., Wu, W., Leigh, M. B., Carley, J., Carroll, S., Gentry, T., Luo, J., Watson, D., Gu, B., Ginder-Vogel, M., Kitanidis, P. K., Jardine, P. M., Zhou, et al
2010; 76 (20): 6778-6786
- **Estimating kinetic mass transfer by resting-period measurements in flow-interruption tracer tests** *JOURNAL OF CONTAMINANT HYDROLOGY*
Gong, R., Lu, C., Wu, W., Cheng, H., Gu, B., Watson, D. B., Criddle, C. S., Kitanidis, P. K., Brooks, S. C., Jardine, P. M., Luo, J.
2010; 117 (1-4): 37-45

- **Effects of Nitrate on the Stability of Uranium in a Bioreduced Region of the Subsurface** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Wu, W., Carley, J., Green, S. J., Luo, J., Kelly, S. D., Van Nostrand, J., Lowe, K., Mehlhorn, T., Carroll, S., Boonchayanant, B., Loeffler, F. E., Watson, D., Kemner, et al
2010; 44 (13): 5104-5111
- **Stochastic Cost Optimization of Multistrategy DNAPL Site Remediation** *GROUND WATER MONITORING AND REMEDIATION*
Parker, J., Kim, U., Kitanidis, P. K., Cardiff, M., Liu, X.
2010; 30 (3): 65-78
- **Cost optimization of DNAPL source and plume remediation under uncertainty using a semi-analytic model** *JOURNAL OF CONTAMINANT HYDROLOGY*
Cardiff, M., Liu, X., Kitanidis, P. K., Parker, J., Kim, U.
2010; 113 (1-4): 25-43
- **Effects of kinetic mass transfer and transient flow conditions on widening mixing zones in coastal aquifers** *WATER RESOURCES RESEARCH*
Lu, C., Kitanidis, P. K., Luo, J.
2009; 45
- **Bayesian inversion for facies detection: An extensible level set framework** *WATER RESOURCES RESEARCH*
Cardiff, M., Kitanidis, P. K.
2009; 45
- **Geostatistical inverting for large-contrast transmissivity fields** *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*
Zanini, A., Kitanidis, P. K.
2009; 23 (5): 565-577
- **A Potential-Based Inversion of Unconfined Steady-State Hydraulic Tomography** *GROUND WATER*
Cardiff, M., Barrash, W., Kitanidis, P. K., Malama, B., Revil, A., Straface, S., Rizzo, E.
2009; 47 (2): 259-270
- **Efficient solution of nonlinear, underdetermined inverse problems with a generalized PDE model** *COMPUTERS & GEOSCIENCES*
Cardiff, M., Kitanidis, P. K.
2008; 34 (11): 1480-1491
- **An interactive Bayesian geostatistical inverse protocol for hydraulic tomography** *WATER RESOURCES RESEARCH*
Fienen, M. N., Clemo, T., Kitanidis, P. K.
2008; 44
- **Microbial communities in contaminated sediments, associated with bioremediation of uranium to submicromolar levels** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Cardenas, E., Wu, W., Leigh, M. B., Carley, J., Carroll, S., Gentry, T., Luo, J., Watson, D., Gu, B., Ginder-Vogel, M., Kitanidis, P. K., Jardine, P. M., Zhou, et al
2008; 74 (12): 3718-3729
- **Estimating first-order reaction rate coefficient for transport with nonequilibrium linear mass transfer in heterogeneous media** *JOURNAL OF CONTAMINANT HYDROLOGY*
Luo, J., Wu, W., Carley, J., Fienen, M. N., Cheng, H., Watson, D., Criddle, C. S., Jardine, P. M., Kitanidis, P. K.
2008; 98 (1-2): 50-60
- **Growth and cometabolic reduction kinetics of a uranium- and sulfate-reducing *Desulfovibrio Clostridia* mixed culture: Temperature effects** *BIOTECHNOLOGY AND BIOENGINEERING*
Boonchayaanant, B., Kitanidis, P. K., Criddle, C. S.
2008; 99 (5): 1107-1119
- **Effective reaction parameters for mixing controlled reactions in heterogeneous media** *WATER RESOURCES RESEARCH*
Luo, J., Dentz, M., Carrera, J., Kitanidis, P.
2008; 44 (2)
- **Electron donor and pH relationships for biologically enhanced dissolution of chlorinated solvent DNAPL in groundwater** *3rd European Bioremediation Conference*
McCarty, P. L., Chu, M., Kitanidis, P. K.
ELSEVIER FRANCE-EDITIONS SCIENTIFIQUES MEDICALES ELSEVIER.2007: 276-82

- **Inhibition of a U(VI)- and sulfate-reducing consortia by U(VI)** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Nyman, J. L., Wu, H., Gentile, M. E., Kitanidis, P. K., Criddle, C. S.
2007; 41 (18): 6528-6533
- **Breakthrough curve tailing in a dipole flow field** *WATER RESOURCES RESEARCH*
Luo, J., Dentz, M., Cirpka, O. A., Kitanidis, P. K.
2007; 43 (9)
- **In situ bioreduction of uranium (VI) to submicromolar levels and reoxidation by dissolved oxygen** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Wu, W., Carley, J., Luo, J., Ginder-Vogel, M. A., Cardenas, E., Leigh, M. B., Hwang, C., Kelly, S. D., Ruan, C., Wu, L., Van Nostrand, J., Gentry, T., Lowe, et al
2007; 41 (16): 5716-5723
- **Modeling in-situ uranium(VI) bioreduction by sulfate-reducing bacteria** *JOURNAL OF CONTAMINANT HYDROLOGY*
Luo, J., Weber, F., Cirpka, O. A., Wu, W., Nyman, J. L., Carley, J., Jardine, P. M., Criddle, C. S., Kitanidis, P. K.
2007; 92 (1-2): 129-148
- **Dependence of lumped mass transfer coefficient on scale and reactions kinetics for biologically enhanced NAPL dissolution** *ADVANCES IN WATER RESOURCES*
Chu, M., Kitanidis, P. K., McCarty, P. L.
2007; 30 (6-7): 1618-1629
- **Analyzing bank filtration by deconvoluting time series of electric conductivity** *GROUND WATER*
Cirpka, O. A., Fienen, M. N., Hofer, M., Hoehn, E., Tessarini, A., Kipfer, R., Kitanidis, P. K.
2007; 45 (3): 318-328
- **Hydraulic performance analysis of a multiple injection-extraction well system** *JOURNAL OF HYDROLOGY*
Luo, J., Wu, W., Carley, J., Ruan, C., Gu, B., Jardine, P. M., Criddle, C. S., Kitanidis, P. K.
2007; 336 (3-4): 294-302
- **Flow convergence routing hypothesis for pool-riffle maintenance in alluvial rivers** *WATER RESOURCES RESEARCH*
MacWilliams, M. L., Wheaton, J. M., Pasternack, G. B., Street, R. L., Kitanidis, P. K.
2006; 42 (10)
- **Temporal-moment matching for truncated breakthrough curves for step or step-pulse injection** *ADVANCES IN WATER RESOURCES*
Luo, J., Cirpka, O. A., Kitanidis, P. K.
2006; 29 (9): 1306-1313
- **A Bayesian geostatistical transfer function approach to tracer test analysis** *WATER RESOURCES RESEARCH*
Fienen, M. N., Luo, J., Kitanidis, P. K.
2006; 42 (7)
- **Experimental determination of transverse dispersivity in a helix and a cochlea** *WATER RESOURCES RESEARCH*
Benekos, I. D., Cirpka, O. A., Kitanidis, P. K.
2006; 42 (7)
- **Pilot-scale in situ bioremediation of uranium in a highly contaminated aquifer. 2. Reduction of U(VI) and geochemical control of U(VI) bioavailability** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Wu, W., Carley, J., Gentry, T., Ginder-Vogel, M. A., Fienen, M., Mehlhorn, T., Yan, H., Carroll, S., Pace, M. N., Nyman, J., Luo, J., Gentile, M. E., Fields, et al
2006; 40 (12): 3986-3995
- **Pilot-scale in situ bioremediation of uranium in a highly contaminated aquifer. 1. Conditioning of a treatment zone** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Wu, W., Carley, J., Fienen, M., Mehlhorn, T., Lowe, K., Nyman, J., Luo, J., Gentile, M. E., Rajan, R., Wagner, D., Hickey, R. F., Gu, B., Watson, et al
2006; 40 (12): 3978-3985
- **A nested-cell approach for in situ remediation** *GROUND WATER*
Luo, J., Wu, W. M., Fienen, M. N., Jardine, P. M., Mehlhorn, T. L., Watson, D. B., Cirpka, O. A., Criddle, C. S., Kitanidis, P. K.
2006; 44 (2): 266-274
- **A parametric transfer function methodology for analyzing reactive transport in nonuniform flow** *JOURNAL OF CONTAMINANT HYDROLOGY*

- Luo, J., Cirpka, O. A., Fienen, M. N., Wu, W. M., Mehlhorn, T. L., Carley, J., Jardine, P. M., Criddle, C. S., Kitanidis, P. K.
2006; 83 (1-2): 27-41
- **Application of the complementary volume method to simulation of flows on an unstructured grid** *16th International Offshore and Polar Engineering Conference (ISOPE 2006)*
Zhao, G., Kitanidis, P. K., Street, R. L.
INTERNATIONAL SOCIETY OFFSHORE& POLAR ENGINEERS.2006: 402-405
 - **A numerical study of surface-subsurface exchange processes at a riffle-pool pair in the Lahn River, Germany** *WATER RESOURCES RESEARCH*
Saenger, N., Kitanidis, P. K., Street, R. L.
2005; 41 (12)
 - **Mass-transfer limitations for nitrate removal in a uranium-contaminated aquifer** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Luo, J., Cirpka, O. A., Wu, W. M., Fienen, M. N., Jardine, P. M., Mehlhorn, T. L., Watson, D. B., Criddle, C. S., Kitanidis, P. K.
2005; 39 (21): 8453-8459
 - **Semi-analytical homogeneous anisotropic capture zone delineation** *JOURNAL OF HYDROLOGY*
Fienen, M. N., Luo, J., Kitanidis, P. K.
2005; 312 (1-4): 39-50
 - **Modeling microbial reactions at the plume fringe subject to transverse mixing in porous media: When can the rates of microbial reaction be assumed to be instantaneous?** *WATER RESOURCES RESEARCH*
Chu, M., Kitanidis, P. K., McCarty, P. L.
2005; 41 (6)
 - **A method for the interpolation of nonnegative functions with an application to contaminant load estimation** *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*
Michalak, A. M., Kitanidis, P. K.
2005; 19 (1): 8-23
 - **On the asymptotic behavior of dilution parameters for Gaussian and hole-Gaussian log-conductivity covariance functions** *TRANSPORT IN POROUS MEDIA*
Pannone, M., Kitanidis, P. K.
2004; 56 (3): 257-281
 - **Fluid residence times within a recirculation zone created by an extraction-injection well pair** *JOURNAL OF HYDROLOGY*
Luo, J., Kitanidis, P. K.
2004; 295 (1-4): 149-162
 - **Estimation of historical groundwater contaminant distribution using the adjoint state method applied to geostatistical inverse modeling** *WATER RESOURCES RESEARCH*
Michalak, A. M., Kitanidis, P. K.
2004; 40 (8)
 - **Possible factors controlling the effectiveness of bioenhanced dissolution of non-aqueous phase tetrachloroethene** *ADVANCES IN WATER RESOURCES*
Chu, M., Kitanidis, P. K., McCarty, P. L.
2004; 27 (6): 601-615
 - **Summary of a Panel Discussion at the International Groundwater Symposium held on March 25-28, 2002 in Berkeley, California, USA** *JOURNAL OF HYDRAULIC RESEARCH*
Findikakis, A. N., Helmig, R., Kitanidis, P., Nimmo, J., Pruess, K., Rubin, Y., Stauffer, F., Tsang, C. F.
2004; 42: III-IV
 - **Application of geostatistical inverse modeling to contaminant source identification at Dover AFB, Delaware** *International Groundwater Symposium*
Michalak, A. M., Kitanidis, P. K.
TAYLOR & FRANCIS LTD.2004: 9-18
 - **An application of Bayesian inverse methods to vertical deconvolution of hydraulic conductivity in a heterogeneous aquifer at Oak Ridge National Laboratory** *MATHEMATICAL GEOLOGY*
Fienen, M. N., Kitanidis, P. K., Watson, D., Jardine, P.
2004; 36 (1): 101-126

- **Effects of biomass accumulation on microbially enhanced dissolution of a PCE pool: a numerical simulation** *JOURNAL OF CONTAMINANT HYDROLOGY*
Chu, M., Kitanidis, P. K., McCarty, P. L.
2003; 65 (1-2): 79-100
- **A method for enforcing parameter nonnegativity in Bayesian inverse problems with an application to contaminant source identification** *WATER RESOURCES RESEARCH*
Michalak, A. M., Kitanidis, P. K.
2003; 39 (2)
- **Numerical evaluation of solute dispersion and dilution in unsaturated heterogeneous media** *WATER RESOURCES RESEARCH*
Cirpka, O. A., Kitanidis, P. K.
2002; 38 (11)
- **Application of Bayesian inference methods to inverse modeling for contaminant source identification at Gloucester Landfill, Canada** *14th International Conference on Computational Methods in Water Resources*
Michalak, A. M., Kitanidis, P. K.
ELSEVIER SCIENCE BV.2002: 1259–1266
- **Travel-time based model of bioremediation using circulation wells** *3rd International Conference on Groundwater Quality*
Cirpka, O. A., Kitanidis, P. K.
INT ASSOC HYDROLOGICAL SCIENCES.2002: 485–92
- **Pore-scale modeling of biological clogging due to aggregate expansion: A material mechanics approach** *WATER RESOURCES RESEARCH*
Dupin, H. J., Kitanidis, P. K., McCarty, P. L.
2001; 37 (12): 2965-2979
- **Simulations of two-dimensional modeling of biomass aggregate growth in network models** *WATER RESOURCES RESEARCH*
Dupin, H. J., Kitanidis, P. K., McCarty, P. L.
2001; 37 (12): 2981-2994
- **Transport of volatile compounds in porous media in the presence of a trapped gas phase** *JOURNAL OF CONTAMINANT HYDROLOGY*
Cirpka, O. A., Kitanidis, P. K.
2001; 49 (3-4): 263-285
- **Travel-time based model of bioremediation using circulation wells** *GROUND WATER*
Cirpka, O. A., Kitanidis, P. K.
2001; 39 (3): 422-432
- **Improved dynamic programming methods for optimal control of lumped-parameter stochastic systems** *OPERATIONS RESEARCH*
Philbrick, C. R., Kitanidis, P. K.
2001; 49 (3): 398-412
- **Theoretical basis for the measurement of local transverse dispersion in isotropic porous media** *WATER RESOURCES RESEARCH*
Cirpka, O. A., Kitanidis, P. K.
2001; 37 (2): 243-252
- **Large-time spatial covariance of concentration of conservative solute and application to the Cape Cod tracer test** *TRANSPORT IN POROUS MEDIA*
Pannone, M., Kitanidis, P. K.
2001; 42 (1-2): 109-132
- **Sensitivity of temporal moments calculated by the adjoint-state method and joint inverting of head and tracer data** *ADVANCES IN WATER RESOURCES*
Cirpka, O. A., Kitanidis, P. K.
2000; 24 (1): 89-103
- **Macroscopic behavior and random-walk particle tracking of kinetically sorbing solutes** *WATER RESOURCES RESEARCH*
Michalak, A. M., Kitanidis, P. K.
2000; 36 (8): 2133-2146
- **Modeling particle transport and aggregation in a quiescent aqueous environment using the residence-time scheme** *WATER RESOURCES RESEARCH*
Perigault, J. G., Leckie, J. O., Kitanidis, P. K.

2000; 36 (8): 2249-2261

- **An advective-dispersive stream tube approach for the transfer of conservative-tracer data to reactive transport** *WATER RESOURCES RESEARCH*
Cirpka, O. A., Kitanidis, P. K.
2000; 36 (5): 1209-1220
- **Characterization of mixing and dilution in heterogeneous aquifers by means of local temporal moments** *WATER RESOURCES RESEARCH*
Cirpka, O. A., Kitanidis, P. K.
2000; 36 (5): 1221-1236
- **Impact of biomass-decay terms on the simulation of pulsed bioremediation** *GROUND WATER*
Cirpka, O. A., Kitanidis, P. K.
2000; 38 (2): 254-263
- **Numerical investigations of mixing in physically heterogeneous porous media using the one- and two-particle covariance** *XIIIth International Conference on Computational Methods in Water Resources*
Michalak, A. M., Kitanidis, P. K.
A A BALKEMA PUBLISHERS.2000: 423-429
- **Effects of shear detachment on biomass growth and in situ bioremediation** *GROUND WATER*
MacDonald, T. R., Kitanidis, P. K., McCarty, P. L., Roberts, P. V.
1999; 37 (4): 555-563
- **Mass-transfer limitations for macroscale bioremediation modeling and implications on aquifer clogging** *GROUND WATER*
MacDonald, T. R., Kitanidis, P. K., McCarty, P. L., Roberts, P. V.
1999; 37 (4): 523-531
- **Limitations of deterministic optimization applied to reservoir operations** *JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT-ASCE*
Philbrick, C. R., Kitanidis, P. K.
1999; 125 (3): 135-142
- **Generalized covariance functions associated with the Laplace equation and their use in interpolation and inverse problems** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
1999; 35 (5): 1361-1367
- **Adaptive-grid simulation of groundwater flow in heterogeneous aquifers** *ADVANCES IN WATER RESOURCES*
Cao, J., Kitanidis, P. K.
1999; 22 (7): 681-696
- **Analysis of macrodispersion through volume averaging: comparison with stochastic theory** *STOCHASTIC ENVIRONMENTAL RESEARCH AND RISK ASSESSMENT*
Wang, J., Kitanidis, P. K.
1999; 13 (1-2): 66-84
- **Large-time behavior of concentration variance and dilution in heterogeneous formations** *WATER RESOURCES RESEARCH*
Pannone, M., Kitanidis, P. K.
1999; 35 (3): 623-634
- **Transmissivity identification through multi-directional aquifer stimulation** *STOCHASTIC HYDROLOGY AND HYDRAULICS*
Snodgrass, M. F., Kitanidis, P. K.
1998; 12 (5): 299-316
- **Adaptive finite element simulation of Stokes flow in porous media** *ADVANCES IN WATER RESOURCES*
Cao, J., Kitanidis, P. K.
1998; 22 (1): 17-31
- **How observations and structure affect the geostatistical solution to the steady-state inverse problem** *GROUND WATER*
Kitanidis, P. K.
1998; 36 (5): 754-763

- **Pore-scale dilution of conservative solutes: An example** *WATER RESOURCES RESEARCH*
Cao, J., Kitanidis, P. K.
1998; 34 (8): 1941-1949
- **A method to infer in situ reaction rates from push-pull experiments** *GROUND WATER*
Snodgrass, M. F., Kitanidis, P. K.
1998; 36 (4): 645-650
- **A comparison of seven geostatistically based inverse approaches to estimate transmissivities for modeling advective transport by groundwater flow** *WATER RESOURCES RESEARCH*
Zimmerman, D. A., de Marsily, G., Gotway, C. A., Marietta, M. G., Axness, C. L., Beauheim, R. L., Bras, R. L., Carrera, J., Dagan, G., Davies, P. B., Gallegos, D. P., Galli, A., Gomez-Hernandez, et al
1998; 34 (6): 1373-1413
- **Spreadsheet method for evaluation of biochemical reaction rate coefficients and their uncertainties by weighted nonlinear least-squares analysis of the integrated monod equation** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Smith, L. H., McCarty, P. L., Kitanidis, P. K.
1998; 64 (6): 2044-2050
- **Concentration fluctuations and dilution in aquifers** *WATER RESOURCES RESEARCH*
Kapoor, V., Kitanidis, P. K.
1998; 34 (5): 1181-1193
- **Optimal conjunctive-use operations and plans** *WATER RESOURCES RESEARCH*
Philbrick, C. R., Kitanidis, P. K.
1998; 34 (5): 1307-1316
- **Stochastic approaches to inverse problems** *12th International Conference on Computational Methods in Water Resources*
Kitanidis, P. K.
COMPUTATIONAL MECHANICS PUBLICATIONS LTD.1998: 281-288
- **Advection-diffusion in spatially random flows: Formulation of concentration covariance** *STOCHASTIC HYDROLOGY AND HYDRAULICS*
Kapoor, V., Kitanidis, P. K.
1997; 11 (5): 397-422
- **The minimum structure solution to the inverse problem** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
1997; 33 (10): 2263-2272
- **A reassessment of the groundwater inverse problem - Comment** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
1997; 33 (9): 2199-2202
- **A variance-ratio test for supporting a variable mean in kriging** *MATHEMATICAL GEOLOGY*
Kitanidis, P. K.
1997; 29 (3): 335-348
- **A geostatistical approach to contaminant source identification** *WATER RESOURCES RESEARCH*
Snodgrass, M. F., Kitanidis, P. K.
1997; 33 (4): 537-546
- **Numerical modeling and uncertainties in rate coefficients for methane utilization and TCE cometabolism by a methane-oxidizing mixed culture** *BIOTECHNOLOGY AND BIOENGINEERING*
Smith, L. H., Kitanidis, P. K., McCarty, P. L.
1997; 53 (3): 320-331
- **Stokes flow in a slowly varying two-dimensional periodic pore** *TRANSPORT IN POROUS MEDIA*
Kitanidis, P. K., Dykaar, B. B.
1997; 26 (1): 89-98

- **In situ BTEX biotransformation under enhanced nitrate- and sulfate-reducing conditions** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Reinhard, M., Shang, S., Kitanidis, P. K., Orwin, E., Hopkins, G. D., Lebron, C. A.
1997; 31 (1): 28-36
- **On the geostatistical approach to the inverse problem** *ADVANCES IN WATER RESOURCES*
Kitanidis, P. K.
1996; 19 (6): 333-342
- **Optimization of Monitoring Well Installation Time and Location During Aquifer Decontamination** *WATER RESOURCES MANAGEMENT*
Lee, S., Kitanidis, P. K.
1996; 10 (6): 439-462
- **Geostatistical interpolation of chemical concentration** *ADVANCES IN WATER RESOURCES*
Kitanidis, P. K., Shen, K. F.
1996; 19 (6): 369-378
- **Analytical expressions of conditional mean, covariance, and sample functions in geostatistics** *STOCHASTIC HYDROLOGY AND HYDRAULICS*
Kitanidis, P. K.
1996; 10 (4): 279-294
- **Effects of first-order approximations on head and specific discharge covariances in high-contrast log conductivity** *WATER RESOURCES RESEARCH*
VANLENT, T., Kitanidis, P. K.
1996; 32 (5): 1197-1207
- **Macrotransport of a biologically reacting solute through porous media** *WATER RESOURCES RESEARCH*
Dykaar, B. B., Kitanidis, P. K.
1996; 32 (2): 307-320
- **Concentration fluctuations and dilution in two-dimensionally periodic heterogeneous porous media** *TRANSPORT IN POROUS MEDIA*
Kapoor, V., Kitanidis, P. K.
1996; 22 (1): 91-119
- **QUASI-LINEAR GEOSTATISTICAL THEORY FOR INVERSING** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
1995; 31 (10): 2411-2419
- **PREDICTION OF SINGLE-PHASE TRANSPORT PARAMETERS IN A VARIABLE APERTURE FRACTURE** *GEOPHYSICAL RESEARCH LETTERS*
Keller, A. A., Roberts, P. V., Kitanidis, P. K.
1995; 22 (11): 1425-1428
- **ANAEROBIC TRANSFORMATION OF CHLORINATED ALIPHATIC-HYDROCARBONS IN A SAND AQUIFER BASED ON SPATIAL CHEMICAL-DISTRIBUTIONS** *WATER RESOURCES RESEARCH*
Semprini, L., Kitanidis, P. K., Kampbell, D. H., WILSON, J. T.
1995; 31 (4): 1051-1062
- **Biofouling effects on in situ TCE bioremediation by phenol utilizers** *3rd International In Situ and On-Site Bioreclamation Symposium*
MacDonald, T. R., Kitanidis, P. K.
BATTELLE PRESS.1995: 213-19
- **RECENT ADVANCES IN GEOSTATISTICAL INFERENCE ON HYDROGEOLOGICAL VARIABLES** *REVIEWS OF GEOPHYSICS*
Kitanidis, P. K.
1995; 33: 1103-1109
- **PARTICLE-TRACKING EQUATIONS FOR THE SOLUTION OF THE ADVECTION-DISPERSION EQUATION WITH VARIABLE-COEFFICIENTS** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
1994; 30 (11): 3225-3227
- **SOLUTE DILUTION AT THE BORDEN AND CAPE-COD GROUNDWATER TRACER TESTS** *WATER RESOURCES RESEARCH*
Thierrin, J., Kitanidis, P. K.

1994; 30 (11): 2883-2890

- **THE CONCEPT OF THE DILUTION INDEX** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
1994; 30 (7): 2011-2026
- **MODELING THE FREE-SURFACE OF AN UNCONFINED AQUIFER NEAR A RECIRCULATION WELL** *GROUND WATER*
MacDonald, T. R., Kitanidis, P. K.
1993; 31 (5): 774-780
- **GENERALIZED COVARIANCE FUNCTIONS IN ESTIMATION** *MATHEMATICAL GEOLOGY*
Kitanidis, P. K.
1993; 25 (5): 525-540
- **TRANSMISSIVITY OF A HETEROGENEOUS FORMATION** *WATER RESOURCES RESEARCH*
Dykaar, B. B., Kitanidis, P. K.
1993; 29 (4): 985-1001
- **MACRODISPERSION OF SORBING SOLUTES IN HETEROGENEOUS POROUS FORMATIONS WITH SPATIALLY PERIODIC RETARDATION FACTOR AND VELOCITY-FIELD** *WATER RESOURCES RESEARCH*
Chrysikopoulos, C. V., Kitanidis, P. K., Roberts, P. V.
1992; 28 (6): 1517-1529
- **DETERMINATION OF THE EFFECTIVE HYDRAULIC CONDUCTIVITY FOR HETEROGENEOUS POROUS-MEDIA USING A NUMERICAL SPECTRAL APPROACH .1. METHOD** *WATER RESOURCES RESEARCH*
Dykaar, B. B., Kitanidis, P. K.
1992; 28 (4): 1155-1166
- **DETERMINATION OF THE EFFECTIVE HYDRAULIC CONDUCTIVITY FOR HETEROGENEOUS POROUS-MEDIA USING A NUMERICAL SPECTRAL APPROACH .2. RESULTS** *WATER RESOURCES RESEARCH*
Dykaar, B. B., Kitanidis, P. K.
1992; 28 (4): 1167-1178
- **ANALYSIS OF MACRODISPERSION THROUGH VOLUME-AVERAGING - MOMENT EQUATIONS** *STOCHASTIC HYDROLOGY AND HYDRAULICS*
Kitanidis, P. K.
1992; 6 (1): 5-25
- **GENERALIZED TAYLOR-ARIS MOMENT ANALYSIS OF THE TRANSPORT OF SORBING SOLUTES THROUGH POROUS-MEDIA WITH SPATIALLY PERIODIC RETARDATION FACTOR** *TRANSPORT IN POROUS MEDIA*
Chrysikopoulos, C. V., Kitanidis, P. K., Roberts, P. V.
1992; 7 (2): 163-185
- **OPTIMAL ESTIMATION AND SCHEDULING IN AQUIFER REMEDIATION WITH INCOMPLETE INFORMATION** *WATER RESOURCES RESEARCH*
Lee, S. I., Kitanidis, P. K.
1991; 27 (9): 2203-2217
- **ORTHONORMAL RESIDUALS IN GEOSTATISTICS - MODEL CRITICISM AND PARAMETER-ESTIMATION** *MATHEMATICAL GEOLOGY*
Kitanidis, P. K.
1991; 23 (5): 741-758
- **ONE-DIMENSIONAL SOLUTE TRANSPORT IN POROUS-MEDIA WITH PARTIAL WELL-TO-WELL RECIRCULATION - APPLICATION TO FIELD EXPERIMENTS** *WATER RESOURCES RESEARCH*
Chrysikopoulos, C. V., Roberts, P. V., Kitanidis, P. K.
1990; 26 (6): 1189-1195
- **EFFECTIVE HYDRAULIC CONDUCTIVITY FOR GRADUALLY VARYING FLOW** *WATER RESOURCES RESEARCH*
Kitanidis, P. K.
1990; 26 (6): 1197-1208

- **OPTIMIZATION OF THE PUMPING SCHEDULE IN AQUIFER REMEDIATION UNDER UNCERTAINTY** *WATER RESOURCES RESEARCH*
Andricevic, R., Kitanidis, P. K.
1990; 26 (5): 875-885
- **ANALYSIS OF ONE-DIMENSIONAL SOLUTE TRANSPORT THROUGH POROUS-MEDIA WITH SPATIALLY-VARIABLE RETARDATION FACTOR** *WATER RESOURCES RESEARCH*
Chrysikopoulos, C. V., Kitanidis, P. K., Roberts, P. V.
1990; 26 (3): 437-446
- **GEOSTATISTICAL ESTIMATION OF HYDRAULIC-HEAD GRADIENTS** *GROUND WATER*
PHILIP, R. D., Kitanidis, P. K.
1989; 27 (6): 855-865
- **A NUMERICAL SPECTRAL APPROACH FOR THE DERIVATION OF PIEZOMETRIC HEAD COVARIANCE FUNCTIONS** *WATER RESOURCES RESEARCH*
VANLENT, T., Kitanidis, P. K.
1989; 25 (11): 2287-2298
- **STOCHASTIC-CONTROL OF CONTAMINANT TRANSPORT PROBLEMS** *SYMP ON GROUNDWATER MANAGEMENT : QUANTITY AND QUALITY*
Andricevic, R., Kitanidis, P. K.
INT ASSOC HYDROLOGICAL SCIENCES.1989: 271-284
- **PREDICTION BY THE METHOD OF MOMENTS OF TRANSPORT IN A HETEROGENEOUS FORMATION** *JOURNAL OF HYDROLOGY*
Kitanidis, P. K.
1988; 102 (1-4): 453-473
- **GRADIENT DYNAMIC-PROGRAMMING FOR STOCHASTIC OPTIMAL-CONTROL OF MULTIDIMENSIONAL WATER-RESOURCES SYSTEMS** *WATER RESOURCES RESEARCH*
Foufoula-Georgiou, E., Kitanidis, P. K.
1988; 24 (8): 1345-1359
- **PARAMETRIC-ESTIMATION OF COVARIANCES OF REGIONALIZED VARIABLES** *WATER RESOURCES BULLETIN*
Kitanidis, P. K.
1987; 23 (4): 557-567
- **ERROR ANALYSIS OF CONVENTIONAL DISCRETE AND GRADIENT DYNAMIC-PROGRAMMING** *WATER RESOURCES RESEARCH*
Kitanidis, P. K., Foufoula-Georgiou, E.
1987; 23 (5): 845-858
- **A 1ST-ORDER APPROXIMATION TO STOCHASTIC OPTIMAL-CONTROL OF RESERVOIRS** *STOCHASTIC HYDROLOGY AND HYDRAULICS*
Kitanidis, P. K.
1987; 1 (3): 169-184
- **REAL-TIME FORECASTING WITH A CONCEPTUAL HYDROLOGIC MODEL .1. ANALYSIS OF UNCERTAINTY** *WATER RESOURCES RESEARCH*
Kitanidis, P. K., Bras, R. L.
1980; 16 (6): 1025-1033
- **REAL-TIME FORECASTING WITH A CONCEPTUAL HYDROLOGIC MODEL .2. APPLICATIONS AND RESULTS** *WATER RESOURCES RESEARCH*
Kitanidis, P. K., Bras, R. L.
1980; 16 (6): 1034-1044
- **ADAPTIVE FILTERING THROUGH DETECTION OF ISOLATED TRANSIENT ERRORS IN RAINFALL-RUNOFF MODELS** *WATER RESOURCES RESEARCH*
Kitanidis, P. K., Bras, R. L.
1980; 16 (4): 740-748
- **COLLINEARITY AND STABILITY IN THE ESTIMATION OF RAINFALL-RUNOFF MODEL PARAMETERS** *JOURNAL OF HYDROLOGY*
Kitanidis, P. K., Bras, R. L.

