

## **Aly I. El-Kadi Publications**

### **Edited Books**

- Fares, A. and A.I. El-Kadi, Editors. 2008. Coastal Watershed Management, Progress in Water Resources Series, Vol 13, 432 pp, WIT Press, Southampton, UK.
- El-Kadi, A.I. Editor. 1995. Groundwater Models for Resources Analysis and Management, CRC/Lewis Pub., Boca Raton, Florida. 384pp.

### **Book Chapters (Student/researcher names are marked by asterisks)**

- El-Kadi, A.I., and M. Mira\*. Sustainability and Hawaii Watershed Assessment, Restoration, and Protection, In Roumasset, J., Burnett, K., and Balisacan, A. (Editors). Sustainability Science for Watershed Landscapes. Singapore: Institute of Southeast Asian Studies; Los Banos, Philippines: Southeast Asian Regional Center for Graduate Study and Research in Agriculture, In Press.
- El-Kadi, A.I., M. Mira\*, J. E.T. Moncur, and R.S. Fujioka. 2008. Restoration and protection plan for the Nawiliwili Watershed, Kauai, Hawaii, USA, In: Fares, A. and A.I. El-Kadi (Editors). 2008. Coastal Watershed Management, (pp. 251-282), Progress in Water Resources Series, WIT Press, UK.
- El-Kadi, A.I. 2005. Unconfined Ground Water, In Lehr, J., J. Keeley, and J. Lehr. Water Encyclopedia, Volumes 1-5. (pp. 662-667). John Wiley & Sons.
- El-Kadi, A.I. 1995. On the numerical solutions of one-dimensional flow in the unsaturated zone, In El-Kadi, A.I. (Ed.), Groundwater Models for Resources Analysis and Management, (pp. 149-167), CRC/Lewis Pub., Boca Raton, Florida. 384pp.
- El-Kadi, A.I. 1992. A practical approach to estimating the hydraulic properties of soils, In M. Th. van Genuchten, F.J. Leij, and L.J. Lund, Indirect Methods for Estimating the Hydraulic Properties of Unsaturated Soils, (pp. 303-315), University of California Press, Riverside, California.

### **Journal Articles (Student/researcher names are marked by asterisks)**

- Rotzoll, K., D.S. Oki, and A.I. El-Kadi, 2010. Changes of freshwater-lens thickness in basaltic island aquifers overlain by thick coastal sediments, Hydrogeology Journal, (2010) 18: 1425–1436.
- El-Kadi, A.I., L.N. Plummer, and P. Aggarwal. 2010. NETPATH-WIN: An Interactive User Version of the Mass-Balance Model, NETPATH, Ground Water, Published on Line: 10.1111/j.1745-6584.2010.00779.x.
- \*Whittier, R., K. Rotzoll\*, S. Dhal\*, A.I. El-Kadi, C. Ray, and D. Chang. 2009. Groundwater source assessment program for the state of Hawaii, USA: Methodology and example application, J. Hydrogeology, Published on line: DOI: 10.1007/s10040-009-0548-6.
- \*Deb, S.K., and A.I. El-Kadi. 2009. Susceptibility assessment of shallow landslides on Oahu, Hawaii, under extreme-rainfall events. J. of Geomorphology, 108: 219–233.
- \*Richter, F., R. Whittier\*, and A.I. El-Kadi. 2008. Use of dissolved helium as an environmental water tracer, J. of Hydraulic Engineering, American Society of Civil Engineers, 134(5): 672-675.

- \*Rotzoll, K., and A. I. El-Kadi. 2008. Estimating hydraulic properties of coastal aquifers using wave setup, *Journal of Hydrology*, (2008) 353: 201-213.
- \*Rotzoll, K., and A. I. El-Kadi. 2008. Estimating hydraulic conductivity from specific capacity for Hawaii aquifers, *Hydrogeology J.*, 16(5): 969-979.
- \*Rotzoll, K., A. I. El-Kadi, and S.B. Gingerich. 2008. Analysis of an unconfined aquifer subject to asynchronous dual-tide propagation, *Ground Water*, 46(2):239-250.
- \*Rotzoll, K., A.I. El-Kadi, and S.B. Gingerich. 2007. Estimating hydraulic properties of volcanic aquifers using constant-rate and variable-rate aquifer tests, *Jour. of the American Water Resources Association*, 43(2): 334-345.
- El-Kadi, A.I. and E. Yamashita\*. 2007. Modeling streamflows and flood delineation of the 2004 flood disaster, Mānoa, O‘ahu, Hawai‘i, *Pacific Science*, 61(2): 235-255.
- \*Mair, A, A. Fares, and A. I. El-Kadi. 2007. Evaluation of the effect of groundwater extraction and long-term weather patterns on the Makaha Valley's streamflow, *Jour. of the American Water Resources Association*, 43(1):148–159.
- El-Kadi, A.I. 2007. Parameter sensitivity and uncertainty of a hydrocarbon biodegradation model, *J. Hydrogeology*, 15(2):339-350.
- El-Kadi, A.I. 2005. Validity of the generalized Richards equation for the analysis of three-dimensional test data for a coarse-material aquifer. *Vadose Zone Journal*, 4: 196-205.
- Fares, A., P. Buss, M. Dalton, A.I. El-Kadi, and L.R., Parsons. 2004. Dual field calibration of capacitance and neutron sensors in a shrinking-swelling clay soil. *Vadose Zone Journal*, 3: 1390-1399.
- El-Kadi, A.I. 2001. Modeling hydrocarbon biodegradation in tidal aquifers with water-saturation and heat inhibition effects, *Contaminant Hydrology*, 51(1-2): 97-125.
- El-Kadi, A.I., and J.D. Torikai\*. 2001. Identifying variable saturated water-flow patterns in a steep hillslope under intermittent heavy rainfall, *J. Hydrogeology*, 9(3): 231-242.
- Fink, J.P., J. -Y. Parlange, and A.I. El-Kadi. 2001. One last visit to the capillarity correction for free surface flow, *Water Resources Research*, 37(3): 827-829.
- El-Kadi, A.I., and S.A. Williams\*, 2000. Generating two-dimensional fields of autocorrelated, normally distributed parameters by the matrix decomposition technique, *Ground Water*, 38(4): 530-532.
- El-Kadi, A.I., and G. Ling\*, 1999. LPM-N: A lumped parameter model for nitrogen leaching in agricultural lands, *Ground Water*, 37(1): 27-33.
- \*Ling, G., and A.I. El-Kadi. 1998. A lumped parameter model for nitrogen transformation in the unsaturated zone, *Water Resources Research*, 34(2), 203-212.
- Fink J.P., J.-Y. Parlange, W. Brutsaert, and A. I. El-Kadi. 1996. A Multi-Scale Theory of Swelling Porous Media: I. Application to One-Dimensional Consolidation, *Transport in Porous Media* 23 (1996), 355-356.
- Oloufa, A.A., El-Kadi, A.I., Eltahan\*, A.A., and Malik\*, H.U. 1995. An analytical groundwater modeling approach for natural resources utilizing GIS, *Civil Engineering Systems*, Volume 12 (April), 49-65.
- El-Kadi, A.I., Oloufa, A.A., Eltahan\*, A.A., and Malik\*, H.U. 1994. Use of a geographic information system in site-specific numerical groundwater modeling, *Ground Water*, 32(4), 617-625.
- El-Kadi, A.I. 1994. Applicability of sharp-interface models for NAPL transport: 2. Spreading of LNAPL, *Ground Water*, 32(5), 784-793.
- El-Kadi, A.I. and G. Ling\*. 1993. The Courant and Peclet Criteria for numerical solution of the Richards equation, *Water Resources Research*, 29(10): 3485-3494.
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- Parlange, J.-Y., W. Brutsaert, J.P. Fink, and A.I. El-Kadi. 1990. A capillary correction for free surface flow revisited. *Water Resources Research*, 26(7):1691-1692.
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- El-Kadi, A.I. 1986. A computer-program for generating two-dimensional fields of auto-correlated parameters. *Ground Water*, 24 (5): 663-667.
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- Brutsaert, W. and A.I. El-Kadi. 1986. Interpretation of an unconfined groundwater flow experiment. *Water Resources Research*, 22(3):419-422.
- El-Kadi, A.I. 1986. On estimating the hydraulic properties of soil, Part 3. Parameters of the Philip infiltration equation. *Advances in Water Resources* 9(1):16-23.
- El-Kadi, A.I. 1985. On estimating the hydraulic properties of soil, Part 1. Comparison between form to estimate the soil-water characteristic function. *Advances in Water Resources*, 8(3):136-147.
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- El-Kadi, A.I. and W. Brutsaert. 1985. Applicability of effective parameters for unsteady flow in heterogeneous aquifers. *Water Resources Research*, 21(2):183-198.
- Brutsaert, W. and A.I. El-Kadi. 1984. The relative importance of compressibility and partial saturation in unconfined groundwater flow. *Water Resources Research*, 20(3):400-409.

**Other Publications (Student/researcher names are marked by asterisks)**

- \*Whittier, R., A.I. El-Kadi. 2009. Human and Environmental Risk Ranking of Onsite Sewage Disposal Systems. Final Draft, Submitted to State of Hawai‘i Department of Health, Safe Drinking Water Branch, Honolulu, Hawaii.
- Hawaii Natural Energy Institute, University of Hawaii (El-Kadi, Contributor). 2008. Hawai‘i Bioenergy Master Plan Final Report, State of Hawaii Department of Business, Economic Development and Tourism, [http://www.hnei.hawaii.edu/bmpp/documents/stakeholders/masterplan/Hawaii\\_Bioenergy\\_Master\\_Plan\\_FINAL\\_1209.pdf](http://www.hnei.hawaii.edu/bmpp/documents/stakeholders/masterplan/Hawaii_Bioenergy_Master_Plan_FINAL_1209.pdf)
- Yost, R., A.I. El-Kadi, J. Yanagida, G. Bruland, P. Mills-Packo, C. Unser\*, R. Mamiit\*, K. Barber\*, L. Wedding\*, and C. Walsh\*, 2009. Demonstrating Watershed participatory Assessment and Action, Kaiaka Bay Watershed, Oahu, Hawaii , University of Hawaii, Submitted to Hawaii Department of Health.
- \*Rotzoll, K. and A.I. El-Kadi. 2006. Numerical ground-water flow simulation for Red Hill Fuel Storage Facilities, NAVFAC Pacific, Oahu, Hawaii, The Environmental Company, Honolulu, Hawaii.

- El-Kadi, A.I., and Moncur, J.E.T. 2006. The History of Groundwater Management and Research in Hawaii, Proceedings, 2006 Jeju-Hawaii Water Forum, July 21-22, 2006, Jeju, Korea: 222-241
- \*Whittier, R., K. Rotzoll\*, S. Dhal\*, A.I. El-Kadi, C. Ray, G. Chen, and D. Chang. 2004. Hawai'i Source Water Assessment Program Report, Hawai'i Dept of Health (5 volumes).
- El-Kadi, A.I., M. Mira\*, S. Dhal\*, and J.E.T. Moncur. 2004. Assessment and Protection for the Nawiliwili Watershed: Phase 3— Restoration and Protection Plan for the Watershed, Rep. No. WRRC-2004-05, Water Resources Research Center, University of Hawai'i.
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- \*Furness, M., A.I. El-Kadi, R.S. Fujioka, and P.S. Moravcik. 2002. Assessment and Protection for the Nawiliwili Watershed: Phase 1— Validations and Documentation of Existing Environmental Data, Rep. No. WRRC 2002-02, Water Resources Research Center, University of Hawai'i.
- \*Harada, R.M., A.I. El-Kadi, F.M. Robert. 2001. Decontamination of the Former Grayline Baseyard, A Project Completion Report, Hawai'i Department of Transportation, Airports Division.
- \*Ling, G., A.I. El-Kadi, and K. Yabusaki\*. 1996. Assessment of nutrient use and nitrate contamination in central Oahu, Water Resources Research Center, University of Hawai'i, Honolulu, Hawai'i.
- \*Hoover, D.J, T.M. Unutoa\*, A.I. El-Kadi, and R. Fujioka. 1996. Assessment of nitrogen and microbial contributions of Waimanalo 'Beach Lot' cesspool systems to groundwater Water Resources Research Center, University of Hawai'i, Honolulu, Hawai'i.
- El-Kadi, A.I., and O.A. Elnawawy. 1992. The cell analytical numerical method for solution of flow and transport in the unsaturated zone, Tech. Mem. Report 84, Water Resources Research Center, University of Hawai'i at Manoa.
- Elnawawy, O.A. and A.I. El-Kadi. 1992. Assessment of environmental impact of new chemical products: A computer modeling system, Study Final Report, Dow Elanco, Inc., Indianapolis, IN.
- El-Kadi, A.I., O.A. Elnawawy, P.K. Kobe and P.K.M. van Der Heijde. 1991. Modeling Multiphase Flow and Transport. International Ground Water Modeling Center, GWM191-04. Holcomb Research Institute, butler University, Indianapolis, Indiana.
- El-Kadi, A.I., O.A. Elnawawy and P.K.M. van Der Heijde. 1991. Groundwater Management Models. International Ground Water Modeling Center, GWM191-05. Holcomb Research Institute, Butler University, Indianapolis, Indiana.
- Gupta, S.K., L.S. Lau, P.S. Moravcik, and A.I. El-Kadi. 1990. Injected helium: A new hydrological tracer, Special Report 06.01:90, Water Resources Research Center, University of Hawai'i.
- van der Heijde, P.K.M., A.I. El-Kadi, and S.A. Williams\*. 1988. Groundwater modeling: An overview and status report. EPA/600/2-89/028. U.S. Environmental Protection Agency, R.S. Kerr Environmental Research Lab., Ada, Oklahoma.
- El-Kadi, A.I., P.K.M. van der Heijde, and M. Steibitz. 1988. Models related to heat transport in the subsurface, GWMI 83-09, Holcomb Research Institute, Butler University, Indianapolis, Indiana, 49 pp.
- El-Kadi, A.I. 1983. Modeling infiltration for water systems. International Ground Water Modeling Center, GWMI 83-09, Holcomb Research Institute, Butler University, Indianapolis, Indiana, 162 pp.

**Courseware**

Aggarwal, P.K., A.I. El-Kadi, W.G. Mook, M.A. Dillon. 2004. Isotope Hydrology – Learning, Teaching and Applying Isotope Techniques in Hydrology, Pub 04-17461, International Atomic Energy Agency, Vienna, Austria.

El-Kadi, A.I. 2000. Practical Groundwater Modeling on CD-ROM, HGMG, Inc., Kaneohe, Hawai‘i.

**Major Software**

In addition to educational software, I have developed a user friendly versions of the lumped parameter model (Ling and E-Kadi, 1998, El-Kadi and Ling, 1999), and the stochastic generator program (El-Kadi and Williams, 2000), which are available free of charge. I developed interactive version of the models NETPATH and SOLMINEQ for the courseware authored by Aggarwal et al. (2004). NETPATH-WIN is available from the USGS web site

[http://wwwbrr.cr.usgs.gov/projects/GWC\\_coupled/netpath/](http://wwwbrr.cr.usgs.gov/projects/GWC_coupled/netpath/)