Curriculum Vitae

Aly I. El-Kadi

Current Positions

Professor of Hydrology, Department of Earth Sciences, University of Hawaii (UH).
Researcher, Water Resources Research Center, UH.
Graduate Faculty, Department of Earth Sciences, UH.
Graduate Cooperating Faculty, Civil Engineering Department, UH.
Graduate Cooperating Faculty, Natural Resources and Environmental Management Program, College of Tropical Agriculture and Human Resources, UH.
Faculty Member, Global Environmental Science Program, School of Ocean and Earth Science and Technology, UH.

Education

1971 B.S. (Fluid Mechanics and Hydraulics) - Ain Shams University, Cairo, Egypt.
1976 M.S. (Surface Water Hydrology) - Ain Shams University, Cairo, Egypt.
1983 Ph.D. (Groundwater Hydrology) - School of Civil and Environmental Engineering, Cornell University, Ithaca, New York.

Recent Classes Taught

Fall 2016 : GG656/CEE623 Groundwater Modeling
Spring 2017 : GG455 Hydrogeology
Fall 2017 : GG656/CEE623 Groundwater Modeling
Spring 2018 : GG455 Hydrogeology
Fall 2018 : GG656/CEE623 Groundwater Modeling
Spring 2019 : GG455 Hydrogeology
Fall 2019 : GG656/CEE623 Groundwater Modeling
Spring 2020 : ERTH455 Hydrogeology
Fall 2020 : ERTH656/CEE623 Groundwater Modeling, ERTH654 Groundwater Quality, ERTH611 Accelerated Introduction to Earth Sciences

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)

1. *Leta, O.T., **El-Kadi, A.I.** 2019. Hydrology and Climate Change in Pacific and Similar Regions: Insights from Hawaii, In *Encyclopedia of Water: Science, Technology, and Society*, Ed. Patricia Maurice (Editor), Wiley, *In Press.*

2. **El-Kadi, A.I.,** and M. Mira*. 2010. 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. ISEAS Publishing, Pasir Panjang, Singapore.
3. **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.
4. **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.
5. **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.
6. **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)

1. Bremer, L., Elshall, A., Wada, C., Brewington, L., Delevaux*, J., El-Kadi, Al., Voss, C., Burnett, K. Effects of land cover and watershed protection futures on sustainable groundwater management in a heavily-utilized aquifer in Hawaiʻi. *Hydrogeology Journal.* In Press.
2. *Ghazal, K.A., Leta*, O.T., **El-Kadi, A.I.,** Dulai, H. 2020. Impact of coastal wetland restoration plan on the water balance components of Heeia Watershed, Hawaii. *Hydrology* 2020, 7, 86, http://dx.doi.org/10.3390/hydrology7040086.
3. Burnett, K., A.S. Elshall*, C.A. Wada, A. Arik*, A. El-Kadi, C. Voss, and L.L. Bremer. 2020. Incorporating historical spring flow protection into groundwater management: A case study from Pearl Harbor Aquifer, Hawaiʻi, *Frontiers Water*, DOI=10.3389/frwa.2020.00014
4. Mezzacapo, M., Donohue, M.J., Smith, C., El-Kadi, A., Falinski, K., and Lerner, D.T. 2020. Hawaiʻi's cesspool problem: Review and recommendations for water resources and human health. *Journal of Contemporary Water Research & Education*, 170, 35-75.
5. *Elshall, A.S., A.D. Arik*, **A. El-Kadi**, S.A. Pierce, M. Ye, K.M. Burnett, C. A. Wada, L.L. Bremer, and G. Chun. 2020. Groundwater sustainability: A review of the interactions between science and policy, Environmental Research Letters; https://doi.org/10.1088/1748-9326/ab8e8c, (Online-In-Press).
6. *Shuler, C. K., Dulai, H., Leta*, O.T., Fackrell, J., Welch*, E., **El-Kadi, A.I.** (2019) Understanding Surface Water - Groundwater Interaction, Submarine Groundwater Discharge, and Associated Nutrient Loading in a Small Tropical Island Watershed. *Journal of Hydrology*. [Online, in press] https://doi.org/10.1016/j.jhydrol.2019.124342
7. *Welch, E.M., Dulai, H., **El-Kadi, A.I.**, and Shuler*, C. 2019. Submarine groundwater discharge and stream baseflow sustain pesticide and nutrient fluxes in Faga'alu Bay, American Samoa, *Frontiers in Environmental Science*, 7, p. 162.

8. *Ghazal, K.A., Leta*, O.T., **El-Kadi, A.I**, and Dulai, H. 2019. Assessment of wetland restoration and climate change impacts on water balance components of the Heeia Coastal Wetland in Hawaii, *Hydrology*, 6, 37; doi:10.3390/hydrology6020037.
9. *Leta O.T., **A.I. El-Kadi**, and H. Dulai. 2018. Impact of Climate Change on Daily Streamflow and its Extreme Values in Pacific Island Watersheds. *Sustainability*, Vol. 10(6). doi: https://doi.org/10.3390/su10062057.
10. *Shuler, C, Dulai, H., DeWees, R., Kirs, M., Glenn, C., **El-Kadi, A**. 2018. Isotopes, Microbes, and Turbidity: A Multi-Tracer Approach to Understanding Recharge Dynamics and Groundwater Contamination in a Basaltic Island Aquifer. *Groundwater Monitoring and Remediation*. 10.1111/gwmr.12299.
11. *Ghazal, K., Leta*, O.T., **El-Kadi, A.**, Dulaiova, H. 2018. Quantifying Dissolved Silicate Fluxes across Heeia Shoreline in Hawaii via Integrated Hydrological Modeling Approach. *Universal Journal of Geoscience*. 6. 147-156. 10.13189/ujg.2018.060502.
12. *Leta, O.T., **El-Kadi**, A., Dulaiova, H., Ghazal*, K. 2018. Assessment of SWAT Model Performance in Simulating Daily Streamflow under Rainfall Data Scarcity in Pacific Island Watersheds. *Water*. 10. 1533. 10.3390/w10111533.
13. *Shuler, C.K., **El-Kadi, A.I.**, Dulai, H., Glenn, C.R., Fackrell, J. Source partitioning of anthropogenic groundwater nitrogen in a mixed-use landscape, Tutuila, American Samoa .2017. *Hydrogeology*. 25: 2419. https://doi.org/10.1007/s10040-017-1617-x
14. *Leta, O.T., **El-Kadi, A.I.**, Dulai, H. 2017. Implications of climate change on water budgets and reservoir water harvesting of Nuuanu area watersheds, Oahu, Hawaii, *Journal of Water Resources Planning and Management, ASCE, In Press.*
15. *Habel, S., C.H. Fletcher, K. Rotzoll, **A.I. El-Kadi**. 2017. Development of a model to simulate groundwater inundation induced by sea-level rise and high tides in Honolulu, Hawaii. *Water Res*. 114: 122-134.
16. Hagedorn, B., **El-Kadi, A.I.**, Whittier, R.B. 2016. Controls on the δ13CDIC and alkalinity budget of a flashy subtropical stream (Manoa River, Hawaii). *Applied Geochemistry*. 73. 10.1016/j.apgeochem.2016.07.008.
17. *Leta, O.T., **El-Kadi, A.I.**, Dulai, H., and Ghzal*, K. 2016. Assessment of climate change impacts on water balance components of Heeia watershed in Hawaii. *Journal of Hydrology: Regional Studies*, 8: 182–197.
18. *Cutler, W.G., **El-Kadi, A.I.**, Hue, N.V., Peard, J., Scheckel, K., and Ray, C. 2014. Iron Amendments to Reduce Bioaccessible Arsenic, *Journal of Hazardous Materials*, 279 (2014) 554–561.
19. Hagedorn, K.B., Mair, A., Tillery, S., **El-Kadi, A.I.**, Ha, K., and Koh, G-W. 2014. Simple equations for temperature simulations on mid-latitude volcanic islands: A case study from Jeju (Republic of Korea), *Geosciences Journal*, DOI: 10.1007/s12303-014-0022-x.
20. **El-Kadi, A.I.**, Tillery*, S., Whittier*, R.B., Hagedorn*, B., Mair*, A, Ha, K. and Koh, G.-W. 2014. Assessing sustainability of groundwater resources on Jeju Island, South Korea, under climate change, drought, and increased usage, *Journal of Hydrogeology*, 22: 625–642.
21. *Mair, A., and **El-Kadi, A.I.** 2013. Logistic regression modeling to assess groundwater vulnerability to contamination in Hawaii, USA. *Journal of Contaminant Hydrology*, 153:1–23.

22. *Mair, A., B. Hagedorn*, S. Tillery*, **A.I. El-Kadi**, S. Westenbroek, K. Ha, and G.-W. Koh. 2013. Temporal and spatial variability of groundwater recharge on Jeju Island, Korea. *Journal of Hydrology*, 501: 213-226.
23. *Mair, A., and **El-Kadi, A.I.** 2013. Logistic regression modeling to assess groundwater vulnerability to contamination in Hawaii, USA. Journal of Contaminant Hydrology, 153:1–23.Rotzoll, K., S.B. Gingerich, J. Jenson, and **A.I. El-Kadi**. 2013. Estimating hydraulic properties from tidal attenuation in the Northern Guam Lens Aquifer, Territory of Guam, USA. *Hydrogeology Journal*, DOI 10.1007/s10040-012-0949-9.
24. *Mair, A., **A.I. El-Kadi**, K. Ha, and G-W Koh. 2013. Temporal and spatial variability of rainfall and climate trend on Jeju Island, *Geosciences Journal*, 17(1):75-85.
25. *Cutler, W.G, R.C. Brewer , **A.I. El-Kadi**, N.V. Hue, P.G. Niemeyer, J. Peard, C. Ray. 2013. Bioaccessible arsenic in soils of former sugar cane plantations, Island of Hawaii, *Science of the Total Environment*, 442 (2013): 177–188.
26. *Hagedorn, K.B., **A.I. El-Kadi**, A. Mair*, R. Whittier*, and K. Ha. 2011. Estimating recharge in fractured aquifers of a temperate humid to semiarid volcanic island (Jeju, Korea) from water table fluctuations, and Cl, CFC-12 and 3H chemistry, *Journal of Hydrology*, 409(3-4):650-662.
27. 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.
28. **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*, 49(4): 593–599.
29. *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*, (2010) 18: 711–723.
30. *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.
31. *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.
32. *Rotzoll, K., and **A. I. El-Kadi.** 2008. Estimating hydraulic properties of coastal aquifers using wave setup, *Journal of Hydrology*, (2008) 353: 201-213.
33. *Rotzoll, K., and **A. I. El-Kadi.** 2008. Estimating hydraulic conductivity from specific capacity for Hawaii aquifers, *Hydrogeology J.*, 16(5): 969-979.
34. *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.
35. *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.
36. **El-Kadi, A.I**. and E. Yamashita*. 2007. Modeling streamflows and flood delineation of the 2004 flood disaster, Mânoa, O‘ahu, Hawai‘i, *Pacific Science*, 61(2): 235-255.
37. *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.
38. **El-Kadi, A.I.** 2007. Parameter sensitivity and uncertainty of a hydrocarbon biodegradation model, *J. Hydrogeology*, 15(2):339-350.

39. 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.
40. 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.
41. **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.
42. **El-Kadi, A.I.**, and J.D. Torikai*.2001. Identifying variable saturated water-flow patterns in a steep hillslope under intermittent heavy rainfall, *J. Hydrgeology*, 9(3): 231-242.
43. 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.
44. **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.
45. **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.
46. *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.
47. 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.
48. 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.
49. **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 ground-water modeling, *Ground Water*, 32(4), 617-625.
50. **El-Kadi, A.I.** 1994. Applicability of sharp-interface models for NAPL transport: 2. Spreading of LNAPL, *Ground Water*, 32(5), 784-793.
51. **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.
52. **El-Kadi, A.I.** 1993. Core sampling versus field-measured data for modeling drainage in field soils: Validity of the equivalent media approach, *Advances in Water Resources*, 16(1993): 153-162.
53. **El-Kadi, A.I.** 1992. Applicability of sharp-interface models for NAPL transport: 1. Infiltration, *Ground Water*, 30(4): 849-856.
54. 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.
55. **El-Kadi, A.I.**, and J. Cary. 1990. A model for analyzing the coupled flow of heat, water, and solute in freezing soils-including heave, *Software for Engineering Workstations*, 6:48-51.
56. **El-Kadi, A.I.** 1989. Watershed models and their applicability to conjunctive use models. *Water Resources Bulletin*, 25(1):125-137.
57. **El-Kadi, A.I.** 1988. Remedial actions under variability of hydraulic conductivity. *Journal of Hydrology*, 104:327-344 .

58. **El-Kadi, A.I.** 1988. Applying the USGS two-dimensional mass-transport model (MOC) to remedial actions by recovery wells. *Ground Water*, 26(3):281-288.
59. **El-Kadi, A.I.** 1987. Variability of infiltration under uncertainty in unsaturated zone parameters. *Journal of Hydrology*, 90:61-80
60. **El-Kadi, A.I.** 1986. A computer-program for generating two-dimensional fields of auto-correlated parameters. *Ground Water*, 24 (5): 663-667.
61. **El-Kadi, A.I.** and W. Brutsaert. 1986. Can unsaturated flow during gravity drainage be represented by Boulton formulation? *Water Resources Research*, 22(10):1361-1366.
62. Brutsaert, W. and **A.I. El-Kadi**. 1986. Interpretation of an unconfined groundwater flow experiment. *Water Resources Research*, 22(3):419-422.
63. **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.
64. **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.
65. **El-Kadi, A.I.** 1985. On estimating the hydraulic properties of soil, Part 2. A new empirical equation for estimating hydraulic conductivity for sands. *Advances in Water Resources*, 8(3):148-153.
66. **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.
67. 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)

1. *Whittier, R., **A.I. El-Kadi**. 2014. Human and Environmental Risk Ranking of Onsite Sewage Disposal Systems. Molokai,Maui, and Hawaii. Final Report, Submitted to State of Hawai'i Department of Health, Safe Drinking Water Branch, Honolulu, Hawaii.
2. Glenn, C.R., R.B. Whittier, M.L. Dailer, H. Dulaiova, **A.I. El-Kadi**, J. Fackrell, J.L. Kelly, C.A. Waters, J. Sevadjian. 2013. Lahaina Groundwater Tracer Study Lahaina, Maui, Hawai‘i, Final Report, Hawaii DOH.
3. *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.
4. 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
5. 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.
6. *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.

7. **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.
8. *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).
9. **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.
10. **El-Kadi, A.I.**, R.S. Fujioka, C.C.K. Liu, K. Yoshida*, G. Vithanage*, Y. Pen*, and J. Farmer*. 2003. Assessment and Protection for the Nawiliwili Watershed: Phase 2— Assessment of Contamination Levels, Rep. No. WRRC-2003-02, Water Resources Research Center, University of Hawai‘i.
11. *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.
12. *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.
13. *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.
14. *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.
15. **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.
16. 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.
17. **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.
18. **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.
19. 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.
20. 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.

21. **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.
22. **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 user interfaces for the models NETPATH and SOLMINEQ for the courseware authored by Aggarwal et al. (2004; http://www.soest.hawaii.edu/GG/FACULTY/aly/isotope_1.jpg).