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# AEMwikiBib: a comprehensive wiki wiki bibliography of the analytic element method for ground-water modeling (1980-present)

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*ABSTRACT: This document contains a master bibliography of analytic element (AE) publications for ground-water modeling. The references are listed in alphabetical order by author for documents dated 1980-present. The documents fit under a loose definition of AE — superposition of analytical functions in infinite domain with a link to theory initiated by O.D.L. Strack and H.M. Haitjema. The bibliography contains references to journal articles, dissertations and theses, reports, proceedings papers, extended abstracts. The bibliography does not contain short abstracts. Citation information was supplied by ISI Web of Science and Dialog Corporation SciSearch.*

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## Literatura

- [Abbasi et al., 2013] Abbasi, S., Mohammadi, K., Kholghi, M., and Howard, K. (2013). Aquifer vulnerability assessments using drastic, weights of evidence and the analytic element method. *HYDROLOGICAL SCIENCES JOURNAL-JOURNAL DES SCIENCES HYDROLOGIQUES*, 58(1):186–197.
- [Aljoe and Hawkins, 1992] Aljoe, W. and Hawkins, J. (1992). Application of a porous media flow model to a pseudokarst setting in a surface coal mine spoil. In *PROCEEDINGS OF THE SOLVING GROUND WATER PROBLEMS WITH MODELS, FEBRUARY 11-13, 1992, THE GRAND KEMPINSKI HOTEL, DALLAS, TEXAS*, pages 611–622. NGWA.
- [Almendinger, 1988] Almendinger, J. E. (1988). *Lake and groundwater paleohydrology: A groundwater model to explain past lake levels in west-central Minnesota*. PhD thesis, University of Minnesota (Advisor: E.J. Cushing).
- [Almendinger, 1990] Almendinger, J. E. (1990). Groundwater control of closed-basin lake levels under steady-state conditions. *Journal of Hydrology*, 112(3-4):293–318.
- [Almendinger, 1994] Almendinger, J. E. (1994). The travel-time ellipse: an approximate zone of transport. *Journal of Hydrology*, 161(1-4):365–373.
- [Anderson, 2000a] Anderson, E. (2000a). The method of images for leaky boundaries. *Advances in Water Resources*, 23(5):461–474.
- [Anderson, 2000b] Anderson, E. (2000b). The method of images for leaky boundaries. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Anderson, 2002] Anderson, E. (2002). Conformal mapping of groundwater flow fields with internal boundaries. *Advances in Water Resources*, 25:279–291.
- [Anderson, 2003a] Anderson, E. (2003a). An analytic solution describing groundwater-surface water interaction. *Water Resources Research*, 39(3):10.1029/2002WR001536.
- [Anderson, 2003b] Anderson, E. (2003b). An approximation for leaky boundaries in groundwater flow. *Journal of Hydrology*, 274(1-4):160–175.
- [Anderson, 2003c] Anderson, E. (2003c). The effective resistance to vertical flow in Dupuit models. *Advances in Water Resources*, 26(5):513–523.
- [Anderson, 2004] Anderson, E. (2004). A Dupuit model of groundwater-surface water interaction. In Miller, C., Farthing, M., Gray, W., and Pinder, G., editors, *Proceedings of the 15th International Conference on Computational Methods in Water Resources (CMWR XV), June 13-17, 2004 Chapel Hill, NC, USA*. Elsevier. ISBN: 0-444-51769-3.
- [Anderson and Bakker, 2008] Anderson, E. and Bakker, M. (2008). Groundwater flow through anisotropic fault zones in multiaquifer systems. *Water Resources Research*, 44(11):W11433. <http://dx.doi.org/10.1029/2008WR006925>.
- [Anderson and Mesa, 2006] Anderson, E. and Mesa, E. (2006). The effects of vertical barrier walls on the hydraulic control of contaminated groundwater. *Advances in Water Resources*, 29(1):89–98.

- [Anderson, 1999] Anderson, E. I. (1999). *Groundwater flow with leaky boundaries*. PhD thesis, University of Minnesota.
- [Anderson, 2005] Anderson, E. I. (2005). Modeling groundwater-surface water interactions using the Dupuit approximation. *Advances in Water Resources*, 28(4):315–327.
- [Badv and Deriszadeh, 2005] Badv, K. and Deriszadeh, M. (2005). Wellhead protection area delineation using the analytic element method. *Water Air and Soil Pollution*, 161(1-4):39–54.
- [Bakker, 1997a] Bakker, M. (1997a). The Dupuit approximation for variable density flow in coastal aquifers. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 187–198, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Bakker, 1997b] Bakker, M. (1997b). Groundwater flow with free boundaries using the hodograph method. *Advances in Water Resources*, 20:207–216.
- [Bakker, 1998] Bakker, M. (1998). Transient Dupuit interface flow with partially penetrating features. *Water Resources Research*, 34:2911–2918.
- [Bakker, 1999] Bakker, M. (1999). Simulating groundwater flow in multi-aquifer systems with analytical and numerical Dupuit-models. *Journal of Hydrology*, 222:55–64.
- [Bakker, 2000a] Bakker, M. (2000a). Modeling wells in multi-layer and multi-aquifer systems. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Bakker, 2000b] Bakker, M. (2000b). The size of the freshwater zone below an elongated island with infiltration. *Water Resources Research*, 36:109–117.
- [Bakker, 2001] Bakker, M. (2001). An analytic, approximate method for modeling steady, three-dimensional flow to partially penetrating wells. *Water Resources Research*, 37:1301–1308.
- [Bakker, 2002] Bakker, M. (2002). Two exact solutions for a cylindrical inhomogeneity in a multi-aquifer system. *Advances in Water Resources*, 25(1):9–18.
- [Bakker, 2003a] Bakker, M. (2003a). A Dupuit formulation for modeling seawater intrusion in regional aquifer systems. *Water Resources Research*, 39(5). ISI times cited 4 (22Apr2006).
- [Bakker, 2003b] Bakker, M. (2003b). Steady groundwater flow through many cylindrical inhomogeneities in a multi-aquifer system. *Journal of Hydrology*, 227(3-4):268–279.
- [Bakker, 2003c] Bakker, M. (2003c). TimML: a free multi-aquifer analytic element model. In Poeter, E., Zheng, C., Hill, M., and Doherty, J., editors, *MODFLOW and More 2003*, pages 376–378, Golden, CO. International Ground Water Modeling Center, Colorado School of Mines.

- [Bakker, 2004a] Bakker, M. (2004a). Modeling groundwater flow to elliptical lakes and through multi-aquifer elliptical inhomogeneities. *Advances in Water Resources*, 27(5):497–507.
- [Bakker, 2004b] Bakker, M. (2004b). Transient analytic elements for periodic Dupuit-Forchheimer flow. *Advances in Water Resources*, 27(1):3–12.
- [Bakker, 2006a] Bakker, M. (2006a). An analytic element approach for modeling polygonal inhomogeneities in multi-aquifer systems. *Advances in Water Resources*, In Press, Corrected Proof.
- [Bakker, 2006b] Bakker, M. (2006b). Analytic element modeling of embedded multi-aquifer domains. *Ground Water*, 44(1):81–85.
- [Bakker, 2006c] Bakker, M. (2006c). Analytic solutions for interface flow in combined confined and semi-confined, coastal aquifers. *Advances in Water Resources*, 29(3):417–425.
- [Bakker, 2007] Bakker, M. (2007). Simulating groundwater flow to surface water features with leaky beds using analytic elements. *Advances in Water Resources*, 30(3):399–407.
- [Bakker, 2008] Bakker, M. (2008). Derivation and relative performance of strings of line elements for modeling (un)confined and semi-confined flow. *Advances in Water Resources*, 31(6):906–914.
- [Bakker, 2010] Bakker, M. (2010). Hydraulic modeling of riverbank filtration systems with curved boundaries using analytic elements and series solutions. *Advances in Water Resources*, 33:813–819.
- [Bakker, 2013] Bakker, M. (2013). Semi-analytic modeling of transient multi-layer flow with ttim. *HYDROGEOLOGY JOURNAL*, 21(4):935–943.
- [Bakker and Anderson, 2002] Bakker, M. and Anderson, E. (2002). Comment on “numerical investigation of lake bed seepage patterns: effects of porous medium and lake properties” by geneux, d., and bandopadhyay, i., 2001. *Journal of Hydrology* 241, 286-303. *Journal of Hydrology*, 258:260–264.
- [Bakker et al., 1999] Bakker, M., Anderson, E., Olsthoorn, T., and Strack, O. (1999). Regional groundwater modeling of the Yucca Mountain site using analytic elements. *Journal of Hydrology*, 226:167–178.
- [Bakker and Anderson, 2003] Bakker, M. and Anderson, E. I. (2003). Steady flow to a well near a system with a leaky bed. *Ground Water*, 41(6):833–840.
- [Bakker and Hemker, 2002] Bakker, M. and Hemker, K. (2002). A Dupuit formulation for flow in layered, anisotropic aquifers. *Advances in Water Resources*, 25(7):747–754.
- [Bakker and Kelson, 2000] Bakker, M. and Kelson, V. (2000). The Java analytic element model: designing and implementing an object-oriented AEM code. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Bakker and Kelson, 2009] Bakker, M. and Kelson, V. A. (2009). Writing analytic element programs in python. *GROUND WATER*, 47(6):828–834.
- [Bakker et al., 2005] Bakker, M., Kelson, V. A., and Luther, K. H. (2005). Multilayer analytic element modeling of radial collector wells. *Ground Water*, 43(6):926–934.

- [Bakker et al., 2000] Bakker, M., Kraemer, S., de Lange, W., and Strack, O. (2000). Analytic element modeling of coastal aquifers. Report EPA/600/R-99/110, U.S. Environmental Protection Agency.
- [Bakker and Kuhlman, 2011] Bakker, M. and Kuhlman, K. L. (2011). Computational issues and applications of line-elements to model subsurface flow governed by the modified helmholtz equation. *ADVANCES IN WATER RESOURCES*, 34(9, SI):1186–1194.
- [Bakker et al., 2007] Bakker, M., Maas, K., Schaars, F., and von Asmuth, J. R. (2007). Analytic modeling of groundwater dynamics with an approximate impulse response function for areal recharge. *Advances in Water Resources*, 30(3):493–504.
- [Bakker and Nieber, 2004a] Bakker, M. and Nieber, J. (2004a). Analytic element modeling of cylindrical drains and cylindrical inhomogeneities in steady two-dimensional unsaturated flow. *Vadose Zone Journal*, 3(3):1038–1049.
- [Bakker and Nieber, 2004b] Bakker, M. and Nieber, J. L. (2004b). Two-dimensional steady unsaturated flow through embedded elliptical layers. *Water Resources Research*, 40(12).
- [Bakker and Strack, 1996] Bakker, M. and Strack, O. (1996). Capture zone delineation in two-dimensional groundwater flow models. *Water Resour. Res.*, 32(5):1309–1315.
- [Bakker and Strack, 2003] Bakker, M. and Strack, O. (2003). Analytic elements for multiaquifer flow. *Journal of Hydrology*, 271:119–129.
- [Bakker and Strack, 1994] Bakker, M. and Strack, O. D. (1994). Capture zone delineation in an analytic element model. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 61–63, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Bandilla, 2009] Bandilla, K. W. (2009). *Large Scale Groundwater Flow and Contaminant Transport*. PhD thesis, University at Buffalo, State University of New York, Department of Civil, Structural and Environmental Engineering. Advisors: Igor Jankovic, Alan Rabideau.
- [Bandilla et al., 2007] Bandilla, K. W., Jankovic, I., and Rabideau, A. J. (2007). A new algorithm for analytic element modeling of large-scale groundwater flow. *Advances in Water Resources*, 30(3):446–454.
- [Bandilla et al., 2009] Bandilla, K. W., Rabideau, A. J., and Jankovic, I. (2009). A parallel mesh-free contaminant transport model based on the analytic element and streamline methods. *ADVANCES IN WATER RESOURCES*, 32(8):1143–1153.
- [Barnes and Janković, 1997] Barnes, R. and Janković, I. (1997). Two-dimensional flow through large numbers of circular inhomogeneities. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 273–279, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Barnes and Janković, 1999] Barnes, R. and Janković, I. (1999). Two-dimensional flow through large numbers of circular inhomogeneities. *Journal of Hydrology*, 226:204–210.

- [Barnes and Janković, 2001] Barnes, R. and Janković, I. (2001). Three-dimensional unconfined groundwater flow for wellhead protection: capture zone analysis with a transient well and transient infiltration. Technical report, Minnesota Dept. of Health.
- [Barnes and Strack, 2003] Barnes, R. and Strack, O. (2003). A transient area-sink composed of line elements. In Gailliot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Barr and Strack, 1984] Barr, K. D. and Strack, O. D. (1984). Applications of the analytic element method, an alternative approach to ground water modeling. In *Proceedings of the conference Practical Applications of Ground Water Models, Columbus, OH*, pages 821–827, Worthington, OH. National Water Well Association.
- [Batista et al., 2012] Batista, J. A. N., Wendland, E., and Schulz, H. E. (2012). Analytic element modelling for strip aquifers. *HYDROLOGICAL PROCESSES*, 26(8):1254–1262.
- [Becker and Jiang, 2007] Becker, M. W. and Jiang, Z. (2007). Flux-based contaminant transport in a GIS environment. *Journal of Hydrology*, 343(3-4):203–210.
- [Bernard and Steward, 2006] Bernard, E. and Steward, D. (2006). AEM integration in a geodatabase for groundwater modeling. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 47–51. Kansas State University.
- [Bos et al., 1997] Bos, H., de Lange, W., and Claessen, F. (1997). Application of a national groundwater model for ecological issues. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 41–58, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Broda et al., 2014] Broda, S., Larocque, M., and Paniconi, C. (2014). Simulation of distributed base flow contributions to streamflow using a hillslope-based catchment model coupled to a regional-scale groundwater model. *JOURNAL OF HYDROLOGIC ENGINEERING*, 19(5):907–917.
- [Broda et al., 2012] Broda, S., Larocque, M., Paniconi, C., and Haitjema, H. (2012). A low-dimensional hillslope-based catchment model for layered groundwater flow. *HYDROLOGICAL PROCESSES*, 26(18):2814–2826.
- [Brown, 1993] Brown, T. (1993). Stochastic analytic elements for groundwater modeling. Master’s thesis, Univ. of Minnesota-Twin Cities, Dept. of Civil Engineering.
- [Brown and Barnes, 1994] Brown, T. P. and Barnes, R. J. (1994). Stochastic analytic elements for groundwater modeling. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 151–156, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Brummer and Mulder, 1994] Brummer, C. and Mulder, G. (1994). The use of a case study in the development of a model decision scheme. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 85–90, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.

- [Ceric, 2000] Ceric, A. (2000). Assessment of the applicability of simplified capture zone delineation techniques for groundwater public supply systems. Master’s thesis, Indiana University-Bloomington (Advisor: Hendrik M. Haitjema).
- [Ceric and Haitjema, 2000] Ceric, A. and Haitjema, H. (2000). Capture zone delineation: Are simple methods adequate? In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Ceric and Haitjema, 2005] Ceric, A. and Haitjema, H. (2005). On using simple time-of-travel capture zone delineation methods. *Ground Water*, 43(3):408–412.
- [Conrad, 1994] Conrad, J. D. (1994). Characterization of a proposed in situ leach mining site using the analytic element method. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 31–36, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Craig and Rabideau, 2004] Craig, J. and Rabideau, A. (2004). Discretization of analytic element flow solutions for transport modeling. In Miller, C., Farthing, M., Gray, W., and Pinder, G., editors, *Proceedings of the 15th International Conference on Computational Methods in Water Resources (CMWR XV), June 13-17, 2004 Chapel Hill, NC, USA*. Elsevier. ISBN: 0-444-51769-3.
- [Craig, 2002] Craig, J. R. (2002). *Bluebird developers manual*. University at Buffalo, Department of Civil, Structural, and Environmental Engineering, Buffalo, NY.
- [Craig, 2005] Craig, J. R. (2005). *Reactive contaminant transport modeling using analytic element flow solutions*. PhD thesis, STATE UNIVERSITY OF NEW YORK AT BUFFALO. ADVISER Rabideau, Alan J., ISBN 0-496-89465-X, 223 pages, Dialog Corp SciSearch times cited 2 (26Apr2006).
- [Craig, 2006] Craig, J. R. (2006). The area vortex for modeling flow through smoothly heterogeneous aquifers. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 124–132. Kansas State University.
- [Craig, 2009] Craig, J. R. (2009). Analytic elements for flow in harmonically heterogeneous aquifers. *WATER RESOURCES RESEARCH*, 45.
- [Craig et al., 2003] Craig, J. R., Bandilla, K., and Jankovic, I. (2003). Iterative solution for the analytic element method: recent computational advances and object-oriented design. In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Craig et al., 2006a] Craig, J. R., Janković, I., and Barnes, R. (2006a). The nested superblock approach for regional-scale analytic element models. *Ground Water*, 44(1):76–80.
- [Craig and Matott, 2004] Craig, J. R. and Matott, L. S. (2004). *Visual Bluebird users manual*. University at Buffalo, Department of Civil, Structural, and Environmental Engineering, Buffalo, NY, version 1.8 edition.

- [Craig and Rabideau, 2003] Craig, J. R. and Rabideau, A. J. (2003). Linking the analytic element method to reactive contaminant transport models. In Poeter, E., Zheng, C., Hill, M., and Doherty, J., editors, *MODFLOW and More 2003*, pages 835–839, Golden, CO. International Ground Water Modeling Center, Colorado School of Mines.
- [Craig and Rabideau, 2006] Craig, J. R. and Rabideau, A. J. (2006). Finite difference modeling of contaminant transport using analytic element flow solutions. *Advances in Water Resources*, 29(7):1075–1087.
- [Craig et al., 2006b] Craig, J. R., Rabideau, A. J., and Bandilla, K. (2006b). An overview of using analytic element flow solutions for contaminant transport simulation. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 156–162. Kansas State University.
- [Craig et al., 2006c] Craig, J. R., Rabideau, A. J., and Suribhatla, R. (2006c). Analytical expressions for the hydraulic design of continuous permeable reactive barriers. *Advances in Water Resources*, 29(1):99–111.
- [Csoma, 2001] Csoma, R. (2001). The analytic element method for groundwater flow modeling. *Periodica Polytechnica Ser. Civ. Eng. (Budapest University of Technology and Economics)*, 45(1):43–62.
- [Curlee, 1997] Curlee, J. (1997). The reconstruction of NAGROM (1996): experiences with the new version of strack’s analytic element method. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 385–397, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Curtis, 1989] Curtis, T. (1989). Estimating unsteady water table behavior using boundary integral approximations. In *RECENT ADVANCES IN GROUND-WATER HYDROLOGY, DEDICATED TO THE MEMORY OF DR. CHARLES V. THEIS*, pages 298–310, TAMPA, FL. AMERICAN INST OF HYDROLOGY.
- [Curtis, 1983] Curtis, T. G. (1983). *Simulation of salt water intrusion by analytic elements*. PhD thesis, University of Minnesota-Twin Cities, Dept. of Civil Engineering (Chair: Otto Strack).
- [Dagan et al., 2003a] Dagan, G., Fiori, A., and Janković, I. (2003a). Flow and transport in highly heterogeneous formations: 1. conceptual framework and validity of first-order approximations. *Water Resources Research*, 39(9):1268.
- [Dagan et al., 2003b] Dagan, G., Fiori, A., and Jankovic, I. (2003b). Flow and transport through two-dimensional media of binary conductivity distribution. In Grailot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Dagan et al., 2004] Dagan, G., Fiori, A., and Janković, I. (2004). Transmissivity and head covariances for flow in highly heterogeneous aquifers. *Journal of Hydrology*, 294(1-3):39–56.
- [Dauvergne, 2006] Dauvergne, F. (2006). *Méthodes de discrétisation pour la modélisation par éléments analytiques en hydrogéologie quantitative. Application*



- aux écoulements en régimes permanents et transitoires*. PhD thesis, École Nationale Supérieure des Mines, Saint-Étienne, France. Advisor: Didier Graillot; Reader: Otto Strack.
- [Dauvergne and Graillot, 2006] Dauvergne, F. and Graillot, D. (2006). Discretization support system for groundwater modeling based on analytic elements. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 78–89. Kansas State University.
- [Dauvergne et al., 2003] Dauvergne, F., Mimoun, D., and Graillot, D. (2003). Comparison between finite differences methods and AEM for groundwater modeling a local aquifer in France (Loire). In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [David, 2003] David, I. (2003). Analytical element method for modeling coupled groundwater flow generated by drains and partially penetrating wells. In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [De Lange, 1989] De Lange, W. (1989). Application of the analytic element method for national groundwater management in the netherlands. In *GROUNDWATER MANAGEMENT: QUANTITY AND QUALITY*, pages 285–293, BENIDORM, SPAIN. INTERNATIONAL ASSOC OF HYDROLOGICAL SCIENCES.
- [de Lange, 1991] de Lange, W. (1991). A groundwater model of the netherlands. Note 90.066, National Institute for Inland Water Management and Waste Water Treatment, Lelystad, The Netherlands.
- [de Lange, 1996a] de Lange, W. (1996a). NAGROM, a model for national groundwater management and regional and local studies. *Eur. Water Pollut. Control*, 6(5):63–67.
- [de Lange, 1997a] de Lange, W. (1997a). An analytic-based cauchy boundary condition to simulate the interaction between many surface waters and groundwater. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 209–220, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [de Lange, 1999] de Lange, W. (1999). A cauchy boundary condition for the lumped interaction between an arbitrary number of surface waters and a regional aquifer. *Journal of Hydrology*, 226((3-4)):250–261.
- [de Lange, 2003] de Lange, W. (2003). Building sectional models with analytic elements. In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [de Lange and Strack, 1999] de Lange, W. and Strack, O. (1999). Special issue: Analytic-based modeling of groundwater flow - introductory comments for this issue - preface. *Journal of Hydrology*, 226(3-4):127–127.

- [de Lange and van Vliet, 2000] de Lange, W. and van Vliet, K. (2000). Detailed model of transport of pollutants from contaminated silt at the bottom of a surface water in a regional model including calibration on hydrochemically determined travel times. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [de Lange, 1996b] de Lange, W. J. (1996b). *Groundwater modeling of large domains with analytic elements*. PhD thesis, Delft University of Technology, Delft, The Netherlands.
- [de Lange, 1997b] de Lange, W. J. (1997b). On the effects of three-dimensional density variation in groundwater flow on the head and flow distribution in a multi-aquifer system. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 147–163, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [de Lange, 2006] de Lange, W. J. (2006). Historical note: Development of an analytic element ground water model of The Netherlands. *Ground Water*, 44(1):111–115.
- [Detournay, 1990] Detournay, C. (1990). On a cauchy integral element method for potential flow with corner singularities. In *BETECH 90, Computational Engineering with Boundary Elements, Fluid and Potential Problems Vol. 1*, pages 119–130. University of Delaware.
- [Detournay and Strack, 1988] Detournay, C. and Strack, O. (1988). A new approximate technique for the Hodography method in groundwater flow and its application to coastal aquifers. *Water Resour. Res.*, 24(9):1471–1481.
- [Detournay, 1985] Detournay, C. J. (1985). *Application of boundary elements to the hodograph method*. PhD thesis, University of Minnesota-Twin Cities, Dept. of Civil Engineering, Advisor: Otto Strack.
- [Diodato, 1998] Diodato, D. (1998). Software spotlight: TWODAN 5.0. *Ground Water*, 36(3):389–390.
- [Dripps, 2003] Dripps, W. R. (2003). *The spatial and temporal variability of groundwater recharge within the Trout Lake basin of northern Wisconsin*. PhD thesis, The University of Wisconsin - Madison.
- [Dripps et al., 2006] Dripps, W. R., Hunt, R. J., and Anderson, M. P. (2006). Estimating recharge rates with analytic element models and parameter estimation. *Ground Water*, 44(1):47–55.
- [Dunning et al., 2004] Dunning, C., Feinstein, D., Hunt, R., and Krohelski, J. (2004). Simulation of ground-water flow, surface-water flow, and a deep sewer tunnel system in the Menomonee Valley, Milwaukee, Wisconsin. Water-Resources Investigations Report 045031, USGS. [http://water.usgs.gov/pubs/sir/2004/5031/pdf/2004-5031\\_Menomonee.pdf](http://water.usgs.gov/pubs/sir/2004/5031/pdf/2004-5031_Menomonee.pdf).
- [Dunning et al., 2002] Dunning, C., Thomas, J., and Lin, Y.-F. (2002). Simulation of the shallow aquifer in the vicinity of Silver Lake, Washington County, Wisconsin, using analytic elements. Water-Resources Investigations Report 024204, USGS.

- [Earle, 1994] Earle, R. (1994). Modeling recovery well capture zones in a fractured bedrock aquifer: an application of the analytic element method. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 41–46, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Earle and Middleman, 1993] Earle, R. and Middleman, B. (1993). Modeling horizontal and vertical capture zones in the brunswick shale: An application of porous flow theory to a fractured aquifer. In *PROCEEDINGS OF THE FOCUS CONFERENCE ON EASTERN REGIONAL GROUND WATER ISSUES*, pages 797–807, BURLINGTON, VT. NGWA.
- [Edlund, 1991] Edlund, M. (1991). A conformal mapping application to the analytic element method. Master’s thesis, Univ. of Minnesota-Twin Cities, Dept. of Civil Engineering.
- [Fairbrother, 1992] Fairbrother, M. (1992). Numerical solution to the hyperbolic differential equation for moving front dispersion. Master’s thesis, Univ. of Minnesota-Twin Cities, Dept. of Civil Engineering.
- [Fairbrother, 1994] Fairbrother, M. D. (1994). Solution by method of characteristics of the moving front dispersion-rate limited sorption-first order decay transport equation under steady-state, non-uniform flow conditions. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 135–141, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Feinstein et al., 2005] Feinstein, D., Buchwald, C., Dunning, C., and Hunt, R. (2005). Development and application of a screening model for simulating regional ground-water flow in the St. Croix River Basin, Minnesota and Wisconsin. Scientific Investigations Report 2005-5283, USGS.
- [Feinstein et al., 2003] Feinstein, D., Dunning, C., Hunt, R., and Krohelski, J. (2003). Stepwise use of GFLOW and MODFLOW to determine relative importance of shallow and deep receptors. *Ground Water*, 41(2):190–199.
- [Fiori and Janković, 2005] Fiori, A. and Janković, I. (2005). Can we determine the transverse macrodispersivity by using the method of moments? *Advances in Water Resources*, 28(6):589–599.
- [Fiori et al., 2003] Fiori, A., Janković, I., and Dagan, G. (2003). Flow and transport in highly heterogeneous formations: 2. semianalytical results for isotropic media. *Water Resources Research*, 39(9):1269.
- [Fiori et al., 2005] Fiori, A., Jankovic, I., and Dagan, G. (2005). The effective conductivity of heterogeneous multiphase media with circular inclusions. *Physical Review Letters*, 14:224502–1224502–4.
- [Fiori et al., 2007] Fiori, A., Janković, I., Dagan, G., and Cvetković, V. (2007). Ergodic transport through aquifers of non-Gaussian log-conductivity distribution and occurrence of anomalous behavior. *Water Resources Research*, 43:W09407, doi:10.1029/2007WR005976.
- [Fitts, 1985] Fitts, C. (1985). Modeling aquifer inhomogeneities with analytic elements. Master’s thesis, University of Minnesota-Twin Cities, Dept. of Civil Engineering, Advisor: Otto Strack.

- [Fitts, 1989] Fitts, C. (1989). Simple analytic-functions for modeling 3-dimensional flow in layered aquifers. *Water Resources Research*, 25:943–948.
- [Fitts, 1991] Fitts, C. (1991). Modeling 3-dimensional flow about ellipsoidal inhomogeneities with application to flow to a gravel-packed well and flow through lens-shaped inhomogeneities. *Water Resources Research*, 27:815–824.
- [Fitts, 1994] Fitts, C. (1994). Well discharge optimization using analytic elements. *Ground Water*, 32:547–550.
- [Fitts, 1997] Fitts, C. (1997). Analytic modeling of impermeable and resistant barriers. *Ground Water*, 35:312–317.
- [Fitts, 2002] Fitts, C. (2002). *Ground Water Science*, chapter Analytic Element Method, pages 258–270. Academic Press (div. of Elsevier Science).
- [Fitts, 2004] Fitts, C. (2004). Discrete analytic domains: A new AEM formulation for modeling anisotropy and heterogeneity. In *U.S. EPA/NGWA FRACTURED ROCK CONFERENCE: STATE OF THE SCIENCE AND MEASURING SUCCESS IN REMEDIATION*, pages 867–879, Portland, Maine. NGWA.
- [Fitts, 2006a] Fitts, C. (2006a). Discrete analytic domains: a new method to model complex aquifer systems with layers, anisotropy, and heterogeneity. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 92–100. Kansas State University.
- [Fitts, 2010] Fitts, C. (2010). Modeling aquifer systems with analytic elements and subdomains. *Water Resour. Res.*, 46(W07521). doi:10.1029/2009WR008331.
- [Fitts and Strack, 1996] Fitts, C. and Strack, O. (1996). Analytic solutions for unconfined groundwater flow over a stepped base. *Journal of Hydrology*, 177:65–76.
- [Fitts, 1990] Fitts, C. R. (1990). *Modeling three-dimensional groundwater flow about ellipsoids of revolution using analytic functions*. PhD thesis, University of Minnesota-Twin Cities (Chair: Otto D.L. Strack).
- [Fitts, 2006b] Fitts, C. R. (2006b). Exact solution for two-dimensional flow to a well in an anisotropic domain. *Ground Water*, 44(1):99–101. doi:10.1111/j.1745-6584.2005.00082.x.
- [Fitts, 2018] Fitts, C. R. (2018). Modeling dewatered domains in multilayer analytic element models. *Groundwater*, 56(4):557–561.
- [Fitts et al., 2014] Fitts, C. R., Godwin, J., Feiner, K., McLane, C., and Mullendore, S. (2014). Analytic element modeling of steady interface flow in multilayer aquifers using anaqsim. *Ground Water*. doi:1111/gwat.12225.
- [Fitts et al., 2015] Fitts, C. R., Godwin, J., Feiner, K., McLane, C., and Mullendore, S. (2015). Analytic element modeling of steady interface flow in multilayer aquifers using anaqsim. *Groundwater*, 53(3):432–439.
- [Fredrick et al., 2004] Fredrick, K. C., Becker, M. W., Flewelling, D. M., Silavisesrith, W., and Hart, E. R. (2004). Enhancement of aquifer vulnerability indexing using the analytic-element method. *Environmental Geology*, 45(8):1054–1061.
- [Fredrick et al., 2007] Fredrick, K. C., Becker, M. W., Matott, L. S., Daw, A., Bandida, K., and Flewelling, D. M. (2007). Development of a numerical groundwater flow model using SRTM elevations. *Hydrogeology Journal*, 15(1):171–181.

- [Furfaro and Barnhart, 1994] Furfaro, M. A. and Barnhart, J. R. (1994). Analytic element modeling in wellhead protection area delineation. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 65–69, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Furman, 2003] Furman, A. (2003). *Steps towards the implementation of ERT for monitoring of transient hydrological processes*. PhD thesis, The University of Arizona (Advisor: Paul Ferre).
- [Furman et al., 2003] Furman, A., Ferré, T. P., and Warrick, A. (2003). A sensitivity analysis of electrical resistivity tomography array types using analytic element modeling. *Vadose Zone Journal*, 2:416–423.
- [Furman and Neuman, 2004] Furman, A. and Neuman, S. (2004). Laplace transform analytic element method for transient flow problems. In Miller, C., Farthing, M., Gray, W., and Pinder, G., editors, *Proceedings of the 15th International Conference on Computational Methods in Water Resources (CMWR XV), June 13-17, 2004 Chapel Hill, NC, USA*. Elsevier. ISBN: 0-444-51769-3.
- [Furman and Neuman, 2003] Furman, A. and Neuman, S. P. (2003). Laplace-transform analytic element solution of transient flow in porous media. *Advances in Water Resources*, 26(12):1229–1237. ISI times cited 5 (10Mar2006).
- [Furman and Warrick, 2005] Furman, A. and Warrick, A. (2005). Unsaturated flow through spherical inclusions with contrasting sorptive numbers. *Vadose Zone Journal*, 4:255–263. doi:10.2136/vzj2004.0076.
- [Furman et al., 2002] Furman, A., Warrick, A., and Ferré, T. P. (2002). Electrical potential distributions in a heterogeneous subsurface in response to applied current: solution for circular inclusions. *Vadose Zone Journal*, 1:273–280.
- [Gaffield et al., 1998] Gaffield, S., Bradbury, K., and Potter, K. (1998). Hydrologic assessment of the Kickapoo Watershed, southwestern Wisconsin. Open-File Report 199808, Wisconsin Geological and Natural History Survey, University of Wisconsin-Extension, Madison, Wisconsin.
- [Gaffield et al., 2002] Gaffield, S., Gotkowitz, M., and Bradbury, K. (2002). Delineation of zones of contribution for municipal wells in Rock County Wisconsin. Open-File Report 200202, Wisconsin Geological and Natural History Survey, University of Wisconsin-Extension, Madison, Wisconsin.
- [Gaur et al., 2013] Gaur, S., Ch, S., Graillot, D., Chahar, B. R., and Kumar, D. N. (2013). Application of artificial neural networks and particle swarm optimization for the management of groundwater resources. *WATER RESOURCES MANAGEMENT*, 27(3):927–941.
- [Gaur et al., 2011a] Gaur, S., Chahar, B. R., and Graillot, D. (2011a). Analytic elements method and particle swarm optimization based simulation-optimization model for groundwater management. *JOURNAL OF HYDROLOGY*, 402(3-4):217–227.
- [Gaur et al., 2018] Gaur, S., Dave, A., Gupta, A., Ohri, A., Graillot, D., and Dwivedi, S. B. (2018). Application of artificial neural networks for identifying optimal groundwater pumping and piping network layout. *Water Resources Management*, 32(15):5067–5079.

- [Gaur et al., 2011b] Gaur, S., Mimoun, D., and Graillot, D. (2011b). Advantages of the analytic element method for the solution of groundwater management problems. *HYDROLOGICAL PROCESSES*, 25(22):3426–3436.
- [Gaur et al., 2015] Gaur, S., Raju, K. S., Kumar, D. N., and Graillot, D. (2015). Multiobjective fuzzy optimization for sustainable groundwater management using particle swarm optimization and analytic element method. *HYDROLOGICAL PROCESSES*, 29(19):4175–4187.
- [Gaur et al., 2021] Gaur, S., Srinivasa Raju, K., Nagesh Kumar, D., and Bajpai, M. (2021). Multicriterion decision making in groundwater planning. *Journal of Hydroinformatics*, 23(3):627–638.
- [Gotkowitz et al., 2002] Gotkowitz, M., Zeiler, K., Dunning, C., and Thomas, J. (2002). Delineation of zones of contribution for municipal wells in Sauk County, Wisconsin. Open-File Report 200205, Wisconsin Geological and Natural History Survey, University of Wisconsin-Extension, Madison, Wisconsin.
- [Gotkowitz et al., 2005] Gotkowitz, M., Zeiler, K., Dunning, C., Thomas, J., and Lin, Y.-F. (2005). Hydrogeology and groundwater flow modeling of Sauk County, Wisconsin. Bulletin 102, Wisconsin Geological and Natural History Survey, University of Wisconsin-Extension, Madison, Wisconsin.
- [Graczyk et al., 2003] Graczyk, D., Hunt, R., Greb, S., Buchwald, C., and Krohelski, J. (2003). Hydrology, water quality, and yields, from near-shore flows to four lakes in northern Wisconsin, 19992001. Water-Resources Investigations Report 03-4144, USGS. <http://water.usgs.gov/pubs/wri/wrir-03-4144/pdf/wrir-03-4144.pdf>.
- [Graillot and Button-Hubert, 2006] Graillot, D. and Button-Hubert, M. (2006). GIS and geodatabases for groundwater flow modeling for permeable and fractured aquifer in topographically inclined areas. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 66–76. Kansas State University.
- [Graillot and Le Grand, 2000] Graillot, D. and Le Grand, P. (2000). Numerical versus analytic modeling for hydrogeological applications. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Grashoff, 1994] Grashoff, P. (1994). Groundwater quality modeling using MLAEM and STYXZ. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 97–103, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Grubb and Swenson, 2000] Grubb, S. and Swenson, J. (2000). Integrating storm water modeling, GIS, and AEM modeling in washington county, minnesota. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Gusyev and Haitjema, 2006] Gusyev, M. and Haitjema, H. (2006). A new formulation for conjunctive flow in wetlands and underlying aquifer. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 2–10. Kansas State University.

- [Gusyev and Haitjema, 2011] Gusyev, M. A. and Haitjema, H. M. (2011). An exact solution for a constant-strength line-sink satisfying the modified helmholtz equation for groundwater flow. *ADVANCES IN WATER RESOURCES*, 34(4):519–525.
- [Haasnoot et al., 1999] Haasnoot, M., Vermulst, J., and Middelkoop, H. (1999). Impacts of climate change and land subsidence on the water systems in the Netherlands. Report 99.049, RIZA, Lelystad, The Netherlands.
- [Haitjema, 1982] Haitjema, H. (1982). *Modeling three-dimensional flow in confined aquifers using distributed singularities*. PhD thesis, University of Minnesota-Twin Cities, Dept. of Civil Engineering, Chair: Otto Strack.
- [Haitjema, 1985] Haitjema, H. (1985). Modeling three dimensional flow in confined aquifers by superposition of both two and three-dimensional analytic functions. *Water Resources Res.*, 21(10):1557–1566.
- [Haitjema, 1987a] Haitjema, H. (1987a). Comparing a three dimensional and a Dupuit Forchheimer solution to a circular recharge area in a confined aquifer. *Journal of Hydrology*, 91:83–101.
- [Haitjema, 1987b] Haitjema, H. (1987b). Modeling three-dimensional flow near a partially penetrating well in a stratified aquifer. In *Proceedings of the conference Solving Goundwater Problems with Models, Denver, CO*, pages 532–540, Dublin, OH. International Ground Water Modeling Center-Butler University, National Water Well Association.
- [Haitjema, 1989] Haitjema, H. (1989). An analytic element approach to modeling multiple fluid flow. In *SOLVING GROUND WATER PROBLEMS WITH MODELS (PROCEEDINGS OF THE FOURTH INTERNATIONAL CONFERENCE ON THE USE OF MODELS TO ANALYZE AND FIND WORKING SOLUTIONS TO GROUND WATER PROBLEMS*, pages 473–482, INDIANAPOLIS, IN. NWWA.
- [Haitjema, 1991a] Haitjema, H. (1991a). An analytic element model for transient axi-symmetric interface flow. *Journal of Hydrology*, 129:215–245.
- [Haitjema, 1991b] Haitjema, H. (1991b). Groundwater hydraulics considerations regarding landfills. *Water Resources Bulletin*, 27(5):791–796.
- [Haitjema, 1992] Haitjema, H. (1992). Modeling regional groundwater flow in Fulton County Indiana. *Ground Water*, 30(5):660–666.
- [Haitjema, 1995a] Haitjema, H. (1995a). *Analytic Element Modeling of Groundwater Flow*. Academic Press, San Diego.
- [Haitjema, 1995b] Haitjema, H. (1995b). On the residence time distribution in idealized groundwatersheds. *Journal of Hydrology*, 172:127–146.
- [Haitjema, 2006a] Haitjema, H. (2006a). The role of hand-calculations in ground water flow modeling. *Ground Water*. in press.
- [Haitjema et al., 1989] Haitjema, H., Ebraheem, A., and Mitchell-Bruker, S. (1989). Very large scale regional aquifer modeling including local detail. In *SOLVING GROUND WATER PROBLEMS WITH MODELS (PROCEEDINGS OF THE FOURTH INTERNATIONAL CONFERENCE ON THE USE OF MODELS TO ANALYZE AND FIND WORKING SOLUTIONS TO GROUND WATER PROBLEMS*, pages 315–328, INDIANAPOLIS, IN. NWWA.

- [Haitjema et al., 2010a] Haitjema, H., Feinstein, D., Hunt, R., and Gusyev, M. (2010a). A hybrid finite-difference and analytic element groundwater model. *Ground Water*, 48(4):538–548.
- [Haitjema and Kelson, 1997] Haitjema, H. and Kelson, V. (1997). Using the stream function for flow governed by poisson’s equation. *Journal of Hydrology*, 187(3-4):367–386.
- [Haitjema and Kelson, 2000] Haitjema, H. and Kelson, V. (2000). Only a matter of resolution. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Haitjema et al., 2001] Haitjema, H., Kelson, V., and de Lange, W. (2001). Selecting MODFLOW cell sizes for accurate flow fields. *Ground Water*, 39(6):931–938.
- [Haitjema et al., 2000] Haitjema, H., Kelson, V., and Luther, K. (2000). Analytic element modeling of ground-water flow and high performance computing. Environmental Research Brief EPA/600/S-00/001/, U.S. Environmental Protection Agency.
- [Haitjema and Kraemer, 1988] Haitjema, H. and Kraemer, S. (1988). A new analytic function for modeling partially penetrating wells. *Water Resources Research*, 24(5):683–690.
- [Haitjema et al., 2010b] Haitjema, H., Kuzin, S., Kelson, V., and Abrams, D. (2010b). Modeling flow into horizontal wells in a Dupuit-Forchheimer model. *Ground Water*, 48(6):878–883.
- [Haitjema and Strack, 1985] Haitjema, H. and Strack, O. (1985). An initial study of thermal energy storage in unconfined aquifers. Technical Report PNL-5818 UC-94e, Battelle Pacific Northwest Laboratories, Richland, WA.
- [Haitjema et al., 1995] Haitjema, H., Strack, O., and Kraemer, S. (1995). Demonstration of the analytic element method for wellhead protection. Technical Report EPA/600/SR-94/210, US Environmental Protection Agency, Robert S. Kerr Env. Res. Lab., Ada, OK.
- [Haitjema et al., 1994] Haitjema, H., Wittman, J., Kelson, V., and Bauch, N. (1994). WhAEM: program documentation for the wellhead analytic element model. Report EPA/600/R-94/210, U.S. Environmental Protection Agency.
- [Haitjema, 2006b] Haitjema, H. M. (2006b). A fast direct solution method for nonlinear equations in an analytic element model. *Ground Water*, 44(1):102–105.
- [Haitjema et al., 2006] Haitjema, H. M., Hunt, R. J., Janković, I., and de Lange, W. J. (2006). Foreword: Ground water flow modeling with the analytic element method. *Ground Water*, 44(1):1–2.
- [Haitjema and Kelson, 1996] Haitjema, H. M. and Kelson, V. A. (1996). Using the stream function for flow governed by poisson’s equation. *Journal of Hydrology*, 187:367–386.
- [Haitjema and Mitchell-Bruker, 2005] Haitjema, H. M. and Mitchell-Bruker, S. (2005). Are water tables a subdued replica of the topography? *Ground Water*, 43(6):781–786.



- [Hall and Lewis, 1994] Hall, P. J. and Lewis, R. A. (1994). Application of analytic element and finite difference method modeling techniques to aquifer remediation and regional groundwater flow. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 91–96, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Hansen, 2002] Hansen, D. (2002). Analytic modeling of leakage in a confined multiple aquifer system. Master’s thesis, Univ. of Minnesota, Minneapolis.
- [Hansen et al., 2001] Hansen, D., Seaberg, J. K., and Streitz, A. R. (2001). An analytic element model of two deep aquifers: a new approach for unlocking some old secrets. In Seo, H. S., Poeter, E., Zheng, C., and Poeter, O., editors, *MODFLOW 2001 and Other Modeling Odysseys*, pages 249–255, Golden, CO. International Groundwater Modeling Center, Colorado School of Mines.
- [Haserodt et al., 2019] Haserodt, M.J., H., R.J., Cowdery, T., Leaf, A., and Baker, A. (2019). Simulation of the regional groundwater-flow system in the st. louis river basin. Technical report, U.S. Geological Survey.
- [He et al., 1992] He, H., Powell, G., Yang, J.-Y., and Saroff, S. (1992). Groundwater restoration for a contaminated water-supply wellfield in Kentucky. In *PROCEEDINGS OF THE TWENTY-FOURTH MID-ATLANTIC INDUSTRIAL WASTE CONFERENCE*, pages 368–377, MORGANTOWN, WEST VIRGINIA. WEST VIRGINIA UNIV, TECHNOMIC PUBLISHING COMPANY.
- [He, 1987] He, H. Y. (1987). Groundwater modeling of leaky wall. Master’s thesis, University of Minnesota-Twin Cities, Dept. of Civil Engineering, Advisor: Otto Strack.
- [Herrera-Rodriguez, 2004] Herrera-Rodriguez, M. (2004). Modeling groundwater flow and economics in Sheridan County, Kansas. Master’s thesis, Kansas State University - Manhattan.
- [Hunt, 2002] Hunt, R. (2002). Evaluating the importance of future data collection sites using parameter estimation and analytic element groundwater flow models. In *Proceedings from the XIV International Conference on Computational Methods in Water Resources Conference, Series Developments in Water Sciences 47*, page 755762, Delft, The Netherlands. Elsevier.
- [Hunt et al., 2000a] Hunt, R., Graczyk, D., and Rose, W. (2000a). Water flows in the Necedah National Wildlife Refuge. Fact Sheet FS-06800, USGS. <http://wi.water.usgs.gov/pubs/FS-068-00/FS-068-00.pdf>.
- [Hunt et al., 2003a] Hunt, R., Haitjema, H., Krohelski, J., and Feinstein, D. (2003a). Simulating ground water-lake interactions: approaches, analyses, and insights. *Ground Water*, 41(2):227–237.
- [Hunt et al., 1998a] Hunt, R., Kelson, V., and Anderson, M. (1998a). Linking an analytic element flow code to MODFLOW implementation and benefits. In E.P. Poeter, C. Z. and Hill, M., editors, *MODFLOW’98: Proceedings of the 3rd International Conference of the International Ground Water Modeling Center*, page 497504, Golden, Colorado. Colorado School of Mines, IGWMC.
- [Hunt et al., 2000b] Hunt, R., Kelson, V., Haitjema, H., Carlson, C., and Krohelski, J. (2000b). The cost and benefits of modeling complexity: a case study comparing

- analytic element and numerical models from a proposed mine in northern Wisconsin, USA. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Hunt and Krohelski, 1996] Hunt, R. and Krohelski, J. (1996). The application of an analytic element model to investigate groundwater-lake interactions at Pretty Lake, Wisconsin. *Journal of Lakes and Reservoir Management*, 12(4):487–495.
- [Hunt et al., 2000c] Hunt, R., Lin, Y., Krohelski, J., and Juckem, P. (2000c). Simulation of the shallow hydrologic system in the vicinity of Middle Genesee Lake, Wisconsin, using analytic elements and parameter estimation. Water Resources Investigations Report 00-4136, U.S. Geological Survey.
- [Hunt et al., 1998b] Hunt, R., M.P.Anderson, and Kelson, V. (1998b). Improving a complex finite-difference ground water flow model through the use of an analytic element screening model. *Ground Water*, 36:1011–1017.
- [Hunt et al., 2003b] Hunt, R., Saad, D., and Chapel, D. (2003b). Numerical simulation of ground-water flow in La Crosse County, Wisconsin and into nearby pools of the Mississippi River. Water-Resources Investigations Report 034154, USGS.
- [Hunt, 2006] Hunt, R. J. (2006). Review paper: Ground water modeling applications using the analytic element method. *Ground Water*, 44(1):5–14.
- [Hunt et al., 2001] Hunt, R. J., Haitjema, H. M., Krohelski, J. T., and Feinstein, D. T. (2001). Simulating groundwater-lake interactions with models: MODFLOW and analytic element approaches. In Seo, H. S., Poeter, E., Zheng, C., and Poeter, O., editors, *MODFLOW 2001 and Other Modeling Odysseys*, pages 328–334, Golden, CO. International Groundwater Modeling Center, Colorado School of Mines.
- [Hussain, 2017] Hussain, S. M. (2017). *Simulation of groundwater flow by the analytic element method*. PhD thesis, Universidade de São Paulo.
- [Jakes and de Lange, 1997] Jakes, D. and de Lange, W. J. (1997). Governmental groundwater management using large analytic element models. In de Lange, W., editor, *Conference companion Part 1. Analytic Element Modeling of Groundwater Flow*, pages 3–16, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Janković, 1997] Janković, I. (1997). *High-Order Analytic Elements in Modeling Groundwater Flow*. PhD thesis, Univ. of Minnesota-Twin Cities (Chair: Randall J. Barnes).
- [Janković, 2000] Janković, I. (2000). Advective transport experiments carried out using MODFLOW in comparison with analytic solutions for three-dimensional groundwater flow. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Janković, 2002] Janković, I. (2002). Flow and transport in highly heterogeneous formations: high resolution large-scale numerical simulations. In *Proceedings from MODEL CARE*, Prague, Czech Republic. IAHS.

- [Janković and Andricevic, 1996] Janković, I. and Andricevic, R. (1996). Spatial and temporal analysis of groundwater recharge with application to sampling design. *Stochastic Hydrology and Hydraulics*, 10:39–63.
- [Janković and Barnes, 1997a] Janković, I. and Barnes, R. (1997a). High order line elements for two-dimensional groundwater flow. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 487–496, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Janković and Barnes, 1997b] Janković, I. and Barnes, R. (1997b). Three-dimensional flow through large numbers of spheroidal inhomogeneities. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 425–433, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Janković and Barnes, 1999a] Janković, I. and Barnes, R. (1999a). High-order line elements in modeling two-dimensional groundwater flow. *Journal of Hydrology*, 226:211–223.
- [Janković and Barnes, 1999b] Janković, I. and Barnes, R. (1999b). Three-dimensional flow through large numbers of spheroidal inhomogeneities. *Journal of Hydrology*, 226:224–233.
- [Janković et al., 2000] Janković, I., Barnes, R., and Steward, D. (2000). Advective mixing. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Janković and Fiori, 2004] Janković, I. and Fiori, A. (2004). Simulations of flow and transport in highly heterogeneous porous formations: numerical issues. In Miller, C., Farthing, M., Gray, W., and Pinder, G., editors, *Proceedings of the 15th International Conference on Computational Methods in Water Resources (CMWR XV), June 13-17, 2004 Chapel Hill, NC, USA*. Elsevier. ISBN: 0-444-51769-3.
- [Janković et al., 2003a] Janković, I., Fiori, A., and Dagan, G. (2003a). Effective conductivity of an isotropic heterogeneous medium of lognormal conductivity distribution. *Multiscale Modeling, Analysis, and Simulation*, 1(1):40–56.
- [Janković et al., 2003b] Janković, I., Fiori, A., and Dagan, G. (2003b). Flow and transport in highly heterogeneous formations: 3. numerical simulations and comparisons with theoretical results. *Water Resources Research*, 39(9):1270.
- [Jankovic et al., 2003] Jankovic, I., Fiori, A., and Dagan, G. (2003). Flow and transport through two-dimensional isotropic media of binary conductivity distribution. part 2: Numerical simulations and comparison with theoretical results. *Stochastic Environmental Research and Risk Assessment*, 17(6):384–393.
- [Janković et al., 2006a] Janković, I., Fiori, A., and Dagan, G. (2006a). Modeling flow and transport in highly heterogeneous three-dimensional aquifers: Ergodicity, gaussianity, and anomalous behavior1. conceptual issues and numerical simulations. *Water Resources Research*, 42(W06D12). doi:10.1029/2005WR004734.

- [Janković et al., 2006b] Janković, I., Fiori, A., Suribhatla, R., and Dagan, G. (2006b). Identification of heterogeneous aquifer transmissivity using an ae-based method. *Ground Water*, 44(1):62–71.
- [Janković et al., 2009] Janković, I., Steward, D. R., Barnes, R. J., and Dagan, G. (2009). Is transverse macrodispersivity in three-dimensional groundwater transport equal to zero? a counterexample. *Water Resources Research*, 45(W08415, doi:10.1029/2009WR007741).
- [Jin, 2003] Jin, W. (2003). *Evolution of stagnation points in two-dimensional groundwater flow*. PhD thesis, Kansas State University - Manhattan (Advisor: David Steward).
- [Jin, 2006] Jin, W. (2006). A condition denoting flow pattern changes in two-dimensional groundwater flow. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 198–206. Kansas State University.
- [Jin and Steward, 2000] Jin, W. and Steward, D. (2000). Gaining and losing sections of horizontal wells. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Jin and Steward, 2007] Jin, W. and Steward, D. R. (2007). The transition of flow patterns through critical stagnation points in two-dimensional groundwater flow. *Advances in Water Resources*, 30(1):16–28.
- [Johnson and Miffin, 2006] Johnson, C. and Miffin, M. (2006). The AEM and regional carbonate aquifer modeling. *Ground Water*, 44(1):24–34.
- [Josephson et al., 1988] Josephson, P., Erdmann, J., and Wenck, N. (1988). Remedy of ground water pollution from volatile organics at a landfill. In *PROCEEDINGS OF THE SECOND NATIONAL OUTDOOR ACTION CONFERENCE ON AQUIFER RESTORATION, GROUND WATER MONITORING AND GEOPHYSICAL METHODS*, pages 225–236, LAS VEGAS, NV. NWWA.
- [Juckem et al., 2005] Juckem, P., Hunt, R., and Anderson, M. (2005). Scale effects of hydrostratigraphy and recharge on stream baseflow. *Ground Water*. doi: 10.1111/j.1745-6584.2005.00136.x.
- [Juckem, 2020] Juckem, P. F. (2020). Gflow model files used to generate probabilistic waste-water plume extents and contributing areas to supply wells for a proposed waste-water infiltration lagoon scenario, lac du flambeau, wisconsin. Data report, U.S. Geological Survey.
- [Kacimov, 2006] Kacimov, A. (2006). Analytic element solutions for seepage towards topographic depressions. *Journal of Hydrology*, 318(1-4):262–275.
- [Kacimov and Obnosov, 2000] Kacimov, A. and Obnosov, Y. (2000). An analytic element method for multiple circular elastic inclusions. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Kacimov and Obnosov, 2019] Kacimov, A. and Obnosov, Y. V. (2019). Analytic solutions for fresh groundwater lenses floating on saline water under desert dunes: The kunin-van der veer legacy revisited. *Journal of Hydrology*, 574:733–743.

- [Kaludjerovic, 2000] Kaludjerovic, D. (2000). Step-wise approach to groundwater flow modeling using analytic element and finite-difference codes. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Kaluderović et al., 2018] Kaluderović, D., Koren, E., and Vižintin, G. (2018). Application of analytic element method in hydrogeology. *Materials and Geoenvironment*, 65(1):35–44.
- [Keil, 1982] Keil, G. (1982). A Dupuit analysis for leaky unconfined aquifers. Master’s thesis, University of Minnesota, Minneapolis, MN.
- [Kelson et al., 1993] Kelson, V., Haitjema, H., and Kraemer, S. (1993). GAEP: A geographic preprocessor for groundwater flow modeling. *Hydrological Science and Technology*, 8:74–84.
- [Kelson et al., 2002] Kelson, V., Hunt, R., and Haitjema, H. (2002). Improving a regional model using reduced complexity and parameter estimation. *Ground Water*, 40(2):132–143.
- [Kelson, 2000] Kelson, V. A. (2000). *Practical advances in groundwater modeling with analytic elements*. PhD thesis, Indiana University (Advisor: Hendrick M. Haitjema), Bloomington, IN.
- [Kelson and Haitjema, 1997] Kelson, V. A. and Haitjema, H. M. (1997). A massively-parallel analytic element code. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 399–406, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Koehn, 2020] Koehn, W. (2020). *Novel Hydrogeologic Characterization Methods: Utilizing the Analytic Element Method in Hydrogeophysical Studies*. PhD thesis, Kansas State University.
- [Kooiman et al., 1988] Kooiman, J., Uffink, G., and Veling, E. (1988). Het gebruik van het programma sl in het ecohydrologisch onderzoek. *H2O*, 21(7):176–182.
- [Kraemer et al., 2000a] Kraemer, S., Haitjema, H., and Kelson, V. (2000a). Working with WhAEM2000: source water assessment for a glacial outwash wellfield, Vincennes, Indiana. Report EPA/600/R-99/110, US Environmental Protection Agency.
- [Kraemer et al., 2005] Kraemer, S., Haitjema, H., and Kelson, V. (2005). Working with WhAEM2000: capture zone delineation for a city wellfield in a valley fill glacial outwash aquifer supporting wellhead protection. Report EPA/600/R-05/151, US Environmental Protection Agency.
- [Kraemer et al., 2003] Kraemer, S., Haitjema, H., and Kelson, V. (updated 2003). Working with WhAEM2000: source water assessment for a glacial outwash wellfield, Vincennes, Indiana. Report EPA/600/R-99/110, US Environmental Protection Agency.
- [Kraemer et al., 1994] Kraemer, S., Haitjema, H., and Strack, O. (1994). Capture zone modeling using the wellhead analytic element model (WhAEM). In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling*

- of *Groundwater Flow, Indianapolis, Indiana*, pages 55–59, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Kraemer et al., 2000b] Kraemer, S., Kelson, V., and Haitjema, H. (2000b). Working with WhAEM: analytic element modeling as if people mattered. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Kraemer, 1990] Kraemer, S. R. (1990). *Modeling of regional groundwater flow in fractured rock aquifers*. PhD thesis, Indiana University-Bloomington (Chair: Hendrick M. Haitjema).
- [Kraemer, 1994] Kraemer, S. R. (1994). Distribution of areal recharge to a discrete fracture network (fracnet) model using the analytic element method. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 163–168, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Kraemer, 2003] Kraemer, S. R. (2003). The maturity of analytic element groundwater modeling as a research program (1980-2003). In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Kraemer, 2007] Kraemer, S. R. (2007). Analytic element ground water modeling as a research program (1980 to 2006). *Ground Water*, 45(4):402–408.
- [Kraemer and de Lange, 1997] Kraemer, S. R. and de Lange, W. J. (1997). Regional-scale ground-water modeling of the Delmarva Peninsula (USA) using analytic elements. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 113–128, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Krohelski et al., 2000] Krohelski, J., Bradbury, K., Hunt, R., and Swanson, S. (2000). Numerical simulation of ground-water flow in dane county, wisconsin. Bulletin 98, Wisconsin Geological and Natural History Survey.
- [Krohelski et al., 2002] Krohelski, J., Rose, W., and Hunt, R. (2002). Hydrologic investigation of Powell Marsh and its relationship to Dead Pike Lake Vilas County, Wisconsin. Water-Resources Investigations Report 024034, USGS. <http://wi.water.usgs.gov/pubs/wrir-02-4034/wrir-02-4034.pdf>.
- [Kroon and de Lange, 2001] Kroon, T. and de Lange, W. (2001). A standardized approach for translating surface waters into model boundary conditions. In Seo, H. S., Poeter, E., Zheng, C., and Poeter, O., editors, *MODFLOW 2001 and Other Modeling Odysseys*, pages 342–348, Golden, CO. International Groundwater Modeling Center, Colorado School of Mines.
- [Kuhlman and Neuman, 2009] Kuhlman, K. and Neuman, S. (2009). Laplace-transform analytic-element method for transient porous-media flow. *Journal of Engineering Mathematics*, 64(2):113–130.
- [Le Grand, 1999] Le Grand, P. (1999). Analytic elements of high degree along bézier spline curves for the modeling of two dimensional groundwater flow. Master’s thesis, Univ. of Minnesota-Twin Cities, Dept. of Civil Engineering.

- [Le Grand, 2003] Le Grand, P. (2003). *Advanced curvilinear shapes for object centered modelling of groundwater flow with the analytic element method*. PhD thesis, Ecole nationale Supérieure des Mines de Saint-Etienne, 158 cours Fauriel - 42023 Saint-Etienne Cédex - France.
- [Le Grand and Barnes, 2000] Le Grand, P. and Barnes, R. (2000). Curvilinear elements of bezier spline shape. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Leaf et al., 2021] Leaf, A. T., Fienen, M. N., and Reeves, H. W. (2021). Sfrmaker and linesink-maker: Rapid construction of streamflow routing networks from hydrography data. *Groundwater*, 59(5):761–771.
- [Lenz et al., 2003] Lenz, B., Saad, D., and Fitzpatrick, F. (2003). Simulation of ground-water flow and rainfall runoff with emphasis on the effects of land cover, Whittlesey Creek, Bayfield County, Wisconsin, 19992001. Water-Resources Investigations Report 03-4130, USGS. <http://water.usgs.gov/pubs/wri/wrir-03-4130/pdf/wrir03-4130.pdf>.
- [Lovett, 1995] Lovett, C. K. (1995). *A wellhead protection study of a small agricultural community in glaciated terrain as a model for wellhead protection efforts by similar communities*. PhD thesis, Western Michigan University (Chair: Alan Kehew).
- [Luther and Haitjema, 1998] Luther, K. and Haitjema, H. (1998). Numerical experiments on the residence time distributions of heterogeneous groundwatersheds. *Journal of Hydrology*, 297((1-2)):1–17.
- [Luther and Haitjema, 1999] Luther, K. and Haitjema, H. (1999). An analytic element solution to unconfined flow near partially penetrating wells. *Journal of Hydrology*, 226:197–203.
- [Luther and Haitjema, 2000] Luther, K. and Haitjema, H. (2000). Approximate analytic solutions to 3D unconfined groundwater flow within regional 2D models. *Journal of Hydrology*, 229:101–117.
- [Luther, 1998] Luther, K. H. (1998). *Analytic solutions to three-dimensional unconfined groundwater flow near wells*. PhD thesis, Indiana University-Bloomington (Chair: Hendrick M. Haitjema).
- [Luther and Haitjema, 1997] Luther, K. H. and Haitjema, H. (1997). An analytic element solution to unconfined flow near partially penetrating wells. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 373–380, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Maas, 1994a] Maas, C. (1994a). Formulation of dispersive transport for use in analytical element models. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 125–128, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Maas, 1994b] Maas, C. (1994b). *On convolution processes and dispersive groundwater flow*. PhD thesis, Delft Technical University (Chair: Prof. Wakker), Delft, The Netherlands.

- [Maas, 1997] Maas, C. (1997). Dynamics of the groundwater table. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 359–369, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Maas et al., 2006] Maas, K., von Asmuth, J., and Bakker, M. (2006). Natural groundwater dynamics 2: Time series analysis. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 134–137. Kansas State University.
- [MacNeal, 1992] MacNeal, R. (1992). Estimating aquifer properties in analytic element models. In *PROCEEDINGS OF THE SOLVING GROUND WATER PROBLEMS WITH MODELS*, pages 173–185, DALLAS, TX. NGWA.
- [Macneal et al., 1994] Macneal, R. W., Robertson, S. W., and Barr, K. D. (1994). Gas flow modeling using the analytic element method. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 113–118, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Magner and Regan, 1994] Magner, J. and Regan, C. (1994). Tools and techniques for the assessment of ground water/surface water interactions in glaciated hydrogeologic settings. In *EXPOSITION ON AQUIFER REMEDIATION, GROUND WATER MONITORING, AND GEOPHYSICAL METHODS, MAY 23-25, 1994, MINNEAPOLIS CONVENTION CENTER, MINNEAPOLIS, MINNESOTA*, pages 685–698. NGWA.
- [Majumder and Eldho, 2018] Majumder, P. and Eldho, T. (2018). *Simulation-Optimization Models Based on Analytic Element Method, Random Walk Particle Tracking and Cat Swarm Optimization for Groundwater Management and Remediation*. PhD thesis, Indian Institute of Technology Bombay.
- [Majumder and Eldho, 2019] Majumder, P. and Eldho, T. (2019). Reactive contaminant transport simulation using the analytic element method, random walk particle tracking and kernel density estimator. *Journal of contaminant hydrology*, 222:76–88.
- [Majumder and Eldho, 2020] Majumder, P. and Eldho, T. (2020). Artificial neural network and grey wolf optimizer based surrogate simulation-optimization model for groundwater remediation. *Water Resources Management*, 34:763–783.
- [Majumder and Eldho, 2016] Majumder, P. and Eldho, T. I. (2016). A new groundwater management model by coupling analytic element method and reverse particle tracking with cat swarm optimization. *WATER RESOURCES MANAGEMENT*, 30(6):1953–1972.
- [Majumder and Eldho, 2017] Majumder, P. and Eldho, T. I. (2017). Vectorized simulation of groundwater flow and contaminant transport using analytic element method and random walk particle tracking. *HYDROLOGICAL PROCESSES*, 31(5):1144–1160.
- [Mao, 2003] Mao, D. (2003). Application of a coupled AEM-ArcGIS modeling environment to address long-term management. Master’s thesis, Kansas State University - Manhattan.



- [Matott, 2012] Matott, L. S. (2012). Screening-level sensitivity analysis for the design of pump-and-treat systems. *GROUND WATER MONITORING AND REMEDIATION*, 32(2):66–80.
- [Matott et al., 2011] Matott, L. S., Leung, K., and Sim, J. (2011). Application of matlab and python optimizers to two case studies involving groundwater flow and contaminant transport modeling. *COMPUTERS & GEOSCIENCES*, 37(11):1894–1899.
- [Matott et al., 2006] Matott, L. S., Rabideau, A. J., and Craig, J. R. (2006). Pump-and-treat optimization using analytic element method flow models. *Advances in Water Resources*, 29(5):760–775.
- [Mehnert, 2010] Mehnert, E. (2010). Groundwater flow modeling as a tool to understand watershed geology: Blackberry Creek watershed, Kane and Kendall Counties, Illinois. Circular 576, Illinois State Geological Survey, University of Illinois, Institute of Natural Resource Sustainability, Champaign, Illinois.
- [Mesa and Anderson, 2008] Mesa, E. and Anderson, E. (2008). A local model for analysis of pump and treat systems with vertical barrier walls. *Advances in Water Resources*, 31(3):473–483.
- [Miller, 2001] Miller, R. (2001). Circular area sinks for infiltration and leakage. Master’s thesis, University of Minnesota - Minneapolis.
- [Miller et al., 2000] Miller, R., Barnes, R., and Le Grand, P. (2000). A new look at area sinks. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Minnema and van der Meij, 1997] Minnema, B. and van der Meij, J. (1997). Three-dimensional density-dependent groundwater flow. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 131–141, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Mitchell-Bruker and Haitjema, 1996] Mitchell-Bruker, S. and Haitjema, H. (1996). Modeling steady state conjunctive groundwater and surface water flow with analytic elements. *Water Resources Res.*, 32(9):2725–2732.
- [Mitchell-Bruker, 1993] Mitchell-Bruker, S. M. (1993). *Modeling steady state groundwater and surface water interactions*. PhD thesis, Indiana University-Bloomington (Chair: Hendrick M. Haitjema).
- [Mohammadi and Ghaeini-Hessaroeeyeh, 2016] Mohammadi, A. and Ghaeini-Hessaroeeyeh, M. (2016). Neyshabur plain groundwater flow modelling using analytic element and point collocation mesh free methods. *Journal of Hydraulics*, 11(3):47–58.
- [Mohammadi et al., 2020] Mohammadi, A., Ghaeini-Hessaroeeyeh, M., and Fadaei-Kermani, E. (2020). Contamination transport model by coupling analytic element and point collocation methods. *Applied Water Science*, 10(1):1–10.
- [Mollah and Steward, 2000] Mollah, R. and Steward, D. (2000). Simulating the interchange between surface water and groundwater through the unsaturated zone

- using a one-dimensional steady model. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Moorman, 1997] Moorman, J. (1997). Analytic element model analysis of the influence of different scenarios for the water level in a future retention basin, on local and regional hydrology. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 105–111, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Moorman, 1999] Moorman, J. (1999). Analytical element model analysis of the influence of different scenarios for the water level in a future retention basin. *Journal of Hydrology*, 226:144–151.
- [Moorman, 2000] Moorman, J. (2000). Comparison of the uncertainty of a manually calibrated analytical element model with the uncertainty of the same model, calibrated automatically. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Moorman, 1994] Moorman, J. H. (1994). Analysis of the hydrology of an area predominated by artificial surface water management using MLAEM. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 25–30, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Mulder et al., 1997] Mulder, G., Taat, J., de Moissis, D., and van de Heuvel, M. (1997). Mixing cell transport for AEM flow: coupling of analytic element flow with mixing cell transport by using groundwater flow for generation of cell network. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 263–272, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Olsen, 1995] Olsen, W. (1995). Modeling inhomogeneities in groundwater flow using an interpolator. Master’s thesis, University of Minnesota, Dept of Civil Engineering, Twin Cities.
- [Olsen, 2000] Olsen, W. (2000). Exact solution for an elliptical inhomogeneity with a well. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Olsen and Le Grand, 2006] Olsen, W. and Le Grand, P. (2006). MEI - morphologic element interpolator. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 102–108. Kansas State University.
- [Olsthoorn, 1999] Olsthoorn, T. (1999). A comparative review of analytic and finite difference models used at the amsterdam water supply. *Journal of Hydrology*, 226:139–143.

- [Olsthoorn, 2006] Olsthoorn, T. (2006). Interpreting a multiple well pumping test with 6000 switches to determine safe yield. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 208–219. Kansas State University.
- [Olsthoorn, 1997] Olsthoorn, T. (1997). When did we use finite elements, finite differences or analytic elements at the amsterdam water supply? In de Lange, W., editor, *Conference companion Part 1. Analytic Element Modeling of Groundwater Flow*, pages 17–24, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Omar et al., 2019] Omar, P. J., Gaur, S., Dwivedi, S., and Dikshit, P. (2019). Groundwater modelling using an analytic element method and finite difference method: An insight into lower ganga river basin. *Journal of Earth System Science*, 128(7):1–10.
- [Omar et al., 2020] Omar, P. J., Gaur, S., Dwivedi, S., and Dikshit, P. (2020). A modular three-dimensional scenario-based numerical modelling of groundwater flow. *Water Resources Management*, 34(6):1913–1932.
- [Oswald and Jones, 1994] Oswald, J. and Jones, P. (1994). The use of analytical element modeling in the assessment of wellhead protection zones in mining regions. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 77–81, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Paleologos et al., 2005] Paleologos, E., Sarris, T., and Tolika, M. (2005). Integration of an analytic element model in a stochastic analysis of infiltration into a complex unconfined aquifer system. *Journal of Hydroinformatics*, 7(1):53–59.
- [Patel et al., 2010] Patel, H. M., Eldho, T. I., and Rastogi, A. K. (2010). Simulation of radial collector well in shallow alluvial riverbed aquifer using analytic element method. *JOURNAL OF IRRIGATION AND DRAINAGE ENGINEERING-ASCE*, 136(2):107–119.
- [Peeters et al., 2010] Peeters, L., Fasbender, D., Batelaan, O., and Dassargues, A. (2010). Bayesian data fusion for water table interpolation: Incorporating a hydrogeological conceptual model in kriging. *WATER RESOURCES RESEARCH*, 46.
- [Pennings, 2000] Pennings, R. (2000). The singular behavior near the endpoint of a semi-confining boundary in the vertical plane. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Perry, 1993] Perry, A. (1993). Hydrologic models used by the u. s. bureau of mines. In *Proceedings of the Federal Interagency Workshop on Hydrologic Modeling Demands for the 90's*, pages 1–16 to 1–23. US Geological Survey Water-Resources Investigations Report 93-4018. Minflo - macintosh aem model.
- [Peterson and Steward, 2006] Peterson, J. and Steward, D. (2006). Groundwater economics: object oriented, integrated studies using the AEM. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 27–31. Kansas State University.

- [Power, 1990] Power, B. (1990). Estimation of aquifer parameters for use in the analytic element method. Master’s thesis, University of Minnesota-Twin Cities, Dept. of Civil Engineering.
- [Power and Barnes, 1993] Power, B. and Barnes, R. (1993). Model calibration techniques for use with the analytic element method. *Ground Water*, 31:91–97.
- [Power, 1994] Power, B. F. (1994). Model parameter estimation techniques for analytic element models. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 143–149, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Power, 2006] Power, B. F. (2006). Partially penetrating well capture zones - a simple analytic toolset. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 174–181. Kansas State University.
- [Rabideau et al., 2007] Rabideau, A., Craig, J., Silavisesrith, W., Fredrick, K., Flewelling, D., Janković, I., Becker, M., Bandilla, K., and Matott, S. (2007). Analytic modeling of super-regional groundwater flow: Concepts and tools for automated model configuration. *Journal of Hydrologic Engineering*, doi:10.1061/(ASCE)1084-069912:1(83).
- [Rabideau et al., 2005] Rabideau, A., Matott, L., Janković, I., J.R. Craig, J. R., and Becker, M. (2005). Influence of numerical precision on the calibration of AEM-based groundwater flow models. *Environmental Geology*, 48(1):57–67.
- [Raghavan, 2002] Raghavan, V. (2002). A comparison between gradient-based and heuristic algorithms for inverse modeling of two-dimensional groundwater flow. Master’s thesis, University at Buffalo-State University of New York, Dept. of Civil, Structural, and Environmental Engineering.
- [Ramgraber and Schirmer, 2021] Ramgraber, M. and Schirmer, M. (2021). Hydrogeological uncertainty estimation with the analytic element method. *Water Resources Research*, 57(6):e2020WR029509.
- [Ranganathan, 2002] Ranganathan, G. (2002). Analytic-based solution for three-dimensional groundwater flow with a well. Master’s thesis, University at Buffalo-State University of New York, Dept. of Civil, Structural, and Environmental Engineering.
- [Ranjram and Craig, 2018] Ranjram, M. and Craig, J. R. (2018). Closed analytic elements with flexible geometry. *Groundwater*, 56(5):816–822.
- [Raymond et al., 2006] Raymond, H., Bondoc, M., McGinnes, J., Metropulos, K., Heides, P., Reed, A., and Saines, S. (2006). Using analytic element models to delineate drinking water source protection areas. *Ground Water*, 44(1):16–23.
- [Ring, 1994] Ring, T. (1994). Analytic element modeling on the yakima indian reservation: applications to water management and protection. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 37–40, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Robertson et al., 2003] Robertson, D., Rose, W., and Saad, D. (2003). Water quality and effects of changes in phosphorus loading to Muskegon Lake, Vilas County, Wisconsin. Water-Resources Investigations Report 034011, USGS. [http://water.usgs.gov/pubs/wri/wri034011/pdf/03-4011\\_musky\\_lake.pdf](http://water.usgs.gov/pubs/wri/wri034011/pdf/03-4011_musky_lake.pdf).

- [Robertson et al., 2005] Robertson, D., Rose, W., and Saad, D. (2005). Water quality, hydrology and phosphorus loading to Little St. Germain Lake, Wisconsin, with special emphasis on the effects of winter aeration and ground-water inputs. Scientific Investigations Report 055071, USGS. [http://water.usgs.gov/pubs/sir/2005/5071/pdf/SIR\\_2005-5071.pdf](http://water.usgs.gov/pubs/sir/2005/5071/pdf/SIR_2005-5071.pdf).
- [Rumbaugh, 1993] Rumbaugh, J. (1993). Combining analytic element and finite element techniques for contaminant transport analyses. In *Proceedings of the 1993 Groundwater Modeling Conference, Golden, Colorado*, pages 77–86.
- [Salisbury, 1992] Salisbury, M. (1992). Control equation formulation for circular inhomogeneities in the analytic element method. Master’s thesis, Univ. of Minnesota-Twin Cities, Dept. of Civil Engineering.
- [Salisbury and Barnes, 1994] Salisbury, M. L. and Barnes, R. J. (1994). Control equation formulation for circular inhomogeneities in the analytic element method. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 157–161, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Sarris et al., 2003] Sarris, T., Tolika, M., and Paleologos, E. (2003). Quantification of the effect of infiltration rate in the Savannah River Site, SC using analytic elements. In Graillet, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Seaberg and Hansen, 2000] Seaberg, J. and Hansen, D. (2000). Modeling regional inter-aquifer leakage in the twin cities metropolitan groundwater model. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Seaberg et al., 1997] Seaberg, J., Hansen, D., Block, B., Streitz, A., and Bakker, M. (1997). Development of a regional groundwater flow model for the twin cities. In *Conference Companion Part 1. Analytic Modeling of Groundwater Flow*, pages 58–75, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Seaberg and Vogan, 1994] Seaberg, J. K. and Vogan, J. L. (1994). Use of analytic element groundwater flow modeling to evaluate funnel-and-gate technology for insitute groundwater remediation. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 47–53, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Shende and Chau, 2019] Shende, S. and Chau, K.-W. (2019). Forecasting safe distance of a pumping well for effective riverbank filtration. *Journal of Hazardous, Toxic, and Radioactive Waste*, 23(2):04018040.
- [Simpkins, 2006] Simpkins, W. (2006). A multiscale investigation of ground water flow at Clear Lake, Iowa. *Ground Water*, 44(1):35–46.
- [Sinha and Silavisesrith, 2012] Sinha, G. and Silavisesrith, W. (2012). Multicriteria generalization (mcg): a decision-making framework for formalizing multiscale envi-

- ronmental data reduction. *INTERNATIONAL JOURNAL OF GEOGRAPHICAL INFORMATION SCIENCE*, 26(5):899–922.
- [Spiller et al., 2000] Spiller, M., Hamelmann, W., Demny, G., Ababou, R., and Kongeter, J. (2000). Modeling flow in heterogeneous single fractures using AEM. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Staboultzidis et al., 2016] Staboultzidis, A., Dokou, Z., and Karatzas, G. P. (2016). Delineation of wellhead protection areas in crete, greece using an analytic element model. In Kanakoudis, V., Karatzas, G., and Keramaris, E., editors, *INTERNATIONAL CONFERENCE ON EFFICIENT & SUSTAINABLE WATER SYSTEMS MANAGEMENT TOWARD WORTH LIVING DEVELOPMENT (2ND EWAS 2016)*, volume 162 of *Procedia Engineering*, pages 324–331. Univ Thessaly, Civil Engn Dept; Tech Univ Crete, Sch Environm Engn. 2nd International Conference on Efficient and Sustainable Water Systems Management toward Worth Living Development (EWaS), Platania, GREECE, 2016.
- [Stein and Zaadnoordijk, 1999] Stein, A. and Zaadnoordijk, W. (1999). Improved parameter estimation for hydrological models using weighted object functions. *Hydrological Processes*, 13(9):1315–1328. ISI Times Cited 1 (25Apr2006).
- [Steward, 1998] Steward, D. (1998). Stream surfaces in two-dimensional and three-dimensional divergence-free flows. *Water Resources Research*, 34(5):1345–1350.
- [Steward, 1999] Steward, D. (1999). Three-dimensional analysis of the capture of contaminated leachate by fully penetrating, partially penetrating, and horizontal wells. *Water Resources Research*, 35:461–468.
- [Steward, 2001] Steward, D. (2001). A vector potential for a partially penetrating well and flux in an approximate method of images. In *Proceedings of The Royal Society of London Series A- Mathematical Physical And Engineering Sciences*, volume 457, pages 2093–2111.
- [Steward, 2002] Steward, D. (2002). A vector potential and exact flux through surfaces using lagrange and stokes stream functions. In *Proceedings of The Royal Society of London Series A- Mathematical Physical And Engineering Sciences*, volume 458, pages 489–509.
- [Steward, 2003] Steward, D. (2003). Mainstreaming the analytic element method through GIS technolgy. In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Superiore de Mines, Saint-Etienne, France, 20-21 November*.
- [Steward and Chacon, 2006] Steward, D. and Chacon, S. (2006). Modeling groundwater flow in a sloping aquifer using an AEM stepping model. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17,2006, Manhattan, Kansas*, pages 139–140. Kansas State University.
- [Steward and Janković, 2001] Steward, D. and Janković, I. (2001). Deformation of stream surfaces in steady axi-symmetric flow. *Water Resources Research*, 37(2):307–315.

- [Steward and Jin, 2001] Steward, D. and Jin, W. (2001). Gaining and losing sections of horizontal wells. *Water Resources Research*, 37:2677–2685.
- [Steward and Jin, 2003] Steward, D. and Jin, W. (2003). Drawdown and capture zone topology for non-vertical wells. *Water Resources Research*, 39(8):1219. doi 10.1029/2002WR001709.
- [Steward and Jin, 2006] Steward, D. and Jin, W. (2006). Uniform head in horizontal and vertical wells. *Ground Water*, 44(1):8690.
- [Steward, 1994] Steward, D. R. (1994). Implementation of curvilinear analytic elements in a computer model. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 191–194, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Steward, 1996] Steward, D. R. (1996). *Vector potential functions and stream surfaces in three-dimensional groundwater flow*. PhD thesis, Univ. of Minnesota-Twin Cities (Chair: Otto D.L. Strack).
- [Steward, 2015] Steward, D. R. (2015). Analysis of discontinuities across thin inhomogeneities, groundwater/surface water interactions in river networks, and circulation about slender bodies using slit elements in the analytic element method. *WATER RESOURCES RESEARCH*, 51(11):8684–8703.
- [Steward, 2016] Steward, D. R. (2016). Analysis of vadose zone inhomogeneity toward distinguishing recharge rates: Solving the nonlinear interface problem with newton method. *WATER RESOURCES RESEARCH*, 52(11):8756–8774.
- [Steward, 2020a] Steward, D. R. (2020a). *Analytic Element Method: Complex Interactions of Boundaries and Interfaces*. Oxford University Press.
- [Steward, 2020b] Steward, D. R. (2020b). Waves in collections of circular shoals and bathymetric depressions. *Journal of Waterway, Port, Coastal, and Ocean Engineering*, 146(4):04020018.
- [Steward and Ahring, 2009] Steward, D. R. and Ahring, T. S. (2009). An analytic solution for groundwater uptake by phreatophytes spanning spatial scales from plant to field to regional. *J Eng Math*, 64(2):85–103. doi 10.1007/s10665-008-9255-x.
- [Steward and Allen, 2013] Steward, D. R. and Allen, A. J. (2013). The analytic element method for rectangular gridded domains, benchmark comparisons and application to the high plains aquifer. *ADVANCES IN WATER RESOURCES*, 60:89–99.
- [Steward and Bernard, 2006] Steward, D. R. and Bernard, E. A. (2006). The synergistic powers of AEM and GIS geodatabase models in water resources studies. *Ground Water*, 44(1):56–61.
- [Steward et al., 2008] Steward, D. R., Grand, P. L., Jankovic, I., and Strack, O. D. (2008). Analytic formulation of cauchy integrals for boundaries with curvilinear geometry. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 464(2089):223–248.
- [Steward et al., 2009] Steward, D. R., Peterson, J. M., Yang, X., Bulatewicz, T., Herrera-Rodriguez, M., Mao, D., and Hendricks, N. (2009). Groundwater economics: an object-oriented foundation for integrated studies of irri-

- gate agricultural systems. *Water Resources Research*, 45(W05430):15pp. doi 10.1029/2008WR007149.
- [Stoepker and de Lange, 2003] Stoepker, K. and de Lange, W. (2003). A regional groundwater model in the danish-german border area. In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Stoepker, 1994] Stoepker, K. E. (1994). MLDIGIT, a geometrically-oriented pre-processor for the AEM. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 119–122, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Strack, 1982a] Strack, O. (1982a). Analytic modeling of flow in a permeable fissured medium. Report PLN-4005 UC-70, Battelle Pacific Northwest Laboratory, Richland, WA.
- [Strack, 1982b] Strack, O. (1982b). Het analytische element in de groundwatermechanica. *Civiele & bouwkundige techniek, Techniek en Wetenschap*, 1(2):38–43.
- [Strack, 1984] Strack, O. (1984). Three-dimensional streamlines in Dupuit-Forchheimer models. *Water Resour. Res.*, 20(7):812–822.
- [Strack, 1985] Strack, O. (1985). An application of determining streamlines in a Dupuit-Forchheimer model. *Hydrol. Science and Technol.*, 1(1):17–23.
- [Strack, 1987a] Strack, O. (1987a). Application and demonstration of analytic element models. In *Proceedings of the NWWA Conference on Solving Ground Water Problems with Models*, page 14641474, Dublin, Ohio. National Water Well Association.
- [Strack, 1987b] Strack, O. (1987b). The analytic element method for regional groundwater modeling. In *PROCEEDINGS SOLVING GROUND WATER PROBLEMS WITH MODELS*, pages 929–941, DENVER, CO. NGWA.
- [Strack, 1989a] Strack, O. (1989a). The analytic element method; an overview. *Hydrol. Science and Technol.*, 4(1-4):377–379.
- [Strack, 1989b] Strack, O. (1989b). *Groundwater Mechanics*. Prentice Hall, Englewood Cliffs, NJ.
- [Strack, 1989c] Strack, O. (1989c). Multi-layer aquifer modeling using the analytic element method. In *SOLVING GROUND WATER PROBLEMS WITH MODELS (PROCEEDINGS OF THE FOURTH INTERNATIONAL CONFERENCE ON THE USE OF MODELS TO ANALYZE AND FIND WORKING SOLUTIONS TO GROUND WATER PROBLEMS)*, pages 1–12, INDIANAPOLIS, IN. NWWA.
- [Strack, 1992] Strack, O. (1992). A mathematical model for dispersion with a moving front in groundwater. *Water Resour. Res.*, 28(11):2973–2980.
- [Strack, 1995] Strack, O. (1995). A Dupuit-Forchheimer model for three-dimensional flow with variable density. *Water Resour. Res.*, 31(12):3007–3017.
- [Strack, 1997] Strack, O. (1997). Principles of the analytic element method. In de Lange, W., editor, *Conference companion Part1. Analytic Element Modeling of Groundwater Flow*, pages 25–35, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.



- [Strack, 1999] Strack, O. (1999). Principles of the analytic element method. *Journal of Hydrology*, 226:128–138.
- [Strack, 2000a] Strack, O. (2000a). Distribution and jumps in leakage and leakage gradient. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Strack, 2000b] Strack, O. (2000b). Future development in the analytic element method: ten challenges. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Strack, 2000c] Strack, O. (2000c). Key design elements in an object oriented approach to programming analytic elements; suggestions based on programming experience with MLAEM. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Strack, 2000d] Strack, O. (2000d). Line elements for leakage. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Strack, 2003a] Strack, O. (2003a). Autobiographical sketch of otto d.l. strack. *Ground Water*, 41(4):550–554.
- [Strack, 2003b] Strack, O. (2003b). Theory and applications of the analytic element method. *Reviews of Geophysics*, 41(2):1005.
- [Strack, 2006a] Strack, O. (2006a). Discharge potential for a pond with elliptical boundary. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 165–171. Kansas State University.
- [Strack, 2009a] Strack, O. (2009a). The generating analytic element approach with application to the modified Helmholtz equation. *Journal of Engineering Mathematics*, 64(2):163–191.
- [Strack, 2009b] Strack, O. (2009b). Using wirtinger calculus and holomorphic matching to obtain the discharge potential for an elliptical pond. *Water Resour. Res.*, 45(W01409). doi:10.1029/2008WR007128.
- [Strack et al., 1994] Strack, O., Anderson, E., Bakker, M., Olsen, W., Panda, J., Pennings, R., and Steward, D. (1994). CZAEM User’s Guide: modeling capture zones of ground-water wells using analytic elements. Report EPA/600/R-94/174, U.S. Environmental Protection Agency.
- [Strack and Bakker, 1995] Strack, O. and Bakker, M. (1995). Validation of a Dupuit-Forchheimer formulation for flow with variable density. *Water Resour. Res.*, 31(12):3019–3024.
- [Strack and Barnes, 2003] Strack, O. and Barnes, R. (2003). Combining three-dimensional and two-dimensional analytic elements in general settings. In Grailot,

- D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Strack and Barnes, 2006] Strack, O. and Barnes, R. (2006). An application of the analytic element method to linear elasticity. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 12–23. Kansas State University.
- [Strack et al., 2003] Strack, O., Barnes, R., and Verruijt, A. (2003). Vertically integrated flows and the Dupuit-Forchheimer approximation. In Graillet, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Strack et al., 1989] Strack, O., Barr, K., Robertson, S., and Seaberg, J. (1989). Single- and multi-layer applications of analytic element modeling. In *SOLVING GROUND WATER PROBLEMS WITH MODELS (PROCEEDINGS OF THE FOURTH INTERNATIONAL CONFERENCE ON THE USE OF MODELS TO ANALYZE AND FIND WORKING SOLUTIONS TO GROUND WATER PROBLEMS*, pages 359–369, INDIANAPOLIS, IN. NWWA.
- [Strack and Fairbrother, 1997] Strack, O. and Fairbrother, M. (1997). Numerical solution of the differential equation for moving front dispersion. *Journal of Hydrology*, 194:164–179.
- [Strack et al., 1987] Strack, O., Fitts, C., and Zaadnoordijk, W. (1987). Application and demonstration of analytic element models. In *PROCEEDINGS SOLVING GROUND WATER PROBLEMS WITH MODELS*, DENVER, CO. NGWA.
- [Strack and Haitjema, 1981a] Strack, O. and Haitjema, H. (1981a). Modeling double aquifer flow using a comprehensive potential and distributed singularities: 1. solution for homogenous permeability. *Water Resour. Res.*, 17(5):1535–1549.
- [Strack and Haitjema, 1981b] Strack, O. and Haitjema, H. (1981b). Modeling double aquifer flow using a comprehensive potential and distributed singularities: 2. solution for inhomogeneous permeabilities. *Water Resources Research*, 17(5):1551–1560.
- [Strack et al., 1980] Strack, O., Haitjema, H., and Melnyk, J. (1980). Inter-active modeling of the aquifers near the Tennessee-Tombigbee waterway. In *IFAC, Water and Related Land Resource Systems*, pages 317–, Cleveland, OH.
- [Strack and Janković, 1999] Strack, O. and Janković, I. (1999). A multi-quadric area-sink for analytic element modeling of groundwater flow. *Journal of Hydrology*, 226:188–196.
- [Strack et al., 1999] Strack, O., Janković, I., and Barnes, R. (1999). The superbloc approach for the analytic element method. *Journal of Hydrology*, 226:179–187.
- [Strack and Namazi, 2014] Strack, O. and Namazi, T. (2014). A new formulation for steady multiaquifer flow: an analytic element for piecewise constant infiltration. *Water Resources Research*, 50:7939–7956. doi:10.1002/2014WR015479.
- [Strack, 2017a] Strack, O. D. (2017a). *Analytical Groundwater Mechanics*. Cambridge University Press.

- [Strack, 2017b] Strack, O. D. (2017b). Vertically integrated flow in stratified aquifers. *Journal of Hydrology*, 548:794 – 800.
- [Strack, 2005] Strack, O. D. L. (2005). Comment on “Steady two-dimensional groundwater flow through many elliptical inhomogeneities” by Raghavendra Suribhatla, Mark Bakker, Karl Bandilla, and Igor Jankovic. *Water Resources Research*, 41(11).
- [Strack, 2006b] Strack, O. D. L. (2006b). The development of new analytic elements for transient flow and multiaquifer flow. *Ground Water*, 44(1):91–98.
- [Strack, 2018] Strack, O. D. L. (2018). Limitless analytic elements. *Water Resources Research*, 54(2):1174–1190.
- [Strack et al., 2006] Strack, O. D. L., Barnes, R. J., and Verruijt, A. (2006). Vertically integrated flows, discharge potential, and the Dupuit-Forchheimer approximation. *Ground Water*, 44(1):72–75.
- [Strack and Nevison, 2015] Strack, O. D. L. and Nevison, P. R. (2015). Analytic elements of smooth shapes. *JOURNAL OF HYDROLOGY*, 529(1):231–239.
- [Streitz and Seaberg, 1997] Streitz, A. R. and Seaberg, J. K. (1997). The compilation, analysis, and use of databases for the Twin Cities Metropolitan Groundwater Model USA. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 407–422, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Suribhatla et al., 2004] Suribhatla, R., Bakker, M., Bandilla, K., and Janković, I. (2004). Steady two-dimensional groundwater flow through many elliptical inhomogeneities. *Water Resources Research*, 40(4).
- [Tolika and Paleologos, 2004] Tolika, M. and Paleologos, E. (2004). Groundwater modeling of a complex hydrologic system in South Carolina through the use of analytic elements. *Water, Air, & Soil Pollution*, 4(4-5):215–226.
- [Toller and Strack, 2019] Toller, E. A. L. and Strack, O. D. L. (2019). Interface flow with vertically varying hydraulic conductivity. *Water Resources Research*, 55(11):8514–8525.
- [van der Meij and Minnema, 1999] van der Meij, J. and Minnema, B. (1999). Modelling of the effect of a sea-level rise and land subsidence on the evolution of the groundwater density in the subsoil of the northern part of the Netherlands. *Journal of Hydrology*, 226(3-4):152–166.
- [van der Meij et al., 1997] van der Meij, J., Minnema, B., and Nieuwenhuis, H. (1997). Modeling of the effect of sea-level rise and land subsidence on the evolution of the groundwater density in the subsoil of the northern part of the Netherlands. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 173–186, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [van Gerven and de Lange, 1994] van Gerven, M. W. and de Lange, W. J. (1994). Experiences with the new variable density module of MLAEM in a well-defined test area. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 171–176, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.

- [van Gerven and Kortleve, 1997] van Gerven, M. W. and Kortleve, M. W. (1997). Modeling brackish groundwater flow at the berkheide deep well recharge project. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 165–172, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [van Vliet and de Lange, 2000] van Vliet, K. and de Lange, W. (2000). Some experiences with VARELS in MLAEM encountered in regional modeling of the central lakes in The Netherlands from WINBOS, 1999. In Strack, O. D., editor, *Proceedings 3rd International Conference on the Analytic Element Method in Modeling Groundwater Flow, Brainerd, MN USA*, Minneapolis, MN. Department of Civil Engineering, University of Minnesota-Twin Cities.
- [Vermulst and de Lange, 1999] Vermulst, J. and de Lange, W. (1999). An analytic-based approach for coupling models for unsaturated and saturated groundwater flow at different scales. *Journal of Hydrology*, 226:262–273.
- [Vermulst et al., 1997] Vermulst, J., Hoogeveen, J., and de Lange, W. (1997). Mona, an analytic-based interface for the connection between the dutch nationwide models for unsaturated and saturated groundwater flow. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 221–239, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Verruijt, 1994] Verruijt, A. (1994). A comparison of analytic and finite elements. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 3–13, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Warrick and Knight, 2002] Warrick, A. and Knight, J. (2002). Two-dimensional unsaturated flow through a circular inclusion. *Water Resources Research*, 38(7). 10.1029/2001 WR001041.
- [Warrick and Knight, 2004] Warrick, A. and Knight, J. (2004). Unsaturated flow through a spherical inclusion. *Water Resources Research*, 40. W05101,doi:10.1029/2003WR002890.
- [Wendland et al., 2004] Wendland, E., Batista, J., and Schulz, H. (2004). Coupling one-dimensional recharge solution to analytic element model: an approach for coastal aquifers in brazil. In Miller, C., Farthing, M., Gray, W., and Pinder, G., editors, *Proceedings of the 15th International Conference on Computational Methods in Water Resources (CMWR XV), June 13-17, 2004 Chapel Hill, NC, USA*. Elsevier. ISBN: 0-444-51769-3.
- [Willett et al., 1990] Willett, M., Haitjema, H., and Rupp, J. (1990). Modeling the effect of density flow on waste spreading during and after deep well injection. *Hydrological Science and Technology*, 6(1):4.
- [Wilsnack et al., 2005] Wilsnack, M. M., Kelson, V. P., and Wittman, J. F. (2005). An application of the analytic element method in modeling Florida Everglades hydrology. *Journal of the American Water Resources Association*, 41(1):67–76.
- [Wittman et al., 1996] Wittman, J., Haitjema, H., and Studebaker, L. (1996). Recycling input data during analytic element modeling in Marion County, Indiana. *Water Resources Bulletin*, 33(1):47–54.

- [Wittman, 2000] Wittman, J. F. (2000). *Multi-scale modeling of groundwater to protect drinking water supplies*. PhD thesis, Indiana University (Chair: Hendrick M. Haitjema).
- [Wuolo et al., 1995] Wuolo, R., Dahlstrom, D., and Fairbrother, M. (1995). Wellhead protection area delineation using the analytic element method of groundwater modeling. *Ground Water*, 33:71–83.
- [Wuolo, 1994] Wuolo, R. W. (1994). Application of the “strata version” of the single layer analytic element model. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 107–111, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.
- [Yager and Neville, 2002] Yager, R. and Neville, C. (2002). Software spotlight: GFLOW2000 — an analytical element ground water flow modeling system. *Ground Water*, 40:574–576.
- [Yang, 2003] Yang, X. (2003). Modeling transient groundwater flow using the genetic algorithm and the analytic element method. In Graillot, D., editor, *Proceedings of the 4th International Conference on the Analytic Element Method for the Modeling of Groundwater Flow and the Applications in Environmental Sciences, Ecole Nationale Supérieure de Mines, Saint-Etienne, France, 20-21 November*.
- [Yang and Steward, 2006] Yang, X. and Steward, D. (2006). Creation of an Arc Hydro Groundwater GeoDatabase and its linkage with AEM. In Steward, D., editor, *Proceedings of the 5th International Conference on the Analytic Element Method (ICAEM), May 14-17, 2006, Manhattan, Kansas*, pages 53–64. Kansas State University.
- [Zaadnoordijk, 1998] Zaadnoordijk, W. (1998). Transition from transient to steady state wells. *Hydrological Sciences Journal-journal Des Sciences Hydrologiques*, 43:859–873.
- [Zaadnoordijk, 2001] Zaadnoordijk, W. (2001). Analytical relations between model input statistics and output reliability for verification of a numerical groundwater model. In *Proceed. Symp. S3, 6th IAHS Assembly*, volume 269, pages 263–269, Wallingford UK. IAHS Press.
- [Zaadnoordijk, 2006] Zaadnoordijk, W. (2006). Building pit dewatering: Application of transient analytic elements. *Ground Water*, 44(1):106–110.
- [Zaadnoordijk and Strack, 1993] Zaadnoordijk, W. and Strack, O. (1993). Area-sinks in the analytic element method for transient groundwater flow. *Water Resour. Res.*, 29(12):4121–4129.
- [Zaadnoordijk, 1988] Zaadnoordijk, W. J. (1988). *Analytic elements for transient groundwater flow*. PhD thesis, University of Minnesota-Twin Cities, Chair: Otto D.L. Strack.
- [Zaadnoordijk, 1994] Zaadnoordijk, W. J. (1994). Analytic element program for transient flow. In Wittman, J., editor, *Proceedings of the International Conference, Analytic Element Modeling of Groundwater Flow, Indianapolis, Indiana*, pages 177–180, Bloomington, IN. School of Public and Environmental Affairs, Indiana University.

- [Zaadnoordijk, 1997a] Zaadnoordijk, W. J. (1997a). Convergence of flow around these wells to a specified steady state. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 317–328, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Zaadnoordijk, 1997b] Zaadnoordijk, W. J. (1997b). Modeling a density plume with MVAEM. In de Lange, W., editor, *Conference Companion Part 1. Analytic-Based Modeling of Groundwater Flow*, pages 143–145, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.
- [Zwamborn and Verheijden, 1997] Zwamborn, M. and Verheijden, S. (1997). Transient analytic element modeling: application to an artificial recharge plant. In de Lange, W., editor, *Conference Companion Part 2. Analytic-Based Modeling of Groundwater Flow*, pages 331–340, P.O. Box 6012, 2600 JA Delft, The Netherlands. Netherlands Institute of Applied Geoscience TNO - National Geological Survey. conference held 07-10 April 1997, Nunspeet, The Netherlands.