

March 24, 2015

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EDUCATIONAL AND PROFESSIONAL EXPERIENCE

1971 B.S., M.S., Physics, Hydrogeology, Belarus State, Minsk, USSR (Belarus)
1979 Ph.D., Hydrogeology, Natl. Inst. Hydrogeol. and Eng. Geol., Moscow, USSR
1971-1979 Research Scientist, Water Resources Management Institute, Minsk, USSR
1980-1984 Senior Research Scientist, Water Resources Management Institute, Minsk, USSR
1985-1989 Associate Professor, Water Resources Management Institute, Minsk, USSR
1990-1997 Associate Professor, Geology Department, University of Nebraska-Lincoln
1997 Visiting scholar, Dept. Hydrology and Water Resources, U. Arizona, spring
1997-present Professor, Department of Earth and Atmospheric Sciences, Univ. Nebraska-Lincoln
1997, 1998 Visiting scholar, Inst. of Applied Geology, U. Tuebingen, Germany
1999 Visiting scholar, CSIRO, Adelaide, Australia
2002 Visiting scholar, National Yunlin University, Toiliu, Taiwan
2008 Visiting research fellow, Center for Continental and Coastal Environments,
Adelaide, Australia
2014 Visiting professor, Swiss Federal Institute of Technology (ETH), Switzerland

HONORS AND AWARDS

Fellowship, Swiss Federal Institute of Technology, Switzerland, 2014
Honorary visiting research fellow, Flinders University, Adelaide, Australia, 2008
Fellow, Geological Society of America, 2006
J.B. Coffman Award for Distinguished Teaching and Research in Geology
Faculty excellence annual award, Dept. of Geosciences, UNL, 1993, 1995, 1997, 1998
Courtesy Professor, School of Natural Resources Sciences, UNL, 1998-present
Outstanding Service Award to Associate Editor of Ground Water Journal, 1997
Award of Belarus Academy of Sciences in Environmental Protection, Minsk, USSR, 1985

EDITORIAL BOARD SERVICE

Associate Editor of *Ground Water* journal, 1993-1997, 2004-present
Associate Editor of *Hydrogeology Journal*, 2014-present
Associate Editor of *Journal of Hydrology*, 2000-2008

PROFESSIONAL MEMBERSHIPS

Member, American Geophysical Union
Member, European Geophysical Union
Member, Geological Society of America
Member, National Association of Groundwater Scientists and Engineers
Member, International Association of Hydrogeologists

CURRENT RESEARCH INTERESTS

- Groundwater-surface water interactions in streams and lakes
- Saline lakes in arid and semi-arid environments

- Groundwater recharge
- Methods for characterization of flow and transport parameters in heterogeneous aquifers
- Modeling groundwater flow and transport

INVITED LECTURES, PAPERS, AND KEYNOTE PRESENTATIONS

- 2014 Keynote Speaker, EGU, Vienna, Austria, Session HS 8.2.1
- 2014 Keynote Speaker, Intern. Symposium "Disposal of large volumes of water: challenges and opportunities for arid environments in MAR practices", Sultan Qaboos University, Oman
- 2014 American Geophysical Union, Fall Meeting, San Francisco (co-author, with J. Lenters)
- 2014 Swiss Inst. Technology (ETH), Institute of Env. Engineering
- 2014 Milano Polytechnic U. Dept. Civil and Environmental Engineering
- 2014 Univ. Neuchatel, Switzerland, Center of Hydrogeology and Geothermics
- 2013 American Geophysical Union, San Francisco, Fall Meeting (co-presenter)
- 2012 American Geophysical Union, San Francisco, Fall Meeting,
- 2012 New Mexico Institute of Mining and Technology, Socorro, New Mexico
- 2010 Institute of Geo-ecology, Russian Academy of Sciences, St. Petersburg, Russia
- 2010 Invited lecture, Vilnius University, Faculty of Natural Sci., Hydrogeology Dept., Lithuania
- 2010 Invited lecture, Geological Survey of Lithuania, Vilnius
- 2010 American Geophysical Union, Fall Meeting, San Francisco
- 2010 Institute of Geocology, Russian Academy of Sciences, St. Petersburg
- 2010 Vilnius University, Faculty of Natural Sciences, Lithuania,
- 2010 Geological Survey of Lithuania, Vilnius
- 2008 Centre for Coastal and Catchment Environments, Flinders University, Adelaide, Australia
- 2007 Geological Society of America, Annual Meeting,
- 2006 Western Pacific Geophysical Union Meeting, Beijing, China
- 2002 Keynote Speaker, 13th Natl. Taiwan Conf. on Hydraulics, Natl. Yunlin Univ., R.O.C.
- 2002 Geological Survey, Taipei, R.O.C.
- 2002 Tainan Hydraulic Laboratory, Tainan, R.O.C
- 2002 National Cheng Kung University, Tainan, R.O.C.
- 1999 Commonwealth Science and Industry Research Organization (CSIRO), Adelaide, Australia
- 1999 Geological Society of America, Denver, Annual meeting
- 1997 Institute of Applied Geology, University of Tuebingen, Germany
- 1998 Institute of Applied Geology, University of Tuebingen, Germany
- 1997 Swiss Federal Institute of Technology (ETH), Zurich, Switzerland
- 1997 New Mexico Institute of Mining and Technology, Socorro, New Mexico
- 1997 Geohydrology Department, Sandia National Laboratory, New Mexico
- 1997 Hydrogeology Section, Los Alamos National Laboratory, New Mexico
- 1997 Department of Hydrology and Water Resources, University of Arizona
- 1994 American Geophysical Union, Fall Meeting, San Francisco
- 1993 Water Conservation Society, Minneapolis

RESEARCH FUNDING

- 2014-2015 Managed Aquifer Recharge using Treated Wastewater in Different Geological Settings of MENA countries", Multinational proposal, Co-Pi, with PI-A.K. Al-

- Maktoumi, Sultan Qaboos University, Oman, Co-PI-Marwan M. Alraggad, University of Jordan. UNL share, US AID – DAI (\$81,400).
- 2009-2014 Resilience and adaptive governance in stressed watersheds, Craig R. Allen, PI, Participating faculty with other 17 UNL faculty, NSF - IGERT Program (\$3,100,000)
- 2006-2011 Mechanisms of Temporal and Spatial Variability of Lake Salinity in Dune Environments: Nebraska Sand Hills, Collaborative Research", Lead PI, with Co-PIs J. Swinehart and S. Fritz and collaborators M. Person (Indiana University), T. Halihan (Oklahoma State), C. Simmons (Flinders University, Australia), J. Lane (USGS). NSF (\$320,000, UNL-\$219,000)
- 2007-2008 Using Electrical Resistivity Imaging to Evaluate Permanganate Performance during an In Situ Treatment of a RDX-Contaminated Aquifer, with S. Comfort, Co-PI, SNR, UNL, and T. Halihan, Co-PI, Oklahoma State University, DoD, ESCTP (\$98,777).
- 2005-2008 Field Scale Demonstrations of Innovative Remediation Techniques for Contaminated Soil and Water Co-PI, with S. Comfort, Lead PI. EPA (\$994,000)
- 2003-2007 Sand Hills biocomplexity: Integrating biogeophysical processes across space and time", NSF, Co-PI, with D. Wedin, UNL Lead PI, and G. Henebry, D. Loope, and 11 other CO-PIs. NSF (\$1,800,000)
- 2004-2006 Hydrogeological Controls of Salinity Patterns in the Sand Hills Lakes, Nebraska, Lead PI, with Co-PIs S.Fritz, D. Loope, J. Swinehart, DOI, USGS (\$19,975)
- 2002-2003 Assessment of thermal-infrared imaging as a tool for evaluation of groundwater-lake interactions in the Nebraska Sand Hills", Lead PI, DOI, USGS (\$17,000)
- 2001-2002 Evaluation of conductive properties of the surficial aquifer in the Nebraska Sand Hills, Lead PI, DOI, USGS (\$14,946)
- 2000-2001 Hydraulic conductivity profiles in the Platte River of Nebraska, Co-PI, with V.L. McGuire, USGS, PI, B.R. Zurbuchen, Co-PI, DOI, USGS and Cooperative Hydrology Study, Nebraska), (\$137,505)
- 1999-2003 Hydraulic characterization of the stream-aquifer interface: Prairie Creek Study, Principal Investigator. Central Platte Natural Resources District, Nebraska (\$40,000)
- 1998-2001 Hydraulic characterization of the stream-aquifer interface: theory, field implementation, and practical ramifications - a multi-state proposal, Lead PI, and Co-PI J.J. Butler, Jr., University of Kansas. DOI, USGS (\$105,000)
- 1996-1998 Field Verification of the Dipole Flow Test: A New Approach for the In-Situ Determination of Transport Parameters", Lead PI, with Co-PI J.J. Butler, Jr., University of Kansas. DOI, USGS (\$40,000)
- 1994-1996 A Dipole Method of Field Measurement of Transport Parameters in Contaminated Aquifers, PI, National Water Resources Institute, California (\$58,540)
- 1992-1995 Tracer Experiments for Transport Characteristics at Nebraska MSEA, Lead PI, with Co-PI R.F. Spalding, UNL, Central Platte Natural Resources District, Nebraska (\$116,938)
- 1992-1993 Slug Test Techniques for Hydraulic Conductivity Measurements in Highly Permeable Shallow Sand and Gravel Aquifers, Lead PI, DOI, USGS (\$15,900)
- 1991-1993 Measurement of Injected Herbicide Mobility and Persistence in Ground Water, Co-PI, with R.F. Spalding, Lead PI, and Co-PIs J. Barker, University of Waterloo, Canada, W.-W. Yeh, D. Mackay, UCLA (US Department of Agriculture, CSRS (\$199,500)
- 1991-1992 Characterization of Shallow Unconfined Aquifer by Pumping Tests and Geophysical Surveys, Lead PI, DOI, USGS (\$18,500)
- 1990-1991 Management System Evaluation Area – Nebraska, Preliminary Aquifer Characterization, Co-PI, with R. Diffendal, Lead PI, and Co-PIs M. Spalding, R. Spalding, USDA, CSRS-ARS (\$12,500)

LIST OF SELECTED PUBLICATIONS

Peer-Reviewed Papers (underlined are names of advised students)

- Wang, T., T. E. Franz, and V. A. Zlotnik, 2015, Controls of soil hydraulic characteristics on modeling groundwater recharge under different climatic conditions, *J. Hydrology*, 521, 470-481.
- Wang, T., T. Franz, V.A. Zlotnik, J.You, M.D. Shulski, 2015, Investigating soil controls on soil moisture spatial variability: numerical simulations and field observations, *J. Hydrology*, 524 (2015) 576–586 <http://dx.doi.org/10.1016/j.jhydrol.2015.03.019>
- Zlotnik V.A., 2015, Analytical methods for assessment of land-use change effects on stream runoff, *J. Hydrologic Eng.*, 10.1061/(ASCE)HE.1943-5584.0001084, 06014009.
- Rossman, N., V.A. Zlotnik, C. Rowe, J. Szilagyi, 2014, Vadose zone lag time and potential 21st century climate change effects on spatially distributed groundwater recharge in the semi-arid Nebraska Sand Hills, *J. Hydrology*, v. 519, 656–669, DOI: 10.1016/j.jhydrol.2014.07.057
- Zlotnik, V.A, D.Toundykov, M.B. Cardenas, 2014, An approach for analysis of flow in aquifers with spatially varying top boundary, *Groundwater*, doi: 10.1111/gwat.12205, online
- Wang, T., T. Franz, V.A. Zlotnik, 2014, Assessing controls of soil hydraulic characteristics on modeling groundwater recharge under different climatic conditions, *J. Hydrology*, doi:10.1016/j.jhydrol.2014.12.040, online
- Judge, A. I., D.W. Ostendorf; D.J. DeGroot, V.A. Zlotnik, 2014, A pneumatic permeameter for transient laboratory tests on coarse-grained materials, *J. Hydrologic Eng.*, V. 19, n. 2, 319-327
- Kacimov, A., V.A. Zlotnik, A. Ali Maktoumi, 2014, Analytical model of aquifer response to artificial groundwater recharge from wadi channels, *Proceedings of 10th International Conference of Greece of International Association of Hydrology*, Thessaloniki, Greece, 8-10 October, 2014, Publisher: The Geological Society of Greece, V.1, pp. 259-268
- Lim, J., D. Lee, V.A. Zlotnik, and H. Choi, 2014, Analytical interpretation of slug test in a vertical cutoff wall, *Groundwater*, V. 52, n. 2, 284-290
- Loope D.B., Elder J.F., Zlotnik V.A., Kettler R.M., Pederson D.T., 2013, Jurassic earthquake sequence recorded by multiple generations of sand blows, Zion National Park: Utah: *Geology*, v. 41, 1131–1134, doi:10.1130/G34619.1
- Rossman, N.R., and V.A Zlotnik, 2013, Review: Regional groundwater flow modeling in heavily irrigated basins of selected states in the western United States, *Hydrogeology Journal*, v. 21, no. 6, 1173-1192, DOI 10.1007/s10040-013-1010-3.
- Szilagyi, J., V.A. Zlotnik, J. Sozsa, 2013, Regional scale groundwater discharge and recharge versus depth to groundwater: relationship in the Platte River Valley of Nebraska, USA, *Ground Water*, v. 51, no. 6, 945-951, doi: 10.1111/gwat.12007
- Zlotnik, V.A., J.B. Ong, and J.D. Lenters, J. Schmieder, S.C. Fritz, 2012, Quantification of salt dust pathways from a groundwater-fed lake: implications for solute budgets and dust emission rates, *J. Geophys. Res.*, v. 117, F02014, doi:10.1029/2011JF002107
- Befus, K., M. B. Cardenas, J.B. Ong, and V.A. Zlotnik, 2012, Classification and delineation of groundwater - lake interactions in the Nebraska Sand Hills (USA) using quasi-3D electrical resistivity surveys, *Hydrogeology J.*, 20(8), 1483-1495, doi:10.1007/s10040-012-0891-x, 2012
- Wang, T., and V.A. Zlotnik, 2012, A complementary relationship between actual and potential evapotranspiration and soil effects, 2012, *J. Hydrology*, v.456-457, 146 - 150, HYDROL 18143, DOI: 10.1016/j.jhydrol.2012.03.034, on line 24 March
- Halihan, T., J. Albano, S.D. Comfort, V.A. Zlotnik, 2012, Electrical resistivity imaging of a permanganate injection during in Situ treatment of RDX-contaminated ground water, *Ground Water Monitoring & Remediation*, 32(1), 43-52, doi:10.1111/j.1745-6592.2011.01361.x

- Zlotnik, V.A., M.B. Cardenas, D. Toundykov, 2011, Effects of multiscale anisotropy on basin and hyporheic groundwater flow, *Ground Water*, 49(4), 576-583, doi:10.1111/j.1745-6584.2010.00775.x
- Szilagyi, J., V.A. Zlotnik, J.B. Gates, J. Jozsa, 2011, Mapping mean annual groundwater recharge in the Nebraska Sand Hills, *Hydrogeology Journal*, 2011, 19: 1503–1513, doi:10.1007/s10040-011-0769-3
- Ong, J. B., and V. A. Zlotnik, 2011, Assessing lakebed hydraulic conductivity and seepage flux by potentiomanometer, *Ground Water*, 2011, 49(2), 270-274, doi: 10.1111/j.1745-6584.2010.00717.x
- Zlotnik, V. A., N. I. Robinson, and C. T. Simmons, 2010, Salinity dynamics of discharge lakes in dune environments: conceptual model, *Water Resour. Res.*, vol. 46, doi:10.1029/2009WR008999.
- Albano, J., Comfort, S. D., Zlotnik, V., Halihan, T., Burbach, M., Chokeyaroenrat, C., Onanong, S. and Clayton, W., 2010, In Situ Chemical Oxidation of RDX-Contaminated Groundwater with Permanganate at the Nebraska Ordnance Plant. *Ground Water Monitoring & Remediation*, 30: 96–106. doi: 10.1111/j.1745-6592.2010.01295.x
- Ong, J., J. Lane, V. Zlotnik, T. Halihan, and E. White, 2010, Combined use of frequency-domain electromagnetic and electrical resistivity surveys to delineate near-lake groundwater flow in the semi-arid Nebraska Sand Hills, USA, *Hydrogeology Journal*, 18, no 6, 1539–1545, DOI 10.1007/s10040-010-0617-x
- Zlotnik, V.A., D. Goss, G. Duffield, 2010, General shape factor for a partially penetrating well, *Ground Water*, v. 48, no. 1, 111-116
- Christensen, S., V.A. Zlotnik, D.M. Tartakovsky, 2010, Numerical analysis of implications of designing a pumping test in a leaky aquifer connected to a stream using analytical solutions, *J. Hydrology*, v. 381, 341–351.
- Zlotnik, V.A., D. Goss, G. Duffield, 2010, General shape factor for a partially penetrating well, *Ground Water*, v. 48, no. 1, 111-116
- Wang, T., V.A. Zlotnik, J. Šimunek, M. Schaap, 2009, Using process-based models and pedotransfer functions for soil hydraulic characteristics to estimate groundwater recharge in semi-arid regions. *Water Resour. Res.*, Vol. 45, W04412, doi:10.1029/2008WR006903
- Wang, T., D. Wedin, V.A. Zlotnik, 2009, Field evidence of a negative correlation between saturated hydraulic conductivity and soil carbon in a sandy Soil, *Water Resour. Res.*, Vol. 45, W07503, doi:10.1029/2008WR006865
- Ostendorf, D.W., V.A. Zlotnik, and D.J. DeGroot, 2009, A linear theory for annular slug tests, *J. Hydrol.*, 368 (2009) 205–213
- Zlotnik, V.A., and D.M. Tartakovsky, 2009, Closure to “Stream depletion by groundwater pumping in leaky aquifers”, by Vitaly A. Zlotnik and Daniel M. Tartakovsky, *J. Hydrol. Eng.*, February 2008, Vol. 13, No. 2, pp 43-50. *J. Hydrol. Eng.*, Vol. 14, n. 8, 889-891
- Christensen, S., V.A. Zlotnik, D.M. Tartakovsky, 2009, Optimal design of pumping test to predict stream flow depletion caused by pumping from a leaky aquifer, *J. Hydrology*, v. 375, 554-565, doi:10.1016/j.jhydrol.2009.07.006, 2009
- Zlotnik, V.A., F. Olaguera, J.B. Ong, 2009, An approach to assessment of flow regimes of groundwater-dominated lakes in arid environments, *J. Hydrology*, v. 371, 22-30, doi: 10.1016/j.jhydrol.2009.03.012
- Zlotnik, V.A. and D.M. Tartakovsky, 2008, Stream depletion by groundwater pumping from leaky aquifers, *J. Hydrol. Eng.*, v. 13, n. 2, pp 43-50. DOI: 10.1061/(ASCE)1084-0699(2008).
- Yeh, H.D., Y.C. Chang, V.A. Zlotnik, 2008, Stream depletion rate and volume of flow in wedge-shape aquifers, *J. Hydrol.*, v. 349, 501-511, doi:10.1016/j.jhydrol.2007.11.025
- Butler, J.J., Jr., and X. Zhan, V.A. Zlotnik, 2008, Discussion of paper "Pumping-induced drawdown and stream depletion in a leaky aquifer system", by Butler, J.J. Jr., X. Zhan, and V.A. Zlotnik, 2007, *Ground Water*, v. 45, no 2, 178–186, Authors' reply by James J. Butler Jr., X. Zhan, and V.A.

- Zlotnik, July-August issue, *Ground Water*, v. 46, no. 4: 530-531
- Wang, T., V.A. Zlotnik, D. Wedin, K.D. Wally, 2007, Spatial trends in saturated hydraulic conductivity of vegetated dunes in the Nebraska Sand Hills: Effects of depth and topography, *J. Hydrol.*, v. 349, 88-97, doi: 10.1016/j.jhydrol.2007.10.027.
- Kollet, S.J., and V.A. Zlotnik, 2007, Evaluation of the streambed leakage concept in analytical models using data from three pumping tests, *Hydrogeology J.*, v. 15, 1051-1062, DOI 10.1007/s10040-006-0156-7, 1-12
- Bennett, D. M. , S.C.Fritz, J.C. Holz, A.A. Holz , and V.A. Zlotnik, 2007, Evaluating climatic and non-climatic influences on ion chemistry in natural and man-made lakes of Nebraska, USA, *Hydrobiologia*, Volume 591, Number 1 / October, 103-115
- Zlotnik, V.A., M. Burbach, J. Swinehart, D. Bennett, S. Fritz, D. Loope, 2007, A case study of direct push methods for aquifer characterization in dune-lake environments, *Environmental and Engineering Geoscience*, v. XIII, no 3, 205-216
- Zlotnik, V.A., D.E. Eisenhauer, D.J. Schlautman, B.R. Zurbuchen, D. Van Peurse, 2007, Entrapped Air Effects on Dipole Flow in Sand Tank Experiments: Hydraulic Conductivity and Head Distribution, *J. Hydrology*, v. 339, 193-205
- Zlotnik, V.A., and V.N. Emikh, 2007, Pelageya Yakovlevna Polubarinova-Kochina (1899-1999): A Soviet era mathematician. *Ground Water*, 45(3), 383-387
- Zlotnik, V.A., T. Wang, J. Nieber, J. Šimunek, 2007, Verification of Numerical Solutions of the Richards Equation Using a Traveling Wave Solution, *Advances in Water Resour.*, v. 30, 1973-1980.
- Goss, D., and V.A. Zlotnik, 2007, Applicability of Air Permeameter for Investigation of Surficial Dune Structures in Nebraska Sand Hills, USA, *AAPG Bulletin*, v. 91, no 5, 1-8
- Butler, J.J. Jr., X. Zhan, and V.A. Zlotnik, 2007, Pumping-induced drawdown and stream depletion in a leaky aquifer system, *Ground Water*, v. 45, no 2, 178–186
- Butler, J.J., Jr., V.A. Zlotnik, and M.-S.Tsou, 2006, Discussion of papers, "Drawdown and Stream Depletion Produced by Pumping in the Vicinity of a Partially Penetrating Stream" by James J. Butler Jr., Vitaly A. Zlotnik, and Ming-Shu Tsou, September-October 2001 issue, v. 39, no. 5: *Ground Water*, 651–659, v. 44, no. 2, 142-143
- Kollet, S.J., and V.A. Zlotnik, 2005, Reply to comment by H. Lough, Department of Civil Engineering, University of Canterbury, Christchurch, New Zealand, on the paper "Stream depletion predictions using pumping test data from a heterogeneous stream-aquifer system (a case study from the Great Plains, USA)" by S.J. Kollet and V.A. Zlotnik, 281: 96-114, *J. of Hydrology*, 313, 149-152.
- Tcherepanov, E.N., V.A. Zlotnik, and G. Henebry, 2005, Using Landsat thermal imagery and GIS for identification of ground water discharge into shallow ground water - dominated Lakes, *Int. J. Remote Sensing*, v. 26, No. 17, 10 September 2005, 3649–3661, doi: 10.1080/01431160500177315
- Zlotnik V. A., 2005, Reply to comment by Sushil K. Singh on "A concept of maximum stream depletion rate for leaky aquifers in alluvial valleys", *Water Resour. Res.*, 41, W08602, doi:10.1029/2004WR003836
- Zlotnik V. A., H. Zhan (2005), Aquitard effect on drawdown in water table aquifers, *Water Resour. Res.*, 41, W06022, doi:10.1029/2004WR003716.
- Kollet, S.J., and V.A. Zlotnik, 2005, Influence of aquifer heterogeneity and return flow on pumping test data interpretation, *J. Hydrology*, 300, 267–285
- Zlotnik, V.A., 2004, A concept of maximum stream depletion rate for leaky aquifers in alluvial valleys, *Water Resour. Res.*, v. 40(6), W06507, doi: 10.1029/2003 WR002932.
- Cardenas, M.B.R., J. Wilson, and V.A. Zlotnik, 2004, Impact of heterogeneity, bed forms, and stream curvature on subchannel hyporheic exchange, *Water Resources Research*, v. 40(8), W08307, doi 10.1029/2003/2004WR003008
- Zlotnik, V.A., and B.R. Zurbuchen, 2003, Estimation of hydraulic conductivity from the borehole flowmeter tests considering non-linear effects in highly permeable aquifers, *J. Hydrology*, v. 281/1-2 pp 115-128

- Kollet, S.J., and V.A. Zlotnik, 2003, Stream depletion predictions using data of pumping tests in heterogeneous stream-aquifer system in the Great Plains, USA, *J. Hydrology*, v. 281/1-2, 96-114.
- Cardenas, M.B.R., and V.A. Zlotnik, 2003, Constant-head injection tests: a simple method for streambed permeability estimation, *Ground Water*, 41(6), 867-871.
- Cardenas, M.B.R., and V.A. Zlotnik, 2003, Three-dimensional model of modern channel bed deposits, *Water Resour. Res.*, 39(6), doi: 10.1029/2002WR001383.
- Zlotnik, V.A. and B.R. Zurbuchen, 2003, Field study of hydraulic conductivity in a heterogeneous aquifer: Comparison of single-borehole measurements using different instruments. *Water Resour. Res.*, 39(4), doi: 10.1029/2002WR001415
- Halihan, T., and V.A. Zlotnik, 2002, Asymmetric dipole-flow test in a fractured carbonate aquifer, *Ground Water.*, 40(5), 491-499
- Zhan, H. and V.A. Zlotnik, 2002, Ground water flow to horizontal or slanted wells in water table aquifers, *Water Resour. Res.*, 38(6), doi: 10.1029/2001WR000401.
- Kollet, S.J., V.A. Zlotnik, and G. Ledder, 2002, Discussion of Papers: "A stream depletion field experiment" by Bruce Hunt, Julian Weir, and Bente Clausen, March-April 2001 issue, v. 39, no. 2: 283-289, *Ground Water*, 40(4), 448-449.
- Zurbuchen, B.R., V.A. Zlotnik, J.J. Butler, Jr., 2002, Dynamic interpretation of slug tests in highly permeable aquifers, *Water Resour. Res.*, 38(3), DOI 10.1029/20001WR00354, 17p.
- Rus, D.L., V.L. McGuire, B.R. Zurbuchen, and V.A. Zlotnik, 2001, Vertical Profiles of Streambed Hydraulic Conductivity Determined Using Slug Tests in Central and Western Nebraska, U.S. Geological Survey, Water-Resources Investigations Report 01-4212, 32 p.
- Zlotnik, V.A., B.R. Zurbuchen, and T. Ptak, 2001, The steady-state dipole-flow test for characterization of hydraulic conductivity statistics in a highly permeable aquifer: Horkheimer Insel Site, Germany, *Ground Water*, 39(4), 504-516.
- Butler, J.J., Jr., V.A. Zlotnik, M.-S. Tsou, 2001, Drawdown and stream depletion produced by pumping in the vicinity of a partially penetrating stream, *Ground Water*, 39(5), 651-659.
- Zlotnik, V.A., Zurbuchen, B.R., Ptak, T., Teutsch, G., 2000, Support volume and scale effect in hydraulic conductivity: experimental aspects, in D. Zhang and C.L. Winter, eds., Theory, Modeling, and Field Investigation in Hydrogeology: A Special Volume in Honor of Shlomo P. Neuman's 60th Birthday: Boulder, Colorado, Geological Society of America Special Paper 348, 215-231
- Tartakovsky, D.M, J.D. Moulton, and V.A. Zlotnik, 2000, Kinematic structure of mini-permeameter flow, *Water Resour. Res.*, v. 36 (9), 2433-2442.
- Zlotnik, V.A., and B.R. Zurbuchen, 2000, Discussion of Papers: "Dipole probe: Design and field applications of a single-borehole device for measurements of vertical variations of hydraulic conductivity" by Vitaly A. Zlotnik and Brian R. Zurbuchen, November-December 1998 issue, v.36, no. 6: 884-893", *Ground Water*, 38(2), 163-165.
- Van Peurse, D., V.A. Zlotnik, G. Ledder, 1999, Groundwater flow near vertical recirculatory wells: effect of skin on flow geometry and travel times with implications for aquifer remediation, *J. of Hydrology*, v. 222, 109-122.
- Zlotnik, V.A., and Huang, H., 1999, Effect of partial penetration and streambed sediments on aquifer response to stream stage fluctuations, *Ground Water*, 37(4), 599-605.
- Zlotnik, V.A., 1998, Comment on "Beach water table fluctuations due to wave run-up: capillarity effects" by L.Li et al., *Water Resources Research*, 34(11), 3201-3203.
- Zlotnik, V.A., and Zurbuchen, B.R., 1998, Dipole probe: design and field applications of a single-borehole device for measurements of vertical variations of hydraulic conductivity, *Ground Water*, 36(6), 884-893.
- Zlotnik, V.A., Chen, X.-H., and Sun, B., 1998, Semi-analytical evaluation of three-dimensional velocity near a partially penetrating well in an unconfined aquifer, *Ground Water*, 36(3), 514-519
- Van Peurse, D., Ledder, G., and Zlotnik, V., 1998, The kinematic flow structure for the Gvirtzman-Gorelick in-situ VOC remediation system, *Transport in Porous Media*, v. 30, 363-376.

- Zlotnik, V.A., and McGuire, V.L., 1998, Multi-level slug tests in highly permeable formations: 1. Modification of the Springer-Gelhar (SG) model, *J. of Hydrology*, v. 204, 271-282.
- Zlotnik, V.A., and McGuire, V.L., 1998, Multi-level slug tests in highly permeable formations: 2. Hydraulic conductivity identification, method verification, and field applications, *J. of Hydrology*, v. 204, 283-296.
- Zlotnik, V.A., 1998, Book review: Aquifer Hydraulics: A Comprehensive Guide to Hydrogeological Data Analysis by Vedat Batu, *Ground Water*, 36(4), p. 551.
- Zlotnik, V.A., 1997, Effect of anisotropy on the capture zone of a partially penetrating well in a confined aquifer, *Ground Water*, 35(5), 842-847.
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- Zlotnik, V., and B. Zurbuchen, 1995, Experimental study of groundwater hydraulics for recirculation wells, *EOS, Transactions, American Geophysical Union*, 1995 Fall meeting, v. 76, no. 45, Supplement, p. F192.
- McGuire, V.L., and V.A. Zlotnik, 1995, Characterizing vertical distribution of horizontal hydraulic conductivity in an unconfined sand and gravel aquifer using double packer slug tests, The Program of the "*In-Situ Field Tests for Site Characterization and Remediation*", AGWSE, presented at NGWA's 1995 National Convention and Exposition, October 28-30, 1995, Indianapolis, Indiana, pp.99-100,
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- Ramold, R.G., and V. Zlotnik, 1995, Estimating vertical groundwater flow rates from transient temperature-depth profiles in a near-surface aquifer, *29 Annual Meetings, North-Central and South-Central Sections of Geological Society of America, Abstracts with Programs*, v. 27, no. 3, p.A-81.
- Tandon, V., Zlotnik, V.A., and Spalding, R.F., 1995, The effect of high-capacity pumping on vertical mixing of contaminants in a heterogeneous, and and gravel aquifer, *GSA Abstracts with Programs*, v.27, no. 6, p. A-106.
- Zlotnik, V., and McGuire, V., 1994, Theory and applications of multilevel slug tests in sand and gravel aquifer (MSEA site, Shelton, Nebraska), *EOS, Transactions, American Geophysical Union*, 1994 Fall meeting, v. 75, no. 44, Supplement, pp. 275-276.
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- Tandon, V., Zlotnik, V., Spalding, R., Zheng, C., 1994, Vertical and horizontal agrichemical transport in shallow groundwater: field tracer experiments and numerical modeling, *GSA Abstracts with Programs*, v. 26, no. 7, p. A-361.
- Zlotnik, V., and McGuire, V., 1994, Characterizing distribution of horizontal hydraulic conductivity using multi-level slug tests, *Nebraska Academy of Sciences, April 22-23, 1994, Lincoln, Proceedings*, The Nebraska Academy of Sciences, p.49.
- Zlotnik, V., and Ferlin, M., 1994, Vibracoring technique for well installation and slug testing, Conference Program "*Eighth National Outdoor Action Conference and Exposition, Aquifer Remediation, Ground Water Monitoring, Geophysical Methods*", May 23-25, 1994, National Ground Water Association, p.19
- Zlotnik, V. A., and Narasimhan, T.N., 1993, Estimation of unconfined aquifer parameters by pumping tests. *Conference Program. Second USA/CIS Joint Conference on Environmental Hydrology and Hydrogeology*, Washington, D. C., May 16-21, 1993, p. 21
- Zlotnik, V.A., Spalding, R.F., Exner, M.E., Burbach, M.E., 1993, *Sampling of non-point source contamination in high capacity wells, First International Conference on Diffuse (Non-point) Pollution. Sources, Prevention, Impact, Abatement*, Chicago, Illinois, USA, September 19-24. p.25
- Tandon, V., Zlotnik, V., Zheng, C., 1993, Applicability of method of characteristics for simulation of

- two-well tracer test, in *Proceedings of GSA Meeting*, Boston, October 20-24, p.A-207.
- Ledder, G. and Zlotnik, V., 1993, Analytic modeling of three-dimensional flow in unconfined aquifers with recharge, *Society of Industrial and Applied Mathematics, Conference on Mathematical and Computational Issues in the Geosciences*, Houston, April 19-21, 1993, Conference Program, p.7
- Loope, D., Zlotnik, V., Swinehart, J.J. 1993, Buried paleovalleys in the Western Sand Hills; do they control lake chemistry? *Proceedings of the Nebraska Academy of Sciences*, 113 Annual Meeting, Omaha, p.62
- Zlotnik, V.A., Spalding, R.F., and M. Burbach, 1993, Sampling of agricultural contamination in high capacity wells. *Agricultural Research to Protect Water Quality, Conference Program and Abstracts, Soil and Water Conservation Society*, Minneapolis, February 21-24, 1993, p.17
- Zlotnik, V., Tandon, V., Ferlin, M. 1992, Interpretation of variable-production pumping tests in unconfined aquifers, *37-th Annual Ground Water Midwest Conference, Program with Abstracts*, October 14-16, 1992, Sioux Falls, South Dakota, p.52
- Zlotnik, V., 1991, Interpretation of pumping tests with arbitrary variable production rate. *EOS Transactions, American Geophysical Union*, Abstracts of 1991 AGU Fall Meeting, December 9-13, San-Francisco, p.215.
- Zlotnik, V., 1990, Analytical simulation of groundwater flow velocity in unconfined aquifer induced by areal sources of contamination, *EOS Transactions, American Geophysical Union*, AGU Fall Meeting, San Francisco, Abstracts, 71(43), 1330
- Zlotnik, V., 1990, Simulation of groundwater movement in a shallow unconfined aquifer with agricultural contamination. *Midwest Groundwater Conference, Abstracts*, p. 28.

TEACHING

University Courses Taught

Development and teaching of undergraduate and graduate level courses

- "Water and Earth Connections" (GEOL 220), 3 cr.
- "Water in Geosciences" (GEOL 472/872), 3 cr. hours
- "Contaminant Hydrogeology" (GEOL 986), 3 cr. hours
- "Introduction to Groundwater Modeling" (GEOL 988), 3 cr. hours
- "Field Techniques in Hydrogeology" (GEOL 870), 3 cr. hours
- "Modern Problems in Hydrogeology" (GEOL 898), 2 cr. hours
- UNL graduate specialization "Hydrogeology", UNL, 1998-present
Instrumented field-training sites for hydrogeology program are maintained in Nebraska

STUDENT SUPERVISION AND ADVISING

Ph.D. Thesis in Preparation

Rossmann, Nathan, Groundwater modeling as a tool of studying resilience of stressed watersheds in the Sand Hills, 2011

Adane, Zablon, Effects of vegetation on aquifer recharge, 2012

M.S. Theses in Preparation

Gibson, Justin, Effects of land use on groundwater recharge, 2013

Moak, William, Application of numerical methods for simulation of numerous lakes-aquifer interactions, 2013

Paitz, Philip, Correlation between climate and lake variability in the Nebraska Sand Hills, 2014

Ph.D. Dissertations Supervised, Awards, and Post-Graduate Information

Ong, John B., Ph.D., 2010, Investigation of spatial and temporal processes of lake-aquifer interactions in the Nebraska Sand Hills (EPA-USGS, Post-doc)

Wang, Tiejun, 2008, Effects of climate change on recharge in the Sand Hills, Nebraska and ramifications for dune stability (Post-doctoral fellow, UNL, thereafter Natl. Inst. for Water and Atmospheric Research, Christchurch, New Zealand, Univ. of Washington)

Kollet, Stefan, 2003, Stream-aquifer interactions under pumping conditions in an unconfined aquifer considering three-dimensional flow, aquifer heterogeneity, and anisotropy. *Outstanding Student Paper Award of American Geophysical Union, 2001 Fall AGU Meeting* (Lawrence Livermore National Lab., USA; thereafter group leader, Bonn University, Institute of Meteorology, Sci. Director of Centre for High-Performance Sci. Computing in Terrestrial Systems)

Zurbuchen, Brian, 2000, Hydraulic single-borehole techniques for characterizing hydraulic conductivity in highly permeable aquifers: slug test, borehole flowmeter test, and dipole-flow test. *Student Research Award, 1998 Geological Society of America* (US EPA Region VII, Superfund Program Manager)

Tandon, Vikas, 2000, Contaminant transport in high-capacity pumping setting with a vertical groundwater flow component: Field tracer experiments and numerical modeling. *1993-1996 Geological Society of America, Student Research Award* (Senior Hydrogeologist, Shaw Environmental, USA)

Completed Masters Theses Supervised, Awards, and Post-Graduate Information

- Traylor, Jonathan, 2012, Analytical modeling of irrigation and land use changes on streamflow in semi-arid conditions: Frenchman Creek, Nebraska
- Turco, Michael, M.S., 2009, Numerical simulation of groundwater flow and areas contributing recharge to public supply wells Near York, Nebraska (US Geological Survey, Sub-district Chief, Houston and San-Antonio, TX)
- Albano, Jeff M.S., 2009, In-situ chemical oxidation of RDX-contaminated groundwater with permanganate at the Nebraska Ordnance Plan (Environmental industry, CH2MHill).
- Olaguera, Francia, 2007, Investigating factors affecting flow-through regimes of the Sandhills lakes (Environmental industry, URS).
- Goss, David, 2004, Subsurface permeametry in the Nebraska Sand Hills (Professor, Nebraska Wesleyan University)
- Tcherepanov, Evguenii, 2003, Application of remote sensing and GIS for the studies of groundwater/surface water interactions in the Nebraska Sandhills, *2002 GSA Student Grant* (Ph.D. program, Rice University, currently with Exxon-Mobil Corp.)
- Cardenas, Bayani, 2002, Determination of small-scale spatial variability of hydraulic conductivity of modern streambed deposits through hydraulic testing and grain-size analysis: Prairie Creek, Nebraska, *2001 AAPG Student Grant, 2001 Fall American Geophysical Union Meeting Outstanding Student Paper Award, AGU Horton Award, 2002* (currently Associate Professor, University of Texas-Austin)
- Schlautman, Dale, 2001, Laboratory evaluation of the dipole flow test, co-advised with D. Eisenhauer (E&A, environmental industry, USA)
- Huang, Huihua, 2000, Evaluation of stream-aquifer interaction considering streambed sediment and stream partial penetration effects (Chemnavigator, Environmental industry, USA)
- Zurbuchen, Brian, 1996, The dipole probe development and dipole flow test applications in sand and gravel aquifer (MSEA site, Shelton, Nebraska), *UNL Outstanding Thesis Honorable Mentioning*,
- Sun, Bei, 1996, Computation of analytical 3-D velocity near a partially penetrating well in an unconfined aquifer (Environmental industry, Canada)
- Ramold, Ron, 1996, Estimating vertical groundwater flow rates from transient temperature-depth profiles, *Student Research Award, 1996 Geological Society of America* (United Nations; currently with environmental industry, USA)
- McGuire, Virginia, 1994, Characterizing vertical distribution of horizontal hydraulic conductivity in an unconfined sand and gravel aquifer using double packer slug test (U.S. Geological Survey)
- Jie, Lin, 1994, Groundwater monitoring network design by geostatistics and Monte-Carlo simulations (Ph.D. program, University of Iowa, USA)
- Ferlin, Mark, 1993, Slug test in highly permeable formations (Management and Technical Resources, Inc., environmental industry, USA)

SERVICE

Department of Geosciences and UNL

2011-present	Academic Senate, UNL
2007-present	Fellowship and Awards committee, EAS
1998-present	Chair of Advisory Committee, Hydrogeology Graduate Specialization, UNL
2007-present	Grade appeal committee, EAS
1998-2007	Graduate Committee, member
2000-2007	Director of Graduate Admissions, Department of Geosciences
2002-2004	Member, Water Sciences searches committee
2000-2001	Chair, Water Sciences searches committee
1999	Member, Search committee for hydraulics faculty, Civil Engineering,
1996-2006	Secretary of Faculty Meetings
1996-1998	Member, Geosciences Department Chair Search Committee
1997-1998	Chair, Search Committee, B.C. Schultz Chair in Geology
1994-1996	Member, Executive Graduate Council, UNL
1992-1996	Acting Chair, Geology Department, summer months
1990-present	Instrumentation of hydrogeology laboratory (facilities, array of PC desktop and laptop computers, data-logging equipment, pressure transducers, equipment for measurement of pH, dissolved oxygen, TDS, temperature, water quality and conductance sampling units, well testing equipment (including pumps, packers, generators)
1995-1996	Design and construction of hydrogeology laboratory; grant from UNL Research Facilities Enhancement Program, 1995-1996, \$95,100 from UNL Foundation
1990-1996	Instrumentation of training sites for Hydrogeology specialization (Shelton, Fremont, Sandhills, Nebraska: registered monitoring and pumping wells, multi-level samplers, permanent pumps, tracer test equipment
1990-1996	Academic Secretary, Geology Department
1991-1996	Member, Computer Resources Committee
1990-1996	Member, European Studies Program

National and International

2014-present	Associate Editor, <i>Hydrogeology J.</i> , International Association of Hydrogeologists
2004-present	Associate Editor, <i>Ground Water</i> journal, Natl. Association of Groundwater Scientists and Engineers
2014	Workshop on MAR hydrogeol., Soil, Wat., Ag. Eng., Sultan Qaboos Univ., Oman
2014	Training workshop on MAR hydrogeology, Geology Department, Univ. Jordan
2014	Referee, promotion file of Huade Guan, Flinders University, Australia.
2014	Referee, promotion file of Rosli Saad, Univ.Sains Malaysia, Penang, Malaysia
2013	Referee, promotion file of Vijay Boken, U. Nebraska-Kearney
2013	Referee, promotion file of Remke vanDam, Michigan State U.
2012	Referee, promotion file of Phoolendra Mishra, Cal. State-Fullerton
2011	Convener, Geological Society of America 2011, session "Advancements in aquifer characterization
2011-	Department of Earth Science, Sultan Qaboos University, Oman, External dossier evaluator for Promotion and Tenure Committee
2010	Ben-Gurion University, Israel, Ph.D. Dissertation Committee External member
2010	Flinders University, South Australia, Advisor in a search to appoint a Strategic Professor

- 2006 Referee, promotion file of Osman Abdalla, Sulan Qaboos Univ., Omanin Hydrology or Hydrogeology
- 2000-2008 Associate Editor, *Journal of Hydrology*, European Geophysical Union "; Co-sponsors – Divisions of Hydrogeology and Engineering Geology
- 2001 Convener and Chair of special session at the GSA Annual Meeting
- 1999 Co-sponsor, International Workshop, Math. and Geosciences, UNL, March 10-19, 1999
- 1999 Chair, Session of the Joint Congress Water 99, Brisbane, Australia, 6-8 July 1999
- 1992-2000 Consulting the USGS, Nebraska District Office, on testing of unconfined aquifers
- 1993-present Reviewer for all major journals in hydrogeology, water resources, and hydraulics: *Water Resources Research*, *J. Hydrology*, *Ground Water*, *J. Hydraulic Engineering*, *Hydrogeology J.*, *Advances in Water Resources*, *J. Contaminant Hydrology*, *Inverse Problems In Engineering*, *J. Math. Geol.*, *Proceeding of Royal Society*, etc.
- 1995-present Reviewer of proposals to the NSF (programs of Earth Sciences, Fluid Dynamics and Hydraulics), DOE EPSCORE, and the USGS
- 1998 Convener and Chair of American Geophysical Union Fall meeting special session
- 1998 Chair, Session of the XXVIII Congress of Int. Assoc. Hydrogeology, Las Vegas
- 1993-1997 Associate Editor of journal *Ground Water*
- 1992-1993 Member, Org. Committee of Second USA/USSR Joint Conference on Environmental Hydrology and Hydrogeology, American Institute of Hydrology, 1993
- 1992 Consulting for British Nuclear Fuels Limited, UK, on artificial recharge and low-level radioactive waste disposal in subsurface