

Barbara S. Minsker

3230d NCEL, MC-250
University of Illinois
Urbana, IL 61801

Phone: 217-265-5293

Fax: 217-333-6968

E-mail: minsker@uiuc.edu

<http://colab.ncsa.uiuc.edu/EMSA>

(i) Professional Preparation

Cornell University	Operations Research and Industrial Engineering	B.S. 1986
Cornell University	Civil and Environmental Engineering	Ph.D. 1995
University of Vermont	Groundwater Modeling (post-doc)	1995-1996

(ii) Appointments

2006-present **Professor**, Department of Civil and Environmental Engineering, University of Illinois Urbana-Champaign

2004-present **Director**, Environmental Engineering, Science, and Hydrology Group, National Center for Supercomputing Applications, University of Illinois Urbana-Champaign

2002-2006 **Associate Professor**, Department of Civil and Environmental Engineering, University of Illinois Urbana-Champaign

1996-2002 **Assistant Professor**, Department of Civil and Environmental Engineering, University of Illinois Urbana-Champaign

1988-1990 **Environmental Policy Analyst and Work Assignment Manager**, Wade Miller Associates, Arlington, VA

1986-1988 **Environmental Policy Analyst**, ICF Incorporated, Fairfax, VA

(iii) 10 Publications

Farrell, D. M., B. S. Minsker, D. Tcheng, D. Sears Smith, J. Bohn, D. Beckman, "Data Mining To Improve Management And Reduce Costs Of Environmental Remediation, *J. of Hydroinformatics*, 9(2), 107-121, 2007.

Dawsey, W., B. S. Minsker, and V. L. VanBlaricum, "Bayesian belief networks to integrate monitoring evidence of water distribution system contamination," *Journal of Water Resources Planning and Management*, 132(4), 234-241, 2006.

Michael, W.J., B. S. Minsker, D. Tcheng, and A. J. Valocchi, "Integrating Data Sources to Improve Hydraulic Head Predictions: A Hierarchical Machine Learning Approach," *Water Resources Research*, 41(3), W03020, <http://dx.doi.org/10.1029/2003WR002802>, 2005.

Espinoza, F., B. S. Minsker, and D. E. Goldberg, "Adaptive hybrid genetic algorithm for groundwater remediation design," *J. of Water Resources Planning and Management*, 131(1), 14-24, 2005.

Reed, P., T.R. Ellsworth, and B.S. Minsker, "Spatial Interpolation Methods for Nonstationary Plume Data." *Ground Water*, 42(2), 190-202, 2004.

Minsker, B., "Long-Term Groundwater Monitoring Optimization: Improving Performance and Reducing Costs Associated with Natural Attenuation and Other In Situ Treatments," *Bioremediation Journal*, 8(no 3-4), 87-88, 2004.

Reed, P. and B. S. Minsker, "Striking the Balance: Long Term Groundwater Monitoring Design for

Multiple, Conflicting Objectives." *Journal of Water Resources and Planning Management*, 130(2), 140-149, 2004.

Gopalakrishnan, G., B. S. Minsker, and D. Goldberg, Optimal sampling in a noisy genetic algorithm for risk-based remediation design, *Journal of Hydroinformatics*, 5(1), 11-25, 2003.

Reed, P., B. Minsker, and A. J. Valocchi, Cost effective long-term monitoring design using a genetic algorithm and global mass interpolation, *Water Resources Research*, 36(12), 3731-3741, 2000.

Reed, P., B. S. Minsker, and D. E. Goldberg, Designing a competent simple genetic algorithm for search and optimization, *Water Resources Research*, 36(12), 3757-3761, 2000.

(iv) Synergistic Activities

1. Principal Investigator, WATERS (WATER and Environmental Research Systems) Network Project Office, <http://watersnet.org>
2. Received 2005 ASCE Environmental and Water Resources Institute Outstanding Achievement Award for “*effort and leadership in the creation and subsequently as the driving force and chair of the successful Task Committee on Long-Term Groundwater Monitoring and its exceptional report Long-Term Groundwater Monitoring Design: The State of the Art.*”
3. Participated in numerous NSF workshops on cyberinfrastructure and/or environmental observatories, 2002-07
4. Received 2003 American Society of Civil Engineers (ASCE) Walter L. Huber Civil Engineering Research Prize for developing methodologies that more effectively and efficiently use machine learning approaches.
5. Associate Editor, *Water Resources Research*, 2002-2004.
6. Chair, Environmental and Water Resource Systems Committee, American Society of Civil Engineers, 2005-2006

(v) Collaborators & Other Affiliations

(a) External Collaborators and Co-Editors:

Dave Becker (U. S. Army Corps of Engineers), Karla Harre (Naval Facilities Engineering Service Command), David Maidment (UT Austin), James Bonner (Texas A&M), Paul Montagna (UT Austin), Ben Hodges (UT Austin)

(b) Graduate and Postdoctoral Advisors:

Christine Shoemaker (Cornell University) and David Dougherty (Subterranean Research Inc.)

(c) Thesis Advisor and Postgraduate-Scholar Sponsor:

Former students: Jeremy Kosegi (Roux Associates), J. Bryan Smalley, Yong Liu (University of Illinois), Patrick Reed (Pennsylvania State University), Rachel Arst, William Michael (Caterpillar), Xiaolin Ren (University of Illinois), Felipe Espinoza, Eva Sinha (Black and Veatch), Dara Farrell, Matthew Zavislak (Summit EnviroSolutions Inc.), Marcia Hayes (University of Illinois), Meghna Babbar (Texas A&M University), Shenquan Yan (Microsoft Inc.)