

PROMOTION RECOMMENDATION
The University of Michigan
College of Engineering

Avery H. Demond, associate professor of civil and environmental engineering, with tenure, Department of Civil and Environmental Engineering, College of Engineering, is recommended for promotion to professor of civil and environmental engineering, with tenure, Department of Civil and Environmental Engineering, College of Engineering.

Academic Degrees:

Ph.D. 1988 Stanford University, Civil and Environmental Engineering, Stanford, CA
M.S. 1982 Massachusetts Institute of Technology, Civil and Environmental Engineering,
Cambridge, MA
B.S. 1980 Massachusetts Institute of Technology, Civil and Environmental Engineering,
Cambridge, MA
B.A. 1977 Williams College, Biology, Williamstown, MA

Professional Record:

1996-Present Associate Professor (with tenure), Department of Civil and Environmental Engineering,
University of Michigan
2009-Present Director, Michigan Engineering Transfer Support (METS), College of Engineering,
University of Michigan
1989-1996 Assistant Professor, Department of Civil and Environmental Engineering, University of
Michigan
1996-1997 Project Engineer, Geomatrix, San Francisco, CA
1988-1989 Assistant Professor, Department of Civil and Environmental Engineering, University of
Massachusetts, Amherst, MA

Summary of Evaluation:

Teaching: Professor Demond has made a number of important contributions to the Department of Civil and Environmental Engineering (CEE). She has taught five different courses, two of which she introduced as new classes. One of these courses, Introduction to Environmental Engineering, has now become a required course. Her efforts in teaching were recognized by the dean with a letter of commendation for her teaching evaluations in CEE 593 (Environmental Soil Physics) in 2000. She has also mentored six Ph.D. students as chair and three as a co-chair and currently co-advises another two students. She has also advised or co-advised nine M.S. students and has directed three undergraduate major projects. Professor Demond was the recipient of a Rackham Mentoring Award in 2011 for her work with M.S. students.

Research: Professor Demond is a multi-talented researcher as evidenced by her expertise in several research areas, including soil physics, groundwater remediation and assessment of risk factors that contribute to pollutant exposure. Based on the testimony of the reviewers, she enjoys high visibility in her areas of expertise. In particular, Professor Demond's work on the University of Michigan Dioxin Exposure Project is particularly noteworthy and promises to have significant future public and scientific impact. She was also a key member in a Michigan-led team that submitted a \$12M NSF Center proposal. Professor Demond's CV lists over 40 refereed journal publications, as well as several refereed conference summaries and abstracts.

Recent and Significant Publications:

- Towey, T., Barabas, N., Demond, A., Franzblau, A., Garabrant, D., Gillespie, B., Lepkowski, J. and Adriaens, P., 2012, "Polytopic Vector Analysis of Soil, Dust and Serum Samples to Evaluate Exposure Sources of PCDDs/Fs," *Environmental Toxicology and Chemistry*, doi: 10.1002/etc. 1942.
- Demond, A., Franzblau, A., Garabrant, D., Jiang, X., Adriaens, P., Chen, Q., Gillespie, B., Hao, W., Hong, B., Jolliett, O. and Lepkowski, J., 2012, "Human Exposure from Dioxins in Soil," *Environmental Science and Technology*, 46:1296-1302.
- Han, Y.-S., Jeong, H.-Y., Demond, A.H. and Hayes, K.F., 2011, "X-ray Absorption and Photoelectron Spectroscopic Study of the Association of As(III) with Nanoparticulate FeS and FeS-coated Sand," *Water Research*, 45:5727-5735.
- Henderson, A.D. and Demond, A.H., 2011, "Impact of Solid and Gas Production on Permeability of ZVI PRBs," *Journal of Environmental Engineering*, 137:689-696.
- Hsu, H.-L. and Demond, A., 2010, "Impact of Multi-Interface Surfactant Adsorption on Wettability in Dense Nonaqueous Phase Liquid Systems," *Environmental Engineering Science*, 27(1):95-101.
- Franzblau, A., Demond, A., Towey, T., Adriaens, P., Chang, S.-C., Luksemburg, W., Maier, M., Garabrant, D., Gillespie, B., Lepkowski, J., Chang, C.-W., Chen, Q. and B. Hong, 2009, "Residences with Anomalous Soil Concentrations of Dioxin-Like Compounds in Two Communities in Michigan, USA: A Case Study," *Chemosphere*, 74: 395-403.
- Franzblau, A., Zwica, L., Knutson, K., Chen, Q., Lee, S.-Y., Hong, B., Adriaens, P., Demond, A., Garabrant, D., Gillespie, B., Lepkowski, J., Luksemburg, W., Maier, M. and T. Towey, 2009, "An Investigation of Homes with High Concentrations of PCDDs, PCDFs and/or Dioxin-Like PCBs in House Dust," *Journal of Occupational and Environmental Hygiene*, 6:188-199.
- Garabrant, D., Franzblau, A., Lepkowski, J., Gillespie, B., Adriaens, P., Demond, A., Hedgeman, E., Knutson, A., Zwica, L., Olson, K., Towey, T., Chen, Q., Hong, B., Chang, C.-W., Lee, S.-Y., Ward, B., LaDronka, K., Luksemburg, W. and M. Maier, 2009, "The University of Michigan Dioxin Exposure Study: Predictors of Human Serum Dioxin Concentrations in Midland and Saginaw, Michigan," *Environmental Health Perspectives*, 117:818-824.
- Goovaerts, P., Trinh, H., Demond, A., Franzblau, A., Garabrant, D., Gillespie, B., Lepkowski, J. and Adriaens, P., 2008, "Geostatistical Modeling of the Spatial Distribution of Soil Dioxin in the Vicinity of an Incinerator, 1. Theory and Application to Midland, Michigan," *Environmental Science and Technology*, 42(10):3648-3654.
- Henderson, A. and Demond, A., 2007, "Long-Term Performance of Zero-Valent Iron Permeable Reactive Barriers: A Critical Review," *Environmental Engineering Science*, 24(4):460-482.
- Jain, V. and Demond, A.H., 1999, "Impact of Liquid Property Changes on Conductivity During Surfactant-Enhanced Aquifer Remediation," *Journal of Contaminant Hydrology*, 40:25-35.
- Lord, D.L., Demond, A.H., Salehzadeh, A. and Hayes, K.F., 1997, "Influence of Organic Acid Solution Chemistry on Subsurface Transport Properties, 2. Capillary Pressure-Saturation," *Environmental Science and Technology*, 31:2052-2058.
- Lord, D.L., Hayes, K.F., Demond, A.H. and Salehzadeh, A., 1997, "Influence of Organic Acid Solution Chemistry on Subsurface Transport Properties, 1. Surface and Interfacial Tension," *Environmental Science and Technology*, 31:2045-2051.

Service: Professor Demond has excelled at service and has a very strong record in this area. This was noted and expounded upon by both internal and external letter writers. Her efforts were recognized by the University of Michigan's Raymond J. and Monica E. Schultz Outreach and Diversity Award and the Harold R. Johnson Diversity Award. Within the University of Michigan, she was the founding director of the Michigan Engineering Transfer Support Program and serves as the director of CEE's Environmental and Water Resources Engineering Program. She recently held several influential service appointments

within the CEE department and as member of the University of Michigan's President's Advisory Committee on Women's Issues. Outside the University, she has served several national organizations and institutions as associate editor, committee member and advisory board member.

External Reviewers:

Reviewer A: "Dr. Demond is a highly-respected and visible researcher in the contaminant hydrology field. Her work is well-known within the environmental community and of excellent quality..."

Reviewer B: "I regard Avery as a well established researcher in our field...I would place Avery near the top of this group."

Reviewer C: "Professor Demond is very well known as one of the few world-class investigators working in the area of environmental soil physics."

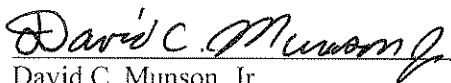
Reviewer D: "I have consistently found the quality, productivity, and scholarly impact of Dr. Demond's work to be very good."

Reviewer E: "I can say the quantity and quality of Dr. Demond's scholarship is good and she clearly enjoys national recognition from her peers."

Reviewer F: "Overall, her scholarly contributions include cutting edge scientific advancements..."

Reviewer G: "Professor Demond has established an outstanding reputation as a researcher with excellent scientific abilities...She is a leader in environmental engineering and science in terms of her research and scholarly accomplishments..."

Summary of Recommendation: Professor Demond is a prominent civil and environmental engineer who has made seminal contributions to multiple fields, including soil physics, groundwater remediation and assessment of risk factors that contribute to pollutant exposure. She is a very good teacher and mentor; and a strong leader who has contributed greatly to service. It is with the support of the College of Engineering Executive Committee that I recommend Avery H. Demond for promotion to professor of civil and environmental engineering, with tenure, Department of Civil and Environmental Engineering, College of Engineering.



David C. Munson, Jr.
Robert J. Vlasic Dean of Engineering
College of Engineering

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