

CURRICULUM VITA FOR DAVID E. DANIEL

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College Education

- B.S. University of Texas at Austin, 1972 (Civil Engineering)
- M.S. University of Texas at Austin, 1974 (Civil Engineering)
- Ph.D. University of Texas at Austin, 1980 (Engineering)

Work Experience

- Staff Engineer, Woodward-Clyde Consultants, San Francisco, 1974-1977
- Assistant Professor, University of Texas at Austin, 1981-1985
- Associate Professor, University of Texas at Austin, 1985-1991
- Professor, University of Texas at Austin, 1991-1996
- Associate Chairman for Academic Affairs, University of Texas at Austin, Department of Civil Engineering, 1994-1996
- Professor and Head, Department of Civil Engineering, University of Illinois at Urbana-Champaign, 1996-2001
- Dean, College of Engineering, University of Illinois at Urbana-Champaign, 2001-2005
- President, University of Texas at Dallas, 2005-present.

Boards of Directors and Councils

- Geotechnical Board, National Research Council, National Academy of Sciences, 1993-1994
- Board on Energy and Environmental Systems, National Research Council, 1994-1996
- Board of Directors, University of Illinois Research Park, 2001-2003
- Nuclear and Radiation Studies Board, the National Academies, 2003-2007
- Board of Directors, Carle Hospital Foundation, 2003-2005
- Board of Directors, Alliance for Higher Education, 2005-2008
- Board of Directors, Utley Foundation, 2005-2012
- Board of Directors, Metroplex Technology Business Council, 2005-2012
- Board of Directors, Dallas Regional Chamber of Commerce, 2005-2011
- Board of Directors, North Texas Regional Center for Innovation and Commercialization, 2006-2012
- Board of Directors, The Academy of Medicine, Engineering and Science of Texas, 2006-2010 (President, 2009)
- Board of Directors, Texas Education Reform Foundation, 2008-2011
- Board of Trustees, University Research Association, 2008-2013
- Industry Leadership Council, American Society of Civil Engineers, 2008-2012

- Board of Directors, Sandia Corporation, 2008-present
- Member, Governing Council, National Academy of Engineering, 2013-present

Honors and Awards

- Tau Beta Pi
- Phi Kappa Phi
- Norman Medal, American Society of Civil Engineers (ASCE), 1975
- J. James Croes Medal, American Society of Civil Engineers (ASCE), 1984 & 2000
- William J. Murray Fellowship in Engineering, UT Austin, 1985-1992
- Faculty Excellence Award, UT Austin College of Engineering, 1989
- Standards Development Award, American Society for Testing and Materials, 1991
- L.B. (Preach) Meaders Professorship in Engineering, UT Austin, 1992-1996
- Special Service Award, American Society for Testing and Materials, 1994
- Middlebrooks Award, American Society of Civil Engineers, 1995
- Richard R. Torrens Award, American Society of Civil Engineers, 1995
- Gutsell Professor, University of Illinois, 2000-2005.
- Elected to National Academy of Engineering, 2000
- Distinguished Alumnus Award, UT Austin College of Engineering, 2002
- Academy of Distinguished Alumni, Department of Civil, Environmental, and Architectural Engineering, UT Austin, 2005
- President's Award, American Society of Civil Engineers, 2007
- Distinguished Member, American Society of Civil Engineers, 2007
- Hero's Award, GeoInstitute, American Society of Civil Engineers, 2008
- Beyer Distinguished Lecture, University of Houston, 2008
- Finalist, Texan of the Year, *Dallas Morning News*, 2009
- Award of Excellence, Texas-Israel Chamber of Commerce, 2010
- Outstanding Projects and Leaders (OPAL) Award for Education, ASCE, 2010
- Sowers Lecture, Georgia Tech, 2010
- Texas Philosophical Society, 2010
- Terzaghi Lecture, American Society of Civil Engineers, 2012
- Technology Advocate of the Year, 2013, Metroplex Technology Business Council

Journal Editorships

- Editor in Chief, *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers, 1992-1995.
- Member, Board of Editors, *Geotextiles and Geomembranes*, 1997-2005.
- Member, Editorial Board, *Computer-Aided Civil and Infrastructure Engineering*, 2004-present

Professional Registration

Registered Professional Engineer in Texas

Independent Consulting Assignments (1980-1996)

- Independent Consultant and Advisor to 60 Companies Regarding Environmental Contamination Prevention, Control, and Cleanup, Including International Paper Company, Union Carbide, Bechtel National, Exxon Minerals, E.I. DuPont de Nemours Co., Hoechst-Celanese, Dow Chemical Company, and Others
- Independent Consultant for Environmental Clean-up Issues at National Laboratory Sites: Hanford, Oak Ridge National Laboratory, Savannah River Site, Sandia National Laboratory, and Idaho National Engineering Laboratory
- Independent Consultant for Clean-up and Cost Recovery at Superfund Sites: Weldon Springs (MO), Rocky Mountain Arsenal (CO), Brio (TX), MotCo (TX) and Helen Kramer (NJ)
- Consultant to Government Agencies on Environmental Control Issues: U.S. Environmental Protection Agency, U.S. Department of Energy, Mississippi Department of Environmental Quality, Texas Low Level Radioactive Waste Disposal Authority, U.S. Army Corps of Engineers, Pennsylvania Department of Environmental Resources, Michigan Department of Natural Resources, New York Department of Environmental Quality, Illinois Pollution Control Board, Texas Railroad Commission, and Ohio Environmental Protection Agency
- Expert Witness Testimony: U.S. Department of Justice, Attorney General of Pennsylvania, and Approximately One Dozen Private Companies/Attorneys

Disaster Investigation Teams

- Chair, ASCE External Review Panel to Investigate Levee Failures from Hurricane Katrina
- Member, National Academy of Engineering/National Research Council Panel for Analysis of Causes of the Deepwater Horizon Explosion, Fire, and Oil Spill, 2010-2012

Selected Professional Society Committees and Chairmanships

- Chairman, ASTM Subcommittee D-18.04 on Ground Water and Hydrologic Properties of Soil and Rock, 1986-1991
- Chairman, ASCE Committee on Environmental Geotechnology, Geotechnical Engineering Division, 1987-1992
- Chairman, ASCE Committee on Publications in Geotechnical Engineering (1992-1995)
- Co-Chairman, ASTM Symposium on "Hydraulic Conductivity and Waste Contaminant Transport in Soils," 1993
- Chairman, ASCE Organizing Committee for Specialty Conference on "The Geoenvironment 2000," 1991-1995
- Vice-Chairman, "Staging of High-Level Geologic Repositories for Radioactive Waste," National Academies, National Research Council, 2001-2003
- Chairman, "Risk-Based Approaches for Disposition of Radioactive Waste," National Academies, National Research Council, 2003-2005
- Chairman, ASCE Hurricane Katrina External Review Panel, 2005-2008

- President, The Academy of Medicine, Engineering and Science of Texas, 2009
- Member, Peer Committee, Section 4, National Academy of Engineering, 2009-2012
- Vice Chair, Section 4, National Academy of Engineering, 2011-2013
- Chairman, “Subsurface Characterization, Modeling, Monitoring, and Remediation of Fractured Rocks,” National Academies, National Research Council, 2012-present
- Member, Triennial Review Panel to Review the Transportation Research Board, National Research Council, 2013
- Chair, Section 4, National Academy of Engineering, 2013-present

Books

Geotechnical Practice for Waste Disposal, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, 683 p.

Hydraulic Conductivity and Waste Contaminant Transport, David E. Daniel and Stephen J. Trautwein (Eds.), American Society for Testing and Materials, Philadelphia, 1994, 611 p.

The Geoenvironment 2000, Yalcin B. Acar and David E. Daniel (Eds.), American Society of Civil Engineers, New York, 1995, 1822 p.

Waste Containment Systems: Guidance for Construction, Quality Assurance, and Quality Control of Liner and Cover Systems, David E. Daniel and Robert M. Koerner, ASCE Press, New York, 1995, 354 p.

Engineered Covers for Solid Waste Landfills and Abandoned Dumps, R. M. Koerner and D.E. Daniel, ASCE Press, New York, 1997, 256 p.

Chapters of Books

Daniel, D. E., “Waste Disposal and Underground Storage,” in *Ground Engineer’s Reference Book*, F. G. Bell (ed.), Butterworths, London, 1987, pp. 43/1-43/10.

Daniel, D.E., “Hydraulic Conductivity Tests for Clay Liners,” *Geotechnical and Geohydrological Aspects of Waste Management*, D. Van Zyl et al. (eds.), Lewis Publishers, Chelsea, Michigan, 1987, pp. 15-34.

Brown, K. W., and D. E. Daniel, “Influence of Organic Liquids on the Hydraulic Conductivity of Soils,” Section 4.3 in Chapter 4 of *Land Disposal of Hazardous Waste*, J.R. Gronow, A.N. Schofield, and R.K. Jain (eds.), Ellis Horwood Limited, Chichester, England, 1988, pp. 199-216.

Daniel, D.E., and K.W. Brown, “Landfill Liners: How Well Do They Work and What Is Their Future?” Section 4.6 in Chapter 4 of *Land Disposal of Hazardous Waste*, J.R. Gronow, A.N. Schofield, and R.K. Jain (eds.), Ellis Horwood Limited, Chichester, England, 1988, pp. 235-244.

Daniel, D.E., and C.D. Shackelford, "Containment of Landfill Leachate with Clay Liners," Chapter 5.3 of *Sanitary Landfilling*, T.H. Christensen, R. Cossu, and R. Stegmann (Eds.), Academic Press, London, 1989, pp. 323-342.

Daniel, D.E., "Overview of Geoenvironmental Principles Applied to Remediation of Contaminated Waste Disposal Sites," in *Environmental Geotechnology*, M. A. Usmen and Y. B. Acar (Eds.), A. A. Balkema, Rotterdam, The Netherlands, 1992, pp. 311-320.

Daniel, D. E., "Introduction," Chapter 1 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 1-14.

Daniel, D.E., "Landfills," Chapter 5 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 97-112.

Daniel, D.E., "Clay Liners," Chapter 7 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 137-163.

Daniel, D.E., and R.M. Koerner, "Cover Systems," Chapter 18 of *Geotechnical Practice for Waste Disposal*, D. E. Daniel (Ed.), Chapman and Hall, London, 1993, pp. 455-496.

Charbeneau, R.J., and D.E. Daniel, "Contaminant Transport in Unsaturated Flow," Chapter 15 of *Handbook of Hydrology*, McGraw-Hill, New York, 1993, pp. 15.1-15.54.

Rumer, R.R., and Ryan, M.E., "Surface Control Barriers (Caps)," Chapter 5 of *Barrier Containment Technologies for Environmental Remediation Applications*, 1995, John Wiley & Sons, Inc., New York, 170 p.

Daniel, D.E., and Koerner, R.M., "Construction Quality Assurance/Quality Control for Landfills," *Municipal Solid Wastes, Problems and Solutions*, R.E. Landreth and P.A. Rebers (Eds.), Lewis Publishers, Boca Raton, Florida, 1997, pp. 191-222.

Daniel, D.E., "Barriers and Containment Methods," *Vadose Zone, Science and Technology Solutions*, B.B. Looney and R.W. Falta (Eds.), Battelle Press, Columbus, Ohio, pp. 1309-1424.

Refereed Journal Publications

Daniel, D. E., and R. E. Olson, "Stress-Strain Properties of Compacted Clays," *Journal of the Geotechnical Engineering Division*, American Society of Civil Engineers, Vol. 100, No. GT10, 1974, pp. 1123-1136.

Johnson, L. J., Daniel, D. E., Abelle, W. V., Ledbetter, J. O., and W. R. Hansen, "Effects from Past Solid Waste Disposal Practices," *Environmental Health Perspectives*, Vol. 27, 1978, pp. 215-221.

- Daniel, D. E., "Measurement of Hydraulic Conductivity of Unsaturated Soils with Thermocouple Psychrometers," *Soil Science Society of America Journal*, Vol. 46, No. 6, 1982, pp. 1125-1129.
- Daniel, D. E., and R. E. Olson, "Failure of an Anchored Bulkhead," *Journal of the Geotechnical Engineering Division*, American Society of Civil Engineers, Vol. 108, No. GT10, 1982, pp. 1318-1327.
- Daniel, D. E., "Shallow Land Burial of Low-Level Radioactive Waste," *Journal of the Geotechnical Engineering Division*, American Society of Civil Engineers, Vol. 109, No. 1, 1983, pp. 40-55.
- Daniel, D. E., "Permeability Test for Unsaturated Soil," *Geotechnical Testing Journal*, Vol. 6, No. 2, 1983, pp. 81-86.
- Daniel, D. E., "Predicting Hydraulic Conductivity of Clay Liners," *Journal of Geotechnical Engineering*, American Society of Civil Engineers, Vol. 110, No. 2, 1984, pp. 285-300.
- Daniel, D. E., Trautwein, S. J., Boynton, S. S., and D. E. Foreman, "Permeability Testing with Flexible-Wall Permeameters," *Geotechnical Testing Journal*, Vol. 7, No. 3, 1984, pp. 113-122.
- Boynton, S. S., and D. E. Daniel, "Hydraulic Conductivity Tests on Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 111, No. 4, 1985, pp. 465-478.
- Day, S. R., and D. E. Daniel, "Hydraulic Conductivity of Two Prototype Clay Liners," *Journal of Geotechnical Engineering*, Vol. 111, No. 8, 1985, pp. 957-970.
- Daniel, D. E., "Can Clay Liners Work?" *Civil Engineering*, Vol. 55, No. 4, 1985, pp. 48-49.
- Foreman, D. E., and D. E. Daniel, "Permeation of Compacted Clay with Organic Chemicals," *Journal of Geotechnical Engineering*, Vol. 112, No. 6, 1986, pp. 669-690.
- Daniel, D. E., "Under Ground, Over the Water Table," *Civil Engineering*, Vol. 57, No. 2, February, 1987, pp. 49-50.
- Bowders, J. J., and D.E. Daniel, "Hydraulic Conductivity of Compacted Clay to Dilute Organic Chemicals," *Journal of Geotechnical Engineering*, Vol. 113, No. 12, 1987, pp. 1432-1448.
- Daniel, D. E., Liljestrang, H. M., Broderick, G. P., and J. J. Bowders, Jr., "Interaction of Earthen Liner Materials with Industrial Waste Leachate," *Hazardous Waste & Hazardous Materials*, Vol. 5, No. 2, 1988, pp. 93-108.
- Daniel, D. E., and C. D. Shackelford, "Disposal Barriers that Release Contaminants Only by Molecular Diffusion," *Nuclear and Chemical Waste Management*, Vol. 8, September, 1988, pp. 299-305.

- Daniel, D.E., "In Situ Hydraulic Conductivity Tests for Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 115, No. 9, 1989, pp. 1205-1226.
- Daniel, D.E., "A Note on Falling-Headwater, Rising Tailwater Permeability Tests," *Geotechnical Testing Journal*, Vol. 12, No. 4, 1989, pp. 308-310.
- Shackelford, C.D., Daniel, D.E., and H.M. Liljestrand, "Diffusion of Inorganic Chemical Species in Compacted Clay Soil," *Journal of Contaminant Hydrology*, Vol. 4, 1989, p. 241-273.
- Benson, C.B., and D.E. Daniel, "The Influence of Clods on the Hydraulic Conductivity of a Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 116, No. 8, 1990, p. 1231-1248.
- Broderick, G.P., and D.E. Daniel, "Stabilizing Compacted Clay Against Chemical Attack," *Journal of Geotechnical Engineering*, Vol. 116, No. 10, 1990, pp. 1549-1567.
- Elsbury, B.R., Daniel, D.E., Sraders, G.A., and D.C. Anderson, "Lessons Learned from a Compacted Clay Liner," *Journal of Geotechnical Engineering*, Vol. 116, No. 11, 1990, pp. 1641-1660.
- Daniel, D.E., and C.B. Benson, "Water Content-Density Criteria for Compacted Clay Liners," *Journal of Geotechnical Engineering*, Vol. 116, No. 12, 1990, pp. 1811-1830.
- Shackelford, C. D., and D. E. Daniel, "Diffusion in Saturated Soil: I. Background," *Journal of Geotechnical Engineering*, Vol. 117, No. 3, 1991, pp. 467-484.
- Shackelford, and D. E. Daniel, "Diffusion in Saturated Soil: II. Results for Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 117, No. 3, 1991, pp. 485-506.
- Daniel, D. E., "Law of the Landfill," *The Construction Specifier*, Vol. 44, No. 8, 1991, pp. 104-111.
- Daniel, D. E., and R. M. Koerner, "Landfill Liners from Top to Bottom," *Civil Engineering*, Vol. 61, No. 12, 1991, pp. 46-49.
- Koerner, R.M., and D.E. Daniel, "Better Cover-Ups," *Civil Engineering*, Vol. 62, No. 5, 1992, pp. 55-57.
- Kim, W. H., and D. E. Daniel, "Effects of Freezing on the Hydraulic Conductivity of a Compacted Clay," *Journal of Geotechnical Engineering*, Vol. 118, No. 7, 1992, pp. 1083-1097.
- Estornell, P., and D. E. Daniel, "Hydraulic Conductivity of Three Geosynthetic Clay Liners," *Journal of Geotechnical Engineering*, Vol. 118, No. 10, 1992, pp. 1592-1606.

- Shelley, T. L., and D. E. Daniel, "Effect of Gravel on Hydraulic Conductivity of Compacted Soil Liners," *Journal of Geotechnical Engineering*, Vol. 119, No. 1, 1993, pp. 54-68.
- Daniel, D. E., and Y. K. Wu, "Compacted Clay Liners and Covers for Arid Sites," *Journal of Geotechnical Engineering*, Vol. 119, No. 2, 1993, pp. 223-237.
- Benson, C. H., and D. E. Daniel, "Minimum Thickness of Compacted Soil Liners: I – Stochastic Models," *Journal of Geotechnical Engineering*, Vol. 120, No. 1, 1993, pp. 129-152.
- Benson, C. H., and D. E. Daniel, "Minimum Thickness of Compacted Soil Liners: II – Analysis and Case Histories," *Journal of Geotechnical Engineering*, Vol. 120, No. 1, 1993, pp. 153-172.
- Eykholt, G.R., and Daniel, D.E., "Impact of System Chemistry on Electroosmosis in Contaminated Soil," *Journal of Geotechnical Engineering*, Vol. 120, No. 5, 1994, pp. 797-815.
- Boardman, B.T., and Daniel, D.E., "Hydraulic Conductivity of Desiccated Geosynthetic Clay Liners," *Journal of Geotechnical Engineering*, Vol. 122, No. 3, 1996, pp. 204-208.
- Daniel, D.E., "Geosynthetic Clay Liners, Part Two: Hydraulic Properties," *Geotechnical Fabrics Report*, Vol. 14, No. 5, 1996, pp. 22-26.
- Hewitt, R.D., and Daniel, D.E., "Hydraulic Conductivity of Geosynthetic Clay Liners Subjected to Freeze-Thaw," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 3, 1997, pp. 305-313.
- Ruhl, J.L., and Daniel, D.E., "Geosynthetic Clay Liners Permeated with Chemical Solutions and Leachates," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 4, 1997, pp. 369-381.
- Gleason, M.H., and Daniel, D.E., "Calcium and Sodium Bentonite for Hydraulic Containment Applications," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 5, 1997, pp. 438-445.
- LaGatta, M.D., Boardman, B.T., Daniel, D.E., and Cooley, B.H., "Geosynthetic Clay Liners Subjected to Differential Settlement," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 5, 1997, pp. 402-410.
- Bowders, J.J., Tan, J.P., and Daniel, D.E., "Expanded Clay and Shale Aggregates for Leachate Collection Systems," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 123, No. 11, 1997, pp. 1030-1034.
- Alston, C., Daniel, D.E., and Devroy, D.J., "Design and Construction of Sand-Bentonite Liner for Effluent Treatment Lagoon, Marathon, Ontario," *Canadian Geotechnical Journal*, Vol. 34, No. 6, 1997, pp. 841-852.

- Koerner, R.M., Carson, D.A., Daniel, D.E., and Bonaparte, R., "Current Status of the Cincinnati GCL Test Plots," *Geotextiles and Geomembranes*, Vol. 15, Nos. 5-6, 1997, pp. 313-340.
- Lai, J., Daniel, D.E., and Wright, S.G., "Effect of Cyclic Loading on Shear Strength of Unreinforced Geosynthetic Clay Liner," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 124, No. 1, 1998, pp. 45-52.
- Daniel, D.E., Koerner, R.M., Bonaparte, R., Landreth, R.L., Carson, D.A., and Scranton, H.B., "Slope Stability of Fourteen Full-Scale Field Test Plots Containing Geosynthetic Clay Liners," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 125, No. 7, 1998, pp. 628-637.
- Benson, C.H., Daniel, D.E., and Boutwell, G.P., "Field Performance of Compacted Clay Liners," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 125, No. 5, 1999, pp. 390-403.
- Toupiol, C., Willingham, T.W., Valocchi, A.J., Werth, C.J., Krapac, I.G., Stark, T.D., and D.E. Daniel (2002), "Long-Term Tritium Transport through a Field-Scale Compacted Soil Liner," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 128, No. 8, pp. 640-650.
- Willingham, T., Werth, C.J., Valocchi, A.J., Krapac, I.G., Toupiol, C., Stark, T.D., and D.E. Daniel (2004), "Evaluation of Multi-Dimensional Transport through a Field-Scale Compacted Soil Liner," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 130, No. 9, pp. 887-895.
- Giroud, J.P., & Daniel, D.E. (2004), "Liquid Migration in a Bentonite Layer Overlain by a Geomembrane Having Defects and Underlain by a Geomembrane," Special Issue on Geosynthetic Clay Liners, *Geosynthetics International*, Vol. 11, No. 4, pp. 311-329.
- Choi, H., and Daniel, D.E. (2006), "Slug Test Analysis in Vertical Cutoff Walls. I: Analysis Methods," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 132, No. 4, pp. 429-438.
- Choi, H., and Daniel, D.E. (2006), "Slug Test Analysis in Vertical Cutoff Walls. II: Applications," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 132, No. 4, pp. 439-447.
- Chung, J., and Daniel, D.E., "Modified Fluid Loss Test as an Improved Measure of Hydraulic Conductivity for Bentonite," *Geotechnical Testing J.*, Vol. 31, No. 3, 2008, pp. 243-251.

Other Technical Publications (Partial Listing)

- Olson, R. E., Daniel, D. E., and T. K. Liu, "Finite Difference Analyses of Sand Drain Problems," *Proceedings*, American Society of Civil Engineers Specialty Conference on Analysis and Design in Geotechnical Engineering, June, 1974, Vol. 1, pp. 85-110.
- Daniel, D. E., Hamilton, J. M., and R. E. Olson, "Suitability of Thermocouple Psychrometers for Studying Moisture Movement in Unsaturated Soils," in *Permeability and Groundwater Contaminant Transport, ASTM STP 746*, T. F. Zimmie and C.O. Riggs (Eds.), American Society for Testing and Materials, Philadelphia, 1981, pp. 84-100.
- Hamilton, J. M., Daniel, D. E., and R. E. Olson, "Measurement of the Hydraulic Conductivity of Partially Saturated Soils," in *Permeability and Groundwater Contaminant Transport, ASTM STP 746*, T. F. Zimmie and C.O. Riggs (Eds.), American Society for Testing and Materials, Philadelphia, 1981, pp. 182-196.
- Olson, R. E., and D. E. Daniel, "Measurement of the Hydraulic Conductivity of Fine-Grained Soils," in *Permeability and Groundwater Contaminant Transport, ASTM STP 746*, T. F. Zimmie and C.O. Riggs (Eds.), American Society for Testing and Materials, Philadelphia, 1981, pp. 18-64.
- Daniel, D. E., "Problems in Predicting the Permeability of Compacted Clay Liners," *Proceedings*, Fourth Annual Conference on Uranium Mill Tailings Disposal, Colorado State University, Ft. Collins, Colorado, 1981, pp. 665-675.
- Daniel, D. E., "Geotechnical and Geomechanical Parameters Required for Characterization of Sites," *Proceedings*, Low-Level Waste Disposal: Site Characterization and Monitoring, U. S. NRC, Arlington, Virginia, June 16-17, 1982, NUREG/CP-0028, pp. 93-113.
- Trautwein, S. J., Daniel, D. E., and M. W. Cooper, "A Case History Study of Water Flow through Unsaturated Soils," *Role of the Unsaturated Zone in Radioactive and Hazardous Waste Disposal*, J. W. Mercer, P.S.C. Rao, and I. W. Marine (eds.), 1983, Ann Arbor Science, Ann Arbor, Michigan, pp. 229-254.
- Foreman, D. E., and D. E. Daniel, "Effects of Hydraulic Gradient and Method of Testing on the Hydraulic Conductivity of Compacted Clay to Water, Methanol, and Heptane," *Proceedings*, Tenth Annual Research Symposium on Land Disposal of Hazardous Waste, U.S. EPA, EPA/600-9-84-007, April, 1984, pp. 138-144.
- Daniel, D. E., "Effects of Organic Chemicals on the Hydraulic Conductivity of Compacted Clay," *Proceedings*, International Symposium on Clay Barriers for Isolation of Toxic Chemical Wastes," Stockholm, Sweden, 1984.
- Daniel, D. E., "Effects of Organic Chemicals on Clay Liners," *Proceedings*, Seventh Symposium on Management of Uranium Mill Tailings, Low-Level Waste, and Hazardous Waste, Colorado State University, Ft. Collins, Colorado, February 6-8, 1985, pp. 383-390.

- Brown, K. W., and D. E. Daniel, "Potential Groundwater Implications of Land Disposal of Toxic Substances," in *Issues in Groundwater Management*, E. T. Smerdon and W. R. Johnson (eds.), Center for Research in Water Resources, Austin, Texas, 1985, pp. 387-402.
- Daniel, D. E., "Design, Construction, and Testing of Earth Liners," *Proceedings*, Seminar on Geotechnical Aspects of Waste Management, Metropolitan Section, American Society of Civil Engineers, Soils and Foundations Group, December 3-4, 1985, New York City, New York.
- Daniel, D. E., Anderson, D. C., and S. S. Boynton, "Fixed-Wall vs. Flexible-Wall Permeameters," *Hydraulic Barriers in Soil and Rock, ASTM STP 874*, A.I. Johnson et al. (Eds.), American Society for Testing and Materials, Philadelphia, 1985, pp. 107-126.
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- Bowders, J. J., Daniel, D. E., Broderick, G. P., and H. M. Liljestrand, "Methods for Testing the Compatibility of Clay Liners with Landfill Leachate," *Hazardous and Industrial Solid Waste Testing: Fourth Symposium, ASTM STP 886*, J. K. Petros et al. (Eds.), American Society for Testing and Materials, Philadelphia, 1985, pp. 233-250.
- Daniel, D. E., S. J. Trautwein and D. McMurtry, "A Case History of Leakage from a Surface Impoundment," *Proceedings*, Symposium on Seepage from Dams and Impoundments, R. L. Volpe and W. M. Kelly (eds.), Denver, Colorado, May 5, 1985, American Society of Civil Engineers, New York, pp. 220-235.
- Daniel, D. E., "Clay Liners: Where Do We Go From Here?" *Proceedings*, International Conference on New Frontiers for Hazardous Waste Management, September 15-18, 1985, Pittsburgh, Pennsylvania, EPA/600/9-85/025, pp. 266-273.
- Daniel, D. E., and S. J. Trautwein, "Field Permeability Test for Earthen Liners," *Proceedings*, American Society of Civil Engineers Specialty Conference on In Situ Test Results, Virginia Tech University, Blacksburg, Virginia, June, 1986, pp. 146-160.
- Daniel, D. E., "Earthen Liners for Land Disposal Facilities," *Proceedings*, Geotechnical Practice for Waste Disposal '87, R.D. Woods (Ed.), Ann Arbor, Michigan, June, 1987, American Society of Civil Engineers, New York, pp. 21-39.
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- Daniel, D. E., and C. D. Shackelford, "Disposal Barriers that Release Contaminants Only by Molecular Diffusion," *Proceedings*, Oak Ridge Model Conference, Oak Ridge, Tennessee, October, 1987.
- Daniel, D. E., Shackelford, C. D., and W. P. Liao, "Transport of Inorganic Compounds through Compacted Clay Soil," *Proceedings*, Fourteenth Annual Research Symposium on Land Disposal, Remedial Action, Incineration and Treatment of Hazardous Waste, U.S. Environmental Protection Agency, Cincinnati, Ohio, May, 1988, EPA/600/9-88/021, pp. 114-125.
- Liao, Wing P., and D.E. Daniel, "Time of Travel of Contaminants through Soil Liners," *Proceedings*, Twelfth Annual Madison Waste Conference, September 20-21, 1989, University of Wisconsin, p. 367-376.
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