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**Education**

Doctor of Philosophy in Civil Engineering, May 1992  
University of Maine, Orono, Maine  
Dissertation: "Development of reliability-based partial safety factors for the design of anchored bulkheads in Maine"

Master of Science in Civil Engineering, January 1986  
Cornell University, Ithaca, New York  
Thesis: "A probability-based site characterization strategy for transmission line structures"

Bachelor of Science in Civil Engineering, May 1983  
Lafayette College, Easton, Pennsylvania

**Professional Experience**

**Interim Associate Provost** (July 2007 to present)  
Lafayette College, Easton, Pennsylvania

**Department Head, Civil and Environmental Engineering** (Sep. 2003 to June 2007)  
Lafayette College, Easton, Pennsylvania

**Simon Cameron Long Professor of Civil and Environmental Engineering** (Sep. 2006 to present)

Professor of Civil and Environmental Engineering (Sep. 2005 to Sep. 2006)  
Associate Professor of Civil and Environmental Engineering (Sep. 1999 to Sep. 2005)  
Assistant Professor of Civil and Environmental Engineering (Sep. 1992 to Sep. 1999)  
Instructor of Civil Engineering (Sep. 1991 to Sep. 1992)  
Lafayette College, Easton, Pennsylvania

**Research Assistant** (Sep. 1989 to Aug. 1991)  
University of Maine, Orono, Maine

**Senior Staff Engineer** (July 1986 to Aug. 1989)  
Woodward-Clyde Consultants, Wayne, New Jersey, and Gaithersburg, Maryland

**Professional Registration and Memberships**

Professional Engineer (Maine, Pennsylvania)  
ASCE, American Society of Civil Engineers  
ASFE, The Best People on Earth<sup>+</sup>  
ASEE, American Society for Engineering Education  
EEGS, Environmental and Engineering Geophysical Society

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<sup>+</sup> ASFE is a not-for-profit trade association of Member Firms that specialize in earth engineering and related applied science services.

**Honors and Awards**

Simon Cameron Long Professor of Civil Engineering, 2006 - present  
American Council of Education Fellow, 2006-2007  
Marquis Distinguished Teaching Award (Lafayette College), 2002  
Fulbright Research Scholarship, Norway, 2000-2001  
Engineer of the Year (NSPE, Lehigh Valley Chapter), 2000  
James P. Crawford Award (Lafayette College), 1999  
Engineer of the Year (ASCE, Lehigh Valley Chapter), 1999  
Tau Beta Pi  
Phi Beta Kappa

**Professional Service**

Advisory Council, Department of Civil and Environmental Engineering,  
University of Delaware, 2007 to present  
Associate Editor Journal of Engineering and Environmental Geophysics, 2003 to present  
Facilities Committee Member, National Canal Museum, 2007 to present  
Board Member, Engineering and Environmental Geophysics Society, 2005 to 2006  
Geo-Institute Geo-Challenge Organizing Committee 2005, 2007  
Geo-Institute Nominations and Elections Committee, 2004  
External reviewer for geotechnical program at Virginia Military Institute, 2004  
Subcommittee chair for education committee of USUCGER (United States University Council on Geotechnical Education and Research), 2003 to present  
Geo-Institute Risk Assessment and Management Committee, 1992 to present  
Geo-Institute Retaining Structures Committee, 1991 to 1998  
Technical Editorial Board of Geo-Institute's Geo-Strata, 1999-2001  
Conference Organizing Committee for ASCE Geotechnical Engineering Division Specialty Conference entitled *Uncertainty in the Geologic Environment: From Theory to Practice*, 1996  
Co-Editor, Committee on Earth Retaining Structure Committee Report, "Guidelines of Engineering Practice for Braced and Tied-Back Excavations," Geotechnical Special Publication No. 74, Geo-Institute of ASCE, 1997  
Reviewer for ASCE Journal of Geotechnical and Geoenvironmental Engineering  
Reviewer for ASCE Journal of Infrastructure Systems  
Reviewer for Engineering Geology  
Reviewer for Journal of Hazardous Materials  
Panel member EPA Environmental Education Fellowship Applications, 1997  
Panel member unsolicited National Science Foundation research proposals, 1996, 1998, 2003  
Panel member National Science Foundation POWRE proposals, 1998  
External evaluator National Science Foundation unsolicited proposals, 1999, 2000, 2001, 2002, 2004  
Workshop Participant, National Science Foundation Workshop, "Assisting and Encouraging Student Opportunities in Post-Undergraduate Study," 2002

**Selected College Service**

Community-Based Learning and Research Provost Advisory Committee (2007-present)  
Curriculum and Educational Policy Committee – *ex officio* (2007-present)  
Middle States Steering Committee (2007-present)  
Co-Chair (2007-present)  
Strategic Planning Steering Committee (2006-2007)  
Appeal and Grievance Committee (2004-2007)  
Chair (2005-2006)  
Faculty Academic Policy Committee (2003-2006)  
Chair of Health Care Subcommittee (2005-2006)  
Health Care Subcommittee (2003-2006)

Engineering Faculty Liaison for Recruitment and Retention (2001-2005)  
Graduate Studies and Fellowship Advisory Committee (2002-2005)  
Promotion, Tenure, and Review Committee (1999-2000, 2001-2003)  
College Programming Committee (1995-1998)  
Organization Committee (1992-2995)  
Secretary (1994-1995)  
Faculty Ad Hoc committee to Review Composition of Appointments, Promotions, and  
Tenure Committee (1994-1995)

**Courses Taught**

Geotechnical Engineering  
Foundation Engineering  
Retaining Walls, Slopes, and Earthen Dams  
Environmental Site Assessment  
Statics  
Engineering Professionalism and Ethics  
Surveying and Engineering Measurements  
Risk Assessment  
Civil Engineering Design II  
Civil Engineering Design III

#### **Scholarship – Funded Research Projects**

“Exploratory Research in Microbial Remediation of Liquefiable Soils,” National Science Foundation Small Grant for Exploratory Research Grant No. CMS-0408832, \$56,123, 2/1/04-5/31/06

“MRI/RUI Proposal for Instrumentation of Environmental Research Laboratories,” National Science Foundation Major Research Instrumentation Grant No. CMS-0215809, \$366,364, 8/1/02-7/31/03.

“Collaborative Research: Evaluation of 2D vs 3D Multielectrode Resistivity for the Characterization of Shallow Karst,” National Science Foundation Research Grant No. CMS-0201015, \$76,749, 6/1/02 – 5/31/05.

“Evaluation of Potential of Earth Resistivity in Norway,” Fulbright Scholar Program Research Grant, NOK 146,000, 9/1/00-3/1/01.

“Evaluation of Potential of Earth Resistivity in Norway,” National Science Foundation Research Grant No. INT 0071702, \$14,000, 8/1/00 – 7/1/01.

“Evaluation of Reliability of Earth Resistivity Method in Thinly Mantled Karst,” National Science Foundation Research Grant No. CMS-9734899, \$76,375, 6/1/98 – 5/31/00.

“Risk Assessment of Foundations in Karst Terrain,” National Science Foundation Research Grant No. CMS-9612675, \$18,000, 9/1/96 – 2/28/98.

#### **Scholarship – Books**

Shackelford, C.D., Nelson, P.P., and Roth, M.J.S., editors (1996). Uncertainty in the Geologic Environment: From Theory to Practice, ASCE, New York, New York, 1453 p.

#### **Scholarship – Refereed Publications**

Schuster, M.J., Juang, C. H., Roth, M.J.S., and Rosowsky, D. V. (accepted subject to minor revision). “Reliability Analysis of Building Serviceability Problems Caused by Excavation,” Geotechnique.

- Xia, J., Nyquist, J.E., Xu, Y., Roth, M.J.S., and Miller, R.D. (2007). "Feasibility of Detecting Near-surface Feature with Rayleigh-wave Diffraction," Journal of Applied Geophysics, Vol. 62, 244-253.
- Elton, D., Shannon, D., Luke, B., Townsend, F., and Roth, M. J. S. (2006). "Adding Excitement to Soils: A Geotechnical Student Design Competition," International Journal of Engineering Education, Vol. 22, No. 6, 1325-1336.
- Nyquist, J.E., and Roth, M.J.S. (2005). "Improved 3D Pole-Dipole Resistivity Surveys Using Radial Measurement Pairs," Geophysical Research Letters, Vol. 32, L21416.
- Roth, M.J.S., and Nyquist, J.E. (2003). "Evaluation of multi-electrode earth resistivity testing in karst," ASTM Geotechnical Testing Journal, Vol. 26, 167-178.
- Roth, M.J.S., Mackey, J.R. \*, Mackey, C.\*, and Nyquist, J.E. (2002). "A case study of the reliability of multi-electrode earth resistivity testing for geotechnical investigations in karst terrains," Engineering Geology, 65, 225-232.
- Nyquist, J.E., Roth, M.J.S., and Petruccione, J.L. (1999). "Characterization of shallow karst terrain using multi-frequency electromagnetic induction: two examples from Eastern Pennsylvania," 69<sup>th</sup> Annual International Meeting of the Society for Exploration Geophysics, Expanded Abstracts, published by SEG on CD-ROM, 4 pp.
- Mackey, J.R. \*, Roth, M.J.S., and Nyquist, J.E. (1999). "Case study: Site characterization methods in karst," in Geo-Engineering for Underground Facilities, Geotechnical Special Publication No. 90, G. Fernandez and R. Bauer, eds., ASCE, Reston, VA, 695-705.
- Thomas, B. \* and Roth, M.J.S. (1999). "Evaluation of site characterization methods for sinkholes in Pennsylvania and New Jersey," Engineering Geology, Vol 52, 147-152.
- Shaffer, D. L. \*, Roth, M. J. S., and Ruggles, R. (1996). "Development of a GIS for environmental assessment incorporating known potential environmental hazards and remote sensing", Remote Sensing and GIS for Site Characterization: Applications and Standards, ASTM STP 1279, V.H. Singhroy, D.D. Nebert, and A.I. Johnson, Eds., American Society for Testing and Materials, pp. 101-106.
- Tunnell, D. M. \*, Dennis, R. M., and Roth, M. J. S. (1996). "Soil-washing evaluation program for Palmerton zinc site", Journal of Environmental Science & Health, A31(6), pp. 1459-1468.
- Roth, M. J. S. (1992). Discussion of "Partial and total factors of safety in anchored sheet pile design" by A. J. Valsangkar and A. B. Schriver, Canadian Geotechnical Journal, 29(5). p. 879.
- Spry (Roth), M. J., Kulhawy, F. H., and Grigoriu, M. D. (1988). "Reliability-Based Foundation Design for Transmission Line Structures, Volume 1: Geotechnical Site Characterization Strategy", Report E1-5507, Volume 1, Electric Power Research Institute, Palo Alto, California.
- Grigoriu, M. D., Kulhawy, F. H., Spry (Roth), M. J., and Filippas, O. B. (1987) "Probabilistic site strategy for transmission lines", Foundations for Transmission Line Towers, Geotechnical Special Publication No. 8, ASCE, New York, pp. 1-14.

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\* Lafayette College student

## Scholarship – Conference Proceedings, Technical Journals, Project Reports

- Schuster, M.J., Juang, C.H., Hsiao, E.C.L., Roth, M.J.S., and Kung, G.T.C. (2006). “Reliability analysis of excavation-induced building damage,” Taipei International Symposium on New Generation Design Codes for Geotechnical Engineering Practice,” Taipei, Taiwan.
- Meighan, H., J.E.Nyquist, and M.J.S. Roth (2006) *Mise-à-la-masse*, resistivity tomography and smoke tests combined to map karst, Easton, PA. Geological Society of America Abstracts, Philadelphia, October.
- Xia, J., J. E. Nyquist, Y. Xu, R. Miller and M.J.S. Roth (2006) Rayleigh-wave diffractions due to near-surface features. Geological Society of America Abstracts, Philadelphia, October.
- Schuster, M.J., Juang, C.H., Roth, M.J.S., Hsiao, C.L., and Kung, T.C. (2007). “Serviceability Limit State for Probabilistic Characterization of Excavation-induced Building Damage,” Proceedings of Geo-Denver 2007, Annual Conference of ASCE’s Geo-Institute, Denver, CO.
- Nyquist, J. E., J. Peake, M. J. S. Roth (2006). “Comparison of a computer-optimized array and dipole-dipole DC resistivity soundings for karst characterization,” Proceedings of the 2<sup>nd</sup> International Conference on Environmental and Engineering Geophysics (ICEEG), Wuhan, China, 6 pp. (*Invited Paper*)
- Xia, J., Nyquist, J.E., Xu, Y., and Roth, M.J.S. (2006). “Feasibility of Detecting Voids with Rayleigh-Wave Diffraction,” Proceedings, Symposium on the Application of Geophysics to Environmental and Engineering Problems, Seattle, WA.
- Nyquist, J., and Roth, M.J.S. (2005). “Puzzling over karst,” *Fasttimes*, Feb., p. 27.
- Manney, R. \*, Roth, M.J.S., and Nyquist, J.E. (2005). “Exploring Directional Differences in Resistivity Results in Karst.” Proceedings, Symposium on the Application of Geophysics to Environmental and Engineering Problems, Atlanta, Georgia, 1117 - 1124.
- Nyquist, J.E., Roth, M.J.S., Henning, S.\*, Manney, R.\*, and Peake, J. (2005). “Smoke without Mirrors: A New Tool for the Geophysical Characterization of Shallow Karst Cavities,” Proceedings, Symposium on the Application of Geophysics to Environmental and Engineering Problems, Atlanta, Georgia, 337-343.
- Welker, A. L., Roth, M.J.S., and Finley, C.A. (2005). “Prototype Geotechnical Engineering Modules,” Proceedings, Geo-Frontiers 2005, Austin, TX, GeoInstitute of the American Society of Civil Engineers.
- Sanford Bernhardt, K.L., and Roth, M.J.S. (2004). “Undergraduate Research: The Lafayette Experience,” Proceedings, American Society of Engineering Education Annual Meeting.
- Roth, M.J.S., Nyquist, J.E., Faroni, A.\*, Henning, S.\*, Manney, R.\*, and Peake, J. (2004). “Measuring Cave Dimensions Remotely Using Laser Pointers and a Downhole Camera,” Proceedings, Symposium on the Application of Geophysics to Environmental and Engineering Problems, Colorado Springs, Colorado.
- Hiltunen, D. R., and Roth, M.J.S. (2003). “Investigation of Bridge Foundation Sites in Karst Terrane via Multi-Electrode Electrical Resistivity,” Proceedings, Geophysics 2003, Orlando, Florida.
- Hiltunen, D.R., Cramer, B.J., Dunn, P.W., Englert, C.M., Gardner, J.M., Harrison, H.D., Kuzenski, J.D., Mathias, A.D., Roth, M.J.S., Voorhees, A.J., and Walker, C.L. (2003). Geotechnical Site Investigation for Bridge Foundations: University-Based Research, Education and Technology Transfer Program

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\* Lafayette College student

Agreement No. 359704, Work Order 82, Final Report. Pennsylvania Transportation Institute, University Park, PA.

- Nyquist, J.E., and Roth, M.J.S. (2003). "Application of a Downhole Search and Rescue Camera to Karst Cavity Exploration," Proceedings, Symposium on the Application of Geophysics to Environmental and Engineering Problems, San Antonio, Texas.
- Sanford Bernhardt, K.L., and Roth, M.J.S. (2002). "Active Ethics: Philosophy, Cases, and Writing," Proceedings, Frontiers in Engineering Education Conference, Boston, MA.
- Roth, M.J.S. (2002). "Earth Resistivity Testing: Two Case Studies from Norway," Proceedings, Symposium on the Application of Geophysics to Environmental and Engineering Problems, Las Vegas, Nevada.
- Sanford Bernhardt, K.L., Roth, M.J.S., Brandes, D., and Kney, A.D. (2002). "Engineering Ethics: Teaching Moral Theories to Engineers," Proceedings, American Society of Engineering Education Annual Meeting, session 3261.
- Roth, M.J.S. (2002). "Recruiting and Retaining Faculty and Students: The Role of Faculty Liaison," Proceedings, American Society of Engineering Education Annual Meeting, session 2515.
- Roth, M.J.S. (2001). "Sabbatical Abroad," Geo-Strata, October 2001, 18-22.
- Roth, M.J.S. (2001). "Suzanne Lacasse: Engineer, Researcher, and Managing Director, Norwegian Geotechnical Institute," Geo-Strata, April 2001, 30-31.
- Roth, M.J.S., and Roth, L.H. (2000). "Academic-Industry Partnerships: How can we do more?" Geo-Strata, April 2000, 26-29.
- Roth, M.J.S., Nyquist, J.E., and Guzas, B.\* (2000). "Locating subsurface voids in karst: a comparison of multi-electrode earth resistivity testing and gravity testing," Proceedings, 13<sup>th</sup> Symposium on the Application of Geophysics to Environmental and Engineering Problems, M.H. Powers, A.-B. Ibrahim, and L. Cramer, eds., Arlington, Virginia, 359-365.
- Maule, J., Nyquist, J.E., and Roth, M.J.S. (2000). "A comparison of 2-D and 3-D resistivity soundings in shallow karst terrain, Easton, PA," Proceedings, 13<sup>th</sup> Symposium on the Application of Geophysics to Environmental and Engineering Problems, M.H. Powers, A.-B. Ibrahim, and L. Cramer, eds., Arlington, Virginia, 969-977.
- Roth, M.J.S., Mackey, J.R.\*, and Nyquist, J.E. (1999). "A case study of the use of multi-electrode earth resistivity in thinly mantled karst," Proceedings, 12<sup>th</sup> Symposium on the Application of Geophysics to Environmental and Engineering Problems, 293-302.
- Roth, M.J.S., Mackey, J.R.\*, Mackey, C.\*, and Nyquist, J.E. (1999). "A case study of the reliability of multi-electrode earth resistivity testing for geotechnical investigations in karst terrains," Hydrogeology and Engineering Geology of Sinkholes and Karst – 1999, ed. B.F. Beck, A.J. Pettit, and J.G. Herring, A.A. Balkema, Rotterdam, 247-252.
- Roth, M.J.S., Ruggles, R., Berrier, N.\*, Doyle, S.\*, and Fish, D.\* (1998). "Using metadata sources to assess risk in areas prone to sinkhole formation," Proceedings of the First International Conference on Geospatial Information in Agriculture and Forestry, Volume II, 359-366.

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\* Lafayette College student

- Chen, L. \*, and Roth, M.J.S. (1997). "Sinkhole case study: Athletic fields, Lafayette College, Easton, Pennsylvania", in The Engineering Geology and Hydrogeology of Karst Terranes, B. Beck and B. Stephenson, eds., Balkema, Rotterdam, pp. 37-40.
- Thomas, B. \*, and Roth, M.J.S. (1997). "Site characterization for sinkholes in Pennsylvania and New Jersey", in The Engineering Geology and Hydrogeology of Karst Terranes, B. Beck and B. Stephenson, eds., Balkema, Rotterdam, pp.281-286.
- Snyder, B. M. \*, Dennis, R. M., Roth, M. J. S., Krishnan, R., Parker, H. W. (1995). "Evaluation of soil-washing process for 'unwashable' clays and silts from the Palmerton zinc site", Remediation, Winter, pp. 69-80.
- Tuomi, K. E. \*, and Roth, M. J. S. (1995). "A comparison of pile design methods using model factors", Engineering Mechanics: Proceedings of the 10th Conference, ASCE, New York, New York, pp. 171-174
- Roth, M. J. S., Shaffer, D. L. \*, and Ruggles, R. (1994). "Application of a geographic information system to evaluate environmental hazards", Proceedings, First Congress of Computing in Civil Engineering, ASCE, New York, New York, pp. 265-272.
- Roth, M. J. S., and Rosenbauer, R. (1993). "Conducting a needs assessment for a women in engineering program", Proceedings, 1993 WEPAN National Conference, Washington, DC., pp. 35-40.
- Roth, M. J. S. (1993). "Teaching environmental site assessment methods at the college level", Proceedings, Seventh National Outdoor Action Conference, Las Vegas, Nevada, pp. 669-676.
- Tunnell, D. M. \*, Dennis, R. M., and Roth, M. J. S. (1993). "Soil-washing evaluation program for Palmerton zinc site", Proceedings, Emerging Technologies in Hazardous Waste Management V, American Chemical Society, Washington, DC, pp. 285-288.
- Tunnell, D. M. \*, Dennis, R. M., and Roth, M. J. S. (1993). "Soil washing evaluation program for Palmerton zinc site", in Hazardous and Industrial Wastes: Proceedings of the 25<sup>th</sup> Mid-Atlantic Industrial and Hazardous Waste Conference, ed. Allen P. Davis, Technomic Publishing, Lancaster, PA, pp. 65-71.
- Roth, M. J. S., Sandford, T. C., and Dagher, H. J. (1992). "Incorporating corrosion in reliability-based design of anchored bulkheads", Proceedings, ASCE Specialty Conference of Probabilistic Mechanics and Structural and Geotechnical Reliability, Denver, Colorado, pp. 160-163.
- Roth, M. J. S., Dagher, H. J., and Sandford, T. C. (1992). "Application of design point method to a time-dependent system-reliability analysis problem", Proceedings, Second Canadian Conference on Computing in Civil Engineering, Ottawa, Canada, pp. 448-459.
- Roth, M. J. S., Dagher, H. J., and Sandford, T. C. (1991). "Reliability analysis of waterfront retaining structures", Proceedings, Sixth International Conference on Applications of Statistics and Probability in Civil Engineering, Mexico City, Mexico, pp. 840-848.
- Kulhawy, F. H., Roth, M. J. S., and Grigoriu, M. D. (1991). "Some statistical evaluations of geotechnical properties", Proceedings, Sixth International Conference on Applications of Statistics and Probability in Civil Engineering, Mexico City, Mexico, pp. 705-712.

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Spry (Roth), M. J., Grigoriu, M. D., Kulhawy, F. H., and Trautmann, C. H. (1987). "Observations on the variability of undrained side resistance for deep foundations", in Probabilistic Methods Applied to Electric Power Systems: Proceedings of the 1<sup>st</sup> International Symposium, ed. Samy G. Krishnasamy, Pergamon Press, New York, pp. 339-345.

### **Scholarship – Invited Presentations (all expenses paid)**

“Geophysical Research to Improve Geotechnical Investigations.” Presentation for National Science Foundation Workshop for Women and Minority Engineering Educators, sponsored by the Civil and Mechanical Systems Division, Arlington, VA, September 2003.

“Field Testing of Frozen Soils – D.C. Electrical Resistivity.” Presentation for The University Courses on Svalbard (UNIS), Longyearbyen, Svalbard, March 2001.

### **Scholarship – Presentations**

“Resistivity Testing: An Overview using Case Studies with a Focus on Karst Applications,” Presentation at Bucknell University, February 2007.

“When Geophysics and Engineering Collide,” Presentation at GeoCongress 2006, Atlanta, GA, March 2006.

“Using Bacteria to Stabilize Loose Sands: a biological approach to reducing the chance of liquefaction failure during earthquakes,” Presentation to graduate seminar, Temple University, November 2005.

“Increasing Sand Strength with Bacteria,” Poster presentation, 21<sup>st</sup> Annual International Conference on Soils, Sediments, and Water, University of Massachusetts at Amherst, October 2005

“Increasing Sand Strength through the Addition of Bacteria,” Poster presentation at the 105th General Meeting of the American Society for Microbiology, Atlanta GA, June 2005.

“Sinkholes: A primer,” Presentation to Forks Action Committee, March 2005

“Sinkholes: Is there a better way?” Presentation to Forks Kiwanis Club, February 2005

“Earth Resistivity Testing as a Geotechnical Investigation Tool,” Presentation at Villanova University Civil Engineering Graduate Seminar, January 2005

“Multi-electrode Resistivity Testing: A powerful new tool in the geotechnical toolbox?” Presentation at Drexel University Civil Engineering Graduate Seminar, February 2004.

“Recruiting and Retaining Faculty and Students: The Role of Faculty Liaison,” Presentation at the American Society of Engineering Education Annual Meeting, June 2002.

“Engineering Ethics: Teaching Moral Theories to Engineers,” Presented with Prof. Sanford Bernhardt at the American Society of Engineering Education Annual Meeting, June 2002.

“Geotechnical Engineering in Norway,” Presentation at the Northeast Regional Meeting of the Society of Women Engineers, Bethlehem, Pennsylvania, April 2002.

“Earth Resistivity Testing: Two Case Studies from Norway.” Presentation at the Symposium on the Application of Geophysics to Environmental and Engineering Problems, Las Vegas, Nevada, February 2002.

- “Earth Resistivity Testing: Lessons Learned in Norway,” Presentation to Norwegian Geotechnical Institute, Oslo, October 2001.
- “Resistivity Testing.” Presentation at Norwegian Geological Survey, Trondheim, May 2001.
- “Resistivity Testing.” Presentation at Norwegian University of Science and Technology, Trondheim, February 2001.
- “Earth Resistivity Testing – An Overview.” Presentation to Norwegian Geotechnical Institute, Oslo, September 2000.
- “Teaching engineering at undergraduate institutions.” Panel presentation to women graduate students at Princeton University. 2000.
- “Multi-Electrode Earth Resistivity Testing for Geotechnical Investigations in Karst.” Presentation to graduate students in Civil Engineering at Lehigh University. 2000.
- “Teaching engineering at undergraduate institutions.” Panel presentation to women graduate students at Penn State University. 1999.
- “Case study: Site characterization methods in karst.” Paper presentation at the third national conference of the Geo-Institute. Champaign, Illinois. 1999.
- “A case study of the reliability of multi-electrode earth resistivity testing for geotechnical investigations in karst terrains.” Paper presentation at the seventh multidisciplinary conference on sinkholes and the engineering and environmental impacts of karst. Harrisburg, Pennsylvania. 1999.
- “A case study of the use of multi-electrode earth resistivity in thinly mantled karst.” Poster presentation at the annual meeting of the Environmental and Engineering Geophysical Society. Oakland, California. 1999.
- “Multi-Electrode Earth Resistivity Testing for Geotechnical Investigations in Karst.” Presentation at monthly meeting of Lehigh Valley Section of ASCE. 1999.
- “Risk assessment, sinkholes, and earth resistivity testing.” Presentation for Temple University geology graduate student seminar. Philadelphia, Pennsylvania. 1998.
- “Sinkhole case study: Athletic fields, Lafayette College, Easton, Pennsylvania.” Poster presentation at the sixth multidisciplinary conference on sinkholes and the environmental impacts of karst. Springfield, Missouri, 1997.
- “Site characterization for sinkholes in Pennsylvania and New Jersey.” Poster presentation at the sixth multidisciplinary conference on sinkholes and the environmental impacts of karst. Springfield, Missouri, 1997.
- “The assessment of risk for structures built in karst areas; or, should you buy sinkhole insurance?” Presentation for the ARC research forum. Lafayette College, Easton, Pennsylvania. 1997.
- “A comparison of pile design methods using model factors.” Paper presentation at the tenth conference on Engineering Mechanics. Boulder, Colorado. 1995.

- “Application of a geographic information system to evaluate environmental hazards.” Paper presentation at the first congress of computing in civil engineering. Washington, D.C.. 1994.
- “Teaching environmental site assessment at the college level.” Presentation for the Lehigh Valley section of ASCE. Allentown, Pennsylvania. 1993.
- “Conducting a needs assessment for a women in engineering program.” Paper presentation at the 1993 WEPAN national conference. Washington, D.C.. 1993.
- “Application of design point method to a time-dependent system-reliability analysis problem.” Paper presentation at the second Canadian conference on computing in civil engineering. Ottawa, Canada. 1992.
- “Incorporating Corrosion in Reliability-Based Design of Anchored Bulkheads.” Paper presentation at the sixth conference on probabilistic mechanics and structural and geotechnical reliability. Denver, Colorado. 1992.

### **Professional Reports**

- “Resistivity Test Results Southside Habitat for Humanity Homes, Easton, Pennsylvania,” Report written for Langan Engineering and Environmental Services, P.C., May 2003.