

Molly M. Gribb, Ph.D., P.E., FASCE
Head and Professor
Department of Civil and Environmental Engineering
South Dakota School of Mines and Technology
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605-394-1697

Education

Ph.D., Civil Engineering, University of Wisconsin-Milwaukee Milwaukee, Wisconsin Major: Water Resources/Geotechnical Engineering; Minor: Biological Sciences	1988-1993
M.S. Civil Engineering, University of Wisconsin-Milwaukee Milwaukee, Wisconsin Major: Geotechnical/Water Resources Engineering	1985-1988
B.S. Environment, Textiles and Design, University of Wisconsin Madison, Wisconsin Major: Textile Science Graduated with Distinction Dean's honor list, 7 semesters	1981-1985

Administrative Appointments

Head and Professor Department of Civil and Environmental Engineering South Dakota School of Mines and Technology Rapid City, South Dakota	2010-present
Director Center for Environmental Sensing Boise State University Boise, Idaho	2005-2010
Graduate Coordinator MSCE (thesis option) Graduate Coordinator Department of Civil Engineering Boise State University Boise, Idaho	2002-2005, 2009-2010

Academic Appointments

Professor Associate Professor Department of Civil Engineering Boise State University Boise, Idaho	2005-2010 2000-2005
Associate Professor Assistant Professor Department of Civil Engineering University of South Carolina Columbia, South Carolina	1999-2000 1993-1999
Associated Faculty School of the Environment University of South Carolina Columbia, South Carolina	1996-2000
Adjunct Lecturer, Introductory Soil Mechanics (2 semesters) Department of Civil Engineering and Mechanics University of Wisconsin-Milwaukee Milwaukee, Wisconsin	1991, 1992

Research Assistant Department of Civil Engineering and Mechanics University of Wisconsin-Milwaukee Milwaukee, Wisconsin	1989-1990, 1986-1987
Teaching Assistant, Introductory Soil Mechanics Department of Civil Engineering and Mechanics University of Wisconsin-Milwaukee Milwaukee, Wisconsin	1988-1989

Engineering Consulting

Unpaid consulting, PCE plume on campus Boise State University Campus Environmental Health Office Boise, Idaho	2003-05
Expert witness, dry cleaning solvent contaminant transport case Robinson, Bradshaw and Hinson, Attorneys at Law Charlotte, North Carolina	1999-2000
Environmental engineering consulting services Leatherwood Walker Todd & Mann, P.C. Greenville, South Carolina	1995
Unpaid consulting, "Risk-Based Corrective Action Guidance Document for Petroleum Contaminated Sites" South Carolina Department of Health and Environmental Control Bureau of Underground Storage Tank Management Columbia, South Carolina	1994-1995
Environmental engineering consultant, air sparging Aquatech Port Washington, Wisconsin	1991

Professional Licensure

Professional Civil Engineer, Idaho	2000-present
Professional Civil Engineer, South Carolina	2000-2004

Leadership and Development Training

Executive Leadership in Academic Technology and Engineering (ELATE) at Drexel leadership development program for senior women faculty in science, technology, engineering, mathematics, (STEM) and related disciplines. Year-long fellowship: http://www.drexel.edu/engineering/programs/special-programs/ELATE/ .	2013-2014
Development for Deans & Academic Leaders, Council for Advancement and Support of Education, Chicago, IL, Oct. 24-26.	2012
77 th National Leadership Forum for Women Administrators, Office of Women in Higher Education of the American Council on Education, Washington DC, June 22-24.	2011
Women's Engineering Leadership Institute, sponsored by NSF, Cocoa Beach, FL, April 27-May 1.	2005

Professional Memberships and Activities

American Society of Civil Engineers (ASCE)	
• Department Heads' Coordinating Council (elected representative, Region 7)	2014-present
• Fellow (less than 4% of membership; one of 8 ASCE Fellows in SD)	2011-present
• Department Heads' Council member	2010-present
• South Dakota Section, Black Hills Chapter member	2010-present
• Student Chapter co-Faculty Advisor, SD School of Mines	2011-2012
• Student Chapter Faculty Advisor, SD School of Mines	2010-2011
○ ASCE Region 7 Outstanding Faculty Advisor Award	2011
○ SDSM&T Outstanding Faculty Advisor Award	2011

• Technical Committee member, International Conference on Unsaturated Soils (UNSAT2006)	2004-2006
• Southern Idaho Section member	2000-2010
• Geo-Institute member	1998-present
o Geoenvironmental Engineering (formerly Environmental Geotechnics) committee	1998-2005
o Soil Properties committee	1999-2005
• Student Chapter Faculty Advisor, University of South Carolina	1994-1997
• Student member	1986-1993
National Society of Professional Engineering	2010-present
• South Dakota Engineering Society	
• Black Hills Chapter, University liaison and member	
Transportation Research Board	
• Engineering Geology Subcommittee member and paper reviewer	1996-98
• Subsurface Drainage Subcommittee member and paper reviewer	1995-97
Council on Undergraduate Research	2010-present
Women in Engineering Programs and Advocates Network	2003-present
United States University Council on Geotechnical Education and Research	
• Member, South Dakota School of Mines and Technology	2010-present
• University representative and member, Boise State University	2000-2010
Black Hills Women in Science and Engineering, Rapid City	2013-present
American Society for Engineering Education	2010-present
Soil Science Society of America	1997-2012
• Soil Physics Division	
National Groundwater Association	1993-2011
American Geophysical Union	1993-2011

Honors and Awards

Executive Leadership in Academic Technology and Engineering (ELATE) at Drexel fellowship.	2013-14
Induction into Tau Beta Pi as an Eminent Engineer	2012
Elected Fellow of ASCE	2011
Outstanding Faculty Student Chapter Advisor Award, SDSM&T	2011
Boise State University Foundation Scholar Research Award	2008
Stoel Rives Idaho Innovation of the Year (tie with other applicant) award in early-stage technology for ion mobility spectrometer developed by my research team	2008
Election to the Honor Society of Chi Epsilon	1998
NSF CAREER and ARO Young Investigator Awards	1995
Three UW-Milwaukee Graduate School Fellowships	1987, '90, '92
Election to Honor Society of Phi Kappa Phi, UW-Milwaukee	1989
Helena Bielinska College Achievement Award	1988
Federation of Environmental Technologists Scholarship	1988
Polish-American Scholarship Merit Award	1987
American Association of Textile Chemists and Colorists Student Award for outstanding work in textile chemistry, UW-Madison	1985

Educational Activities

<u>South Dakota School of Mines and Technology</u>	2010-present
• CEE 500 Research Methods (new to SDSM&T), 1 cr, 3 semesters	
• CEE 463 Civil Engineering Profession/Concepts of Professional Practice, 2 cr, 3 semesters	
• CEE 464/465 Senior Design sequence, 3 cr, 2 semesters	
<u>Boise State University</u>	
• CE 120 Introduction to Civil Engineering (co-taught with Stephen Affleck), 3 cr, 1 semester	2000-2010
• CE 280 Civil Engineering Case Studies, 3 cr, 2 semesters	
• CE 412/512 (GEOs 412/512) Hydrogeology (new CE department course), 3 cr, 4	

- semesters
- CE 422/522 Hazardous Waste Engineering (new course at BSU), 3 cr, 1 semester
- CE 480 Senior Design, 4 cr, 2 semesters as instructor.
- CE 530 (GEOS 530) Vadose Zone Hydrology (new course at BSU), 3 cr, 4 semesters
- CE 533 (GEOS 533) Contaminant Transport (new course at BSU), 3 cr, 5 semesters
- GEOPHYS 697 Terrestrial Subsurface Processes I (1-month block of the Inland Northwest Research Alliance multi-institutional, distance delivery, subsurface science graduate course, 2 semesters
- ENGR 400/500 Research Methods, 1 cr, 5 semesters
- ME 493 Internship, CEE internship, 1 cr, 3 semesters

University of South Carolina

1993-2000

- UNIV 101 University 101 for Engineers, 3 cr, 2 semesters. See
- ECIV 330 Introduction to Geotechnical Engineering, 3 cr + lab, 2 semesters (undergraduate)
- ECIV 563 Subsurface Hydrology, 7 semesters, 3 cr (distance & on-campus students)
- ECIV 764 Unsaturated Flow Theory (new course to university), 3 cr, 3 semesters (distance & on-campus students)
- ECIV 763 Contaminant Transport, 7 semesters (distance & on-campus students)

Post-doctoral Associate Research Supervision

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| 1. R. Carter, "A subsurface ion mobility spectrometer for VOC detection." | 2007-2008 |
| 2. I. Forkutsa, "Effects of soil-hydraulic property inputs on 1-D unsaturated flow modeling in the Dry Creek Watershed." | 2006-2008 |
| 3. J. Imonigie, "Development of multi-purpose contaminant sensors." | 2003-2006 |
| 4. H. Noshi, 2001, "Novel optical detection schemes for in-situ mapping of volatile organochlorides in the vadose zone." | 2001 |
| 5. K.J. Bene, "Critical assessment of South Carolina Department of Health and Environmental Control petroleum release site guidance document." | 1997-2000 |
| 6. R. Kodešová, "Inverse solution of cone permeameter data." | 1997-1999 |

Master of Science Thesis Students

Degree awarded

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| 1. I. Geroy, MSCE, "Factors influencing soil moisture at the hillslope scale in a semi-arid mountainous environment." | 2010 |
| 2. B. Stratton, MSCE, "Evaluation of the spatially varying water balance processes in a semi-arid mountainous watershed of Idaho using the soil water assessment tool (SWAT) model." (co-advisor) | 2008 |
| 3. J. Figueras, MSCE, "Design of a user-friendly automated multistep outflow test system." | 2007 |
| 4. K.P. Ryan, MSCE, "A Gas Sampling Module for a Subsurface Ion Mobility Spectrometer." | 2006 |
| 5. K. Donley, MSCE, "Changes in Local Groundwater Elevation Following Stream Restoration in the Lower Red River Meadow, Idaho" (co-advisor with Stephen Affleck) | 2002 |
| 6. A.E. Cronican, MSCE, "Monte Carlo and first-order second-moment analyses of an analytical solution for contaminant fate and transport for conditions representative of South Carolina petroleum release sites." <i>NSF graduate fellowship awardee.</i> | 2001 |
| 7. Z. Al-Houri, MSCE, "A regression analysis method for the cone permeameter." L. Bilbrey, MSCE, "Funnel and gate performance in a moderately heterogeneous flow domain." | 1999 |
| 8. M.F. Leonard, MSCE, "Design and laboratory evaluation of a cone permeameter for unsaturated soil hydraulic parameter determination." | 1998 |
| 9. J.E. Singleton, MSCE, "Characterization of the hydraulic properties of a laboratory aquifer." | 1997 |

Master of Engineering in Civil Engineering (non-thesis) Students

Degree awarded

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|----------------|------|
| 1. J. Aulbach | 2007 |
| 2. B. Schrage | 2007 |
| 3. P. Johansen | 2007 |
| 4. T. Riecke | 2005 |
| 5. R. Morgan | 2005 |
| 6. Z. Ngoma | 2005 |
| 7. D. Bacongus | 2005 |
| 8. Jared Potts | 2005 |

Undergraduate Student Research Supervision

1. M. Steffes	2013
2. K. Schwab	2010
3. H. Mirsadeghi	2009-2010
4. E. Contreras	2009-2010
5. A. Zumwalt	2008-2010
6. J. Dillon	2008
7. S. Donley	2008
8. J. Selders	2008
9. A. Hansen	2006-2007
10. B. Duncan	2005-2007
11. K Unholz	2005-2007
12. B. Schrage	2004-2005
13. J. Figueras	2004-2005
14. S. Wheeler	2003-2007
15. J. Brown	2004
16. D. Baconguis	2003-2004
17. B. Steffens	2003-2005
18. M. Steffens	2003-2004
19. S. Klick	2001-2004
20. A. Mack	2001
21. R. Johnson	2001
22. G. Palacios	2000-2001
23. D. Porter	2000
24. C. McAlister	1999
25. M. Quinton	1999-2000
26. M. Mwamba	1998
27. S.C. Anderson, Honors College thesis: Construction of a large scale soil bed for unsaturated flow testing	1997-2000
28. A.E. Cronican, Honors College thesis: Hydraulic conductivity estimation for South Carolina sandy soils	1997-2000
29. J.R. Devereaux	1997
30. O.A. Givens	1995-1996
31. R. Kincanon	1996
32. E. Ott	1995
33. L. Bearden	1995-1996

Other Research Supervision

1. M. Davis, research assistant, EPA sensor project	2009
2. D. Morgos, research assistant, EPA sensor project	2008-2009
3. K. Ryan, research assistant, EPA sensor project	2006-2007
4. R. Sevier, project manager, EPA sensor project	2005-2008
5. R. Walters, research engineer, EPA sensor project	2002-2006
6. N. Parr, MEngr student, Evaluation of DHEC guidance document for petroleum contaminated sites	1997-1998
7. K. Lough, research assistant, Modeling unsaturated flow with SWMS_2D	1995-1996

Grants and Contract Awards

1. National Science Foundation (NSF) AGEP planning grant subcontract from Idaho State University (ISU), Gribb (co-PI) and Fick, \$50,000. Assumed responsibility for subcontract to SDSM&T from original NSF AGEP award: "SNAAP: Strengthening Native American access to the professoriate," Easterly (PI, ISU), Logar (co-PI, SDSM&T), \$140,897.	2013-2014
2. NSF EPSCoR, planning grant for RII proposal, subcontract from South Dakota State University (SDSU), Gribb (lead), Berdanier (SDSU) and Berry (USD), . \$8,000.	2011-2012
3. US Department of Transportation, SD Local Technical Assistance Program, subcontract from SDSU, Gribb (PI), \$43,391.	
4. NSF EPSCoR, "Soil hydraulic property studies in the Dry Creek Experimental Watershed," subcontract from the University of Idaho (U of I), support for an undergraduate research project, Mooney (PI), \$5,000.	2010
5. NSF EPSCoR, "Research Infrastructure Improvement," subcontract from U of I for instrumentation in the Dry Creek Experimental Watershed, Gribb (PI) and McNamara, \$50,000.	2009-2010
6. NASA EPSCoR, "Factors influencing soil moisture at the hillslope scale in a semi-arid mountainous environment," Gribb (PI), \$30,000.	2009-2010
7. National Weather Service Office of Hydrologic Development, "Improved hydrologic modeling of water resources for snow-dominated regions," McNamara (PI), Benner, Sridhar and Gribb, \$350,000.	2009-2010
8. Inland Northwest Research Alliance (INRA), Subsurface Biotechnology and Bioremediation	2007-2009

- Research Initiative, Gribb (PI) \$16,500.
9. URS Corp., Field demonstration of a subsurface IMS, Gribb (PI), . \$75,000. 2008-2009
 10. EPA, "Boise State University for developing multi-purpose sensors to detect and analyze environmental contaminants," Gribb (PI), Moll, Loo, Hampikian, Kuang and Hill, \$2,248,420. 2005-2008
 11. INRA, "Proposal for INRA SSRI/SSGP core sequence development and instruction," Gribb (PI), \$20,700. 2005-2006
 12. NSF EPSCoR, "Research Infrastructure Improvement," BSU subcontract to U of I for Hydrologic Processes project, McNamara (PI) Gribb, Benner, Mead, \$1,511,854. 2005-2008
 13. INRA, Proposal for INRA SSRI/SSGP Core Sequence Development and Instruction, Gribb (PI), \$23,500. 2004-2005
 14. BSU Office of the Vice President for Research, Collaborative Grant Improvement Initiative, McNamara and Gribb (co-PIs), \$150,000. 2004-2006
 15. EPA, "Boise State University for developing multi-purpose sensors to detect and analyze environmental contaminants," Gribb (PI), Moll, Jessing, Baker and Hill, \$1,995,000. 2002-2006
 16. USGS NIWR (through Idaho Water Resources Research Institute), "Advanced cone penetrometer technology for in-situ measurement of unsaturated soil hydraulic properties," Gribb (PI), \$15,000. 2004-2005
 17. INRA, INRA SSRI/SSGP Core Sequence Development Committee, Gribb (PI), \$4,570. 2004
 18. Idaho State Board of Education Higher Education Research Council, Infrastructure grant, \$15,000. 2002-2003
 19. NSF-Idaho EPSCOR, Graduate student funding, \$7,900. 2001-2002
 20. NSF-Idaho EPSCOR Instrumentation Grant, "Acquisition of particle analyzer and gas chromatographic equipment," Gribb (PI), Dawson, Khanal and Murgel, \$30,000. 2002
 21. Department of Defense DURIP program, "Research instrumentation to enhance unsaturated soil hydraulic parameter studies," Gribb (PI), \$55,572. 2001-2002
 22. NSF-Idaho EPSCOR Instrumentation Grant, "Acquisition of sensor fabrication tools, cone penetrometry equipment, and wireline instruments for advanced subsurface characterization," Duttagupta (PI), Gribb and Knoll, \$169,969. 2000
 23. Department of Energy, "Novel optical detection schemes for in-situ mapping of volatile organochlorides in the vadose zone," Angel (PI) and Gribb, (at USC) and (at BSU) \$425,000 (my portion: \$63,870). 1999-2002
 24. South Carolina Department of Health and Environmental Control (SC DHEC), Bureau of Underground Storage Tank Management, "Validation of the Soil Leachability Model," Gribb (PI), \$140,400. 1997-2000
 25. Army Research Office (ARO), Terrestrial Sciences Program, Augmentation Award for Science and Engineering Research Training (AASERT), "Unsaturated soil hydraulic parameter studies," Gribb (PI), \$84,000. 1997-2000
 26. **NSF Faculty Early Career Development (CAREER) Program Award**, Division of Civil and Mechanical Systems, Geomechanical, Geotechnical and Geoenvironmental Systems, "Hydraulic conductivity measurement in unsaturated soils with a modified cone penetrometer," Gribb (PI) \$309,278. Included:
 - 4 Research Experience for Undergraduates (REU) awards 1997-1999
 - Professional Opportunities for Women in Research and Education (POWRE) supplement. 1998-2000
- Matching grants for NSF CAREER Award:
- SC DHEC, Bureau of Underground Storage Tank Management, \$5,000. 1997
 - South Carolina Hazardous Waste Management Research Fund, \$10,000. 1997, 1999
 - In Situ Group (Orlando, Florida), equipment donations, \$6,500. 1998
27. **ARO, Terrestrial Sciences Program, Young Investigator Award**, "Hydraulic conductivity measurement in unsaturated soils with a modified cone penetrometer," Gribb (PI), \$86,059. 1995-1999

Editorial Board Appointments

- ASCE Geo-Institute *GeoStrata* Magazine 2000-2005
- Gribb, M.M. (2004), "'The importance of being earnest' about education," message from the editorial board, *GeoStrata*, Summer 2004 edition, 4.
- ASTM *Geotechnical Testing Journal* 1999-2003

Publications (*denotes student author)

Refereed Journal Articles:

1. Geroy*, I.J. **M.M. Gribb**, H.P. Marshall, D.G. Chandler, S.G. Benner and J.P. McNamara (2011). Aspect influences on soil water retention and storage. *Hydrological Processes*, 25(25):3826-3842, doi: 10.1002/hyp.8281. Internet: <http://dx.doi.org/10.1002/hyp.8281>.
2. Smith*, T.J., J.P. McNamara, A.N. Flores, **M.M. Gribb**, P.S. Aishlin and S.G. Benner (2011). Small soil storage capacity limits benefit of winter snowpack to upland vegetation. *Hydrologic Processes*, 25(25):3858-3865, doi:10.1002/hyp.8340. Internet: <http://onlinelibrary.wiley.com/doi/10.1002/hyp.8340>.
3. Thoma*, M.J., J.P. McNamara, **M.M. Gribb** and S.G. Benner (2011). Seasonal recharge components in an urban/agricultural mountain front aquifer system using noble gas thermometry. *Journal of Hydrology*, 409(1-

- 2):118-127, doi:10.1016/j.jhydrol.2011.08.003. Internet:
<http://www.sciencedirect.com/science/article/pii/S0022169411005294>.
4. Morgos*, D., I. Geroy*, R.G. Sevier, **M.M. Gribb**, K. Ryan* and H.H. Hill (2010). A small ion mobility spectrometer sensor system for use in subsurface soils. *International Journal for Ion Mobility Spectrometry*, doi: 10.1007/s12127-009-0033-x.
 5. Kelleners, T.J., D.G. Chandler, J.P. McNamara, **M.M. Gribb** and M.S. Seyfried (2010). Modeling runoff generation in a small snow-dominated mountainous catchment. *Vadose Zone Journal*, 9:517-527, doi:10.2136/vzj2009.0033.
 6. Stratton*, B.T., V. Sridhar, **M.M. Gribb**, J.P. McNamara and B. Narasimhan (2009). Modeling the spatially varying water balance processes in a semi-arid mountainous watershed of Idaho. *JAWRA*, 45(6):1390-1408, doi: 10.1111/j.1752-1688.2009.00371.x.
 7. Kelleners T.J., D.G. Chandler, J.P. McNamara, **M.M. Gribb** and M.S. Seyfried (2009). Modeling the water and energy balance of vegetated areas subject to snow accumulation. *Vadose Zone Journal*. 8:1013–1030, doi:10.2136/vzj2008.0183.
 8. Figueras*, J. and **M.M. Gribb** (2009). Design of a user-friendly automated multistep outflow test system. *Vadose Zone Journal*, 8(2):523-529, doi:10.2136/vzj2008.0016.
 9. **Gribb M.M.**, I. Forkutsa, D.G. Chandler and J.P. McNamara (2009). The effect of soil hydraulic properties on 1-D simulations of water flux in the Dry Creek Watershed. *Vadose Zone Journal*, 8(2):321-331, doi:10.2136/vzj2008.0088.
 10. Loo, S.M., J.P. Cole* and **M.M. Gribb** (2008). Hardware/software codesign in a compact ion mobility spectrometer sensor system for subsurface contaminant detection. *EURASIP Journal on Embedded Systems*, Vol. 2008, Article ID 137295, doi:10.1155/2008/137295. Internet:
<http://jes.eurasipjournals.com/content/pdf/1687-3963-2008-137295.pdf>.
 11. Kanu*, A.B., **M.M. Gribb** and H.H. Hill (2008). Optimal resolving power for ambient pressure ion mobility spectrometry (IMS). *Anal. Chem.*, 80(17):6610–6619, doi: 10.1021/ac8008143. Internet:
<http://pubs.acs.org/doi/pdf/10.1021/ac8008143>.
 12. Kanu*, A.B., H.H. Hill, **M.M. Gribb** and R.N. Walters (2007). A small ion mobility spectrometer sensor for detecting environmental soil-gas contaminants. *J. Environmental Monitoring*, 9:51-60, doi:10.1039/B61049. Work featured on journal cover (pictured right).
 13. Imonigie, J.A., R.N. Walters and **M.M. Gribb** (2006). Rapid isothermal gas chromatography-mass spectrometry method for validating a miniature ion mobility sensor. *Instrumentation Science & Technology*, 34, 677-695, doi: 0.1080/107391/10739140600964010.
 14. **Gribb, M.M.**, R. Kodešová and S.E. Ordway* (2004). Comparison of soil hydraulic property measurement methods. *J. Geotechnical and Geoenvironmental Engineering* 130(10):1084-1095.
 15. Cronican*, A.E. and **M.M. Gribb** (2004). Hydraulic conductivity prediction for sandy soils. *Ground Water*, 42(3):459-464.
 16. **Gribb, M.M.**, K.J. Bene* and A. Shrader (2002). Sensitivity analysis of a soil leachability model for vadose zone fate and transport. *Adv. Environ. Res.*, 7(1):35-48, doi:10.1016/S1093-0191(01)00107-1.
 17. Kodešová, R., S.E. Ordway*, **M.M. Gribb** and J. Šimůnek (1999). Estimation of soil hydraulic properties with the cone permeameter: Field studies. *Soil Science* 164(8):527-541.
 18. Šimůnek J., R. Kodešová, **M.M. Gribb** and M.Th. van Genuchten (1999). Estimating hysteresis in soil water retention function from cone permeameter experiments. *Water Resources Research*, 35(5):1329-1334.
 19. **Gribb, M.M.**, J. Šimůnek and M.F. Leonard* (1998). Development of a cone penetrometer method to determine soil hydraulic properties. *J. Geotechnical and Geoenvironmental Engineering*, 124(9):820-829.
 20. Kodešová, R., **M.M. Gribb** and J. Šimůnek (1998). Estimating soil hydraulic properties from transient cone permeameter data. *Soil Science*, 163(6):436-453.
 21. Šimůnek, J., M.Th. van Genuchten, **M.M. Gribb** and J.W. Hopmans (1998). Parameter estimation of unsaturated soil hydraulic properties from transient flow processes. *Soil and Tillage Research*, Special issue: State of the art in soil physics and in soil technology of anthropic soils. 47(1-2):27-36.
 22. **Gribb, M.M.** and G. Sewell (1998). Solution of ground water flow problems with general purpose and special purpose computer codes. *Ground Water*, 36(2):366-372.
 23. **Gribb, M.M.** (1996). Parameter estimation for determining hydraulic properties of a fine sand from transient flow measurements. *Water Resources Research*, 32(7):1965-1974.



Refereed Conference Papers:

1. Fick, D., **M.M. Gribb** and C.J. Tinant (2013). Impact of project-based service learning in a Native American community on student performance in civil engineering capstone design. *Proc. 2013 Frontiers in Education Conference*, Oklahoma City, OK, Oct. 23-26, 2013.
2. Sevier, D., K.P. Ryan*, **M.M. Gribb**, S.M. Loo and H.H. Hill (2007). A novel subsurface ion mobility spectrometer sensor system. *Proc. Symposium on Environmental Sensing*, INRA and Boise State Center for Environmental Sensing, Boise, Idaho, Oct. 25-26, 2007.
3. Loo, S.M., J. Cole*, R. Youngberg*, J. Baker and **M.M. Gribb** (2006). Field-programmable gate array in a miniature ion mobility spectrometer sensor system. *Proc. 2006 International Conference on Embedded Systems & Applications*, Las Vegas, NV, June 26-29, 2006.
4. Sevier, D., **M.M. Gribb**, R.N. Walters, J. Imonigie, K.P. Ryan*, H. Hill, F. Hong*, J. Baker and S.M. Loo (2006). An in-situ ion mobility spectrometer sensor system for detecting gaseous VOCs in the vadose zone. *Proc. 4th International Conference on Unsaturated Soils*, G.A. Miller, C.E. Zapata, S.L. Houston, and D.G. Fredlund, Eds., ASCE Geotechnical Special Pub. No. 147(1), 225-234, Carefree, AZ, April 2-6, 2006.

5. Kodešová, R., **M.M. Gribb** (2006). Methods for Determination of soil Hydraulic Properties, In: *Environmental Health in Central and Eastern Europe*, K.C. Donnelly and L.H. Cizmas, Eds., 205-211, doi: 10.1007/1-4020-4845-9 Springer Netherlands. http://springer.libdl.ir/chapter/10.1007/1-4020-4845-9_25.
6. Alford, E. and **M.M. Gribb** (2000). Using writing to improve retention: Communications assignments in a freshman year experience course for engineers. *Proc. 2000 ASEE Annual Meeting, "Engineering Education Beyond the Millennium,"* June 18-21, 2000, St. Louis, MO.
7. Benson, C.H. and **M.M. Gribb** (1997). Measuring unsaturated hydraulic conductivity in the laboratory and field. In: *Unsaturated Soil Engineering Practice*, S.L. Houston and D.G. Fredlund, eds., Geotechnical Special Pub.No. 68, 113-168, ASCE, New York, NY (**invited**).
8. **Gribb, M.M.** and G.W. Gribb (1994). Use of neural networks for hydraulic conductivity determination in unsaturated soil. *Proc.2nd International Conference on Groundwater Ecology*, J.A. Stanford and H.M. Valett, eds., AWRA, 155-163, Atlanta, GA, Apr. 6-7, 1999.
9. Rohde, J.R. and **M.M. Gribb** (1990). Biological and particulate clogging of geotextile/soil filter systems. *Geosynthetic Testing for Waste Containment Applications*, R.M. Koerner, ed., ASTM STP No. 1081, 299-312, ASTM, Las Vegas, NV.

Non-refereed Conference Papers

1. Kodešová, R. and **M.M. Gribb** (2004). Estimation of hydraulic properties of unsaturated soils via inverse modeling: laboratory multi-step outflow/inflow and field cone permeameter tests. In: *Global Warming and other Central European Issues in Environmental Protection, Pollution and Water Resources*, Columbia University Seminar Proceedings, Eds. Halasi-Kun, G.J., Štekauerová, V., Neményi, M., Lo Pinto, R., Columbia University Seminars, in cooperation with Slovak Academy of Sciences - Institute of Hydrology, Slovak University of Technology - Faculty of Civil Engineering, Vol. XXXV 2003-2004, 216-229, ISBN 80-967808-7-5.
2. Kodešová, R. and **M.M. Gribb** (2003). A comparison of measurement techniques for determining unsaturated soil hydraulic properties. In: *Soil hydrology of small catchments*, Eds. M. Sir, L. Lichner, and M. Tesar, Institute of Hydrodynamics ASCR, Prague, 41-48, ISBN 80-02-01586.
3. Hartman, J., W. Prouty*, A.J. Moll, H.H. Hill and **M.M. Gribb** (2003). Control and signal processing for an IMS sensor. *Proc. 2nd International Conference on Ion Mobility Spectrometry*, Umeå, Sweden, July 27-Aug.1, 2003.
4. **Gribb, M.M.**, J. Šimůnek and M.Th. van Genuchten (1999). In situ estimation of soil hydraulic properties using inverse modeling. *Behavioral Characteristics of Residual Soils*, Geotechnical Special Pub. No. 92, B. Edelen, ed., 54-63, ASCE, Reston, VA.
5. Šimůnek J., **M.M. Gribb**, M.Th. van Genuchten and J.W. Hopmans (1998). Estimating soil hydraulic properties from field data via inverse modeling. *Proc.2nd International Conference on Unsaturated Soils, Unsat '98*, 515-520, Beijing China, Aug. 27- 30, 1998.
6. Šimůnek, J., M.Th. van Genuchten, **M.M. Gribb** and J.W. Hopmans (1998). Parameter estimation of unsaturated soil hydraulic properties from transient flow processes. *Trans. 16th World Congress of Soil Science*, published on a CD ROM (189-t.pdf), Int. Society of Soil Science, Montpellier, France, 7 pp, Aug. 20-26, 1998.
7. Kodešová, R., **M.M. Gribb** and J. Šimůnek (1999). Use of the cone permeameter method to determine soil hydraulic properties. *Proc. International Workshop on Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media*, M.Th. van Genuchten, F.J. Leij and L. Wu, eds., Part 1, 527-539, UC-Riverside, Riverside, CA, 1999.
8. Kodešová, R., **M.M. Gribb** and J. Šimůnek (1998). A new CPT method for estimating soil hydraulic properties. *Proc.1st International Site Characterization Conference, ISC'98*, P.K. Robertson and P.W. Mayne, eds., A. A. Balkema, Rotterdam, Vol. 2, 1421-1425, Atlanta, Georgia, April 19-22, 1998.
9. Leonard*, M.F., J.E. Singleton* and **M.M. Gribb** (1997). Design of a modified cone penetrometer for determination of unsaturated soil hydraulic parameters. *Proc. Joint USAF/USA Contractor Grantee Meeting*, 259-263, Panama City, FL, Feb. 13-17, 1997.
10. Singleton*, J.E., M.F. Leonard* and **M.M. Gribb** (1996). Hydraulic conductivity measurement in unsaturated soils with a modified cone penetrometer. *Proc. Third International Symposium and Exhibition on Environmental Contamination in Central and Eastern Europe*, 660-662, Warsaw Poland.
11. Morris*, K.B, **M.M. Gribb** and R.P. Ray (1995). Integrated, full-scale model validation of unsaturated flow behavior. *Proc. 1st International Conference on Unsaturated Soils*, E.E. Alonso and P. Delage, eds., A.A. Balkema, Rotterdam, Vol. 1, 399-403, Paris, France, Sept.
12. Olsen, R.S. and **M.M. Gribb** (1995). Comprehensive presentation of raw CPT data. *Proc. International Symposium on Cone Penetration Testing*, Swedish Geotechnical Society, Linköping, Sweden, Vol. 2, 61-65, 1995.

Other Creative Products

Supported development of E-learning module, "How to Write a Literature Review"
<http://campaign.sdsmt.edu/CEelitReview/story.html>. Module created by Dr. Yonnie Chyung
with content from the Asian Institute of Technology.

2013

Patents and Technology Transfer

US Provisional Patent Application No. 60/042,715, "Modified Cone Penetrometer," with MSCE student M.F. Leonard. 1997

Workshops/Continuing Education

1. Kiewit Women's Leadership Seminar, Omaha, NE, Nov. 13-15. 2013
1. Writing Across the Curriculum: week-long workshop, Boise State University, Boise Idaho, May 27-31. 2008
2. Idaho Department of Environmental Quality training on risk-based decision making manual and procedure, June 29-30. 2004
3. Design Waste Containment/Closure Systems, Boise State University Division of Extended Studies, March 24. 2004
4. Blackboard 6 training, Academic Technologies at Boise State, Aug. 19.
5. Conflict Management Seminar, Skillpath Seminars, Boise, ID, May 12. 2004
6. Writing course objectives, College of Engineering Workshop, Boise State University, Aug. 21.
7. Blackboard 6 workshop, Boise State University, May 1. 2003
8. Blackboard 6 workshop on assessments, Nov. 17, 2003, BSU Academic Technologies.
9. PeopleSoft Student Records General Inquiry, Boise State University, Dec. 1. 2003
10. Continuing Improvement Workshop, College of Engineering, Boise State University, Jan. 6. 2003
11. Advanced soil water and soil solute flow modeling workshop at the Institute of Soil Science, University of Hanover, Germany, Apr. 23-25. 2003
12. South Carolina Sustainable Universities Initiative faculty teaching workshop, "Ready for the Millennium: Greening the business curriculum," Columbia, SC, May 21. 1999
13. NSF Chautauqua Short Course, "Enhancing student success through a model "Introduction to Engineering" course," Clark Atlanta University, Atlanta, GA, May 5-7. 1999
14. College of Engineering Writing Workshop for University101-Engineering Faculty and TAs, Sept. 12. 1997
15. University 101 training for U101 instructors in math, science, and engineering, May 22-23. 1997
16. Faculty Instructional Development Seminar, Office of the Provost and the Faculty Committee on Instructional Development. Oct. 15. 1997
17. NSF-Gateway-Cooper Union University Leadership Seminar for Women Engineers, New York City, NY, July 24-28 (accompanied by undergraduate student Brenden Brown). 1997
18. College Faculty Enhancement Workshop for Instructors of Courses with Water Resources Content and Educators of Science Teachers, and follow-up session, sponsored by NSF and USGS, Golden, CO. 1994,1995

Service Activities

National/international conference session chair

Technical session co-chair, Central & Eastern Europe Conference on Health and the Environment, Cluj-Napoca, Romania, October 19-22. 2008

Session chair, UNSAT 2006, Carefree, AZ, April 6. 2006

Session chair, European Geophysical Society XXII General Assembly, April 25. 1997

Proposal Reviewer

National Science Foundation review panels (1995, 1997, 1998, 2000, 2007, 2010) 1995-present

National Science Foundation, many individual reviews,1995-2014

Army Research Office

U.S. Civilian Research and Development Foundation

Idaho National Laboratory

The Petroleum Institute

Paper Reviewer for Journals and Proceedings:

Canadian Geotechnical Journal

Engineering Geology

Field Analytical Chemistry and Technology,

Geotech. Testing. Journal

Ground Water

Intl. J. of Numerical Methods in Geotechnics

Journal of Contaminant Hydrology

Journal of Engineering Geology

Journal of Geotechnical and Geoenvironmental Engineering

Journal of Hydrologic Engineering

Journal of Hydrology

Journal of Water Resources Planning and Management

1995-present

Methods of Soil Analysis, Part 1, SSSA, Sections 3.3.1 and 3.3.2 of Chapter 3.3, Water retention and storage
Proceedings of the ASCE Geotechnical Engineering Division specialty conference on Uncertainty in the Geologic Environment: From theory to practice
Proceedings of Transportation Research Board Annual Meetings
Scientia Agricola
Soil and Water Research
Soil Science
Soil Science Society of America Journal
Vadose Zone Journal
Water Resources Research

Other Review Activities

National Science Foundation, member of site-visit review team for proposed NSF Engineering Research Center, Feb. 15-18.	2000
SC DNR Stewardship Development Program Awards Review Panel	1999