Molly M. Gribb, Ph.D., P.E.
Head and Professor, Department of Civil and Environmental Engineering
South Dakota School of Mines and Technology
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EDUCATION

Doctor of Philosophy, Civil Engineering, 1993
University of Wisconsin-Milwaukee, Wisconsin
Major: Water Resources/Geotechnical Engineering
Minor: Biological Sciences

Master of Science, Civil Engineering, 1988
University of Wisconsin-Milwaukee, Wisconsin
Major: Geotechnical/Water Resources Engineering

Bachelor of Science, Environment, Textiles and Design, 1985
University of Wisconsin, Madison, Wisconsin
Major: Textile Science

Continuing education

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, July 2013-Present.

Development for Deans & Academic Leaders, Council for Advancement and Support of Education, Oct. 24-26, 2012, Chicago, IL.

77th National Leadership Forum for Women Administrators, Office of Women in Higher Education of the American Council on Education, June 22-24 2011, Washington DC.

Writing Across the Curriculum: week-long workshop, Boise State University, Boise Idaho, May 2008.

HONORS

- Induction into Tau Beta Pi as an Eminent Engineer, May 2012
- ASCE 2012 Outstanding Faculty Advisor Award for Region 7
- Elected Fellow of ASCE, July 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 award in early-stage technology for ion mobility spectrometer developed by my research team, 2008
- Election to the Honor Society of Chi Epsilon, 1998
- UW-Milwaukee Graduate School Fellowships, 1992-93, 1990-91, 1987-88
- 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
- Graduation with Distinction, 1985; Dean's Honor List, seven semesters, UW-Madison, 1981-85
- American Association of Textile Chemists and Colorists Student Award for outstanding work in textile chemistry, UW-Madison, 1985

PROFESSIONAL EXPERIENCE

South Dakota School of Mines, Rapid City, SD
Head and Professor (2010-Present), Department of Civil and Environmental Engineering

Boise State University, Boise, Idaho
Professor (2005-2010), Associate Professor (2000-2005) Department of Civil Engineering
Director (2005-2010) BSU Center for Environmental Sensing

University of South Carolina, Columbia SC
Associate Professor (1999-2000), **Assistant Professor** (1993-99)
Department of Civil and Environmental Engineering
Associated Faculty (1996-2000), USC School of the Environment

University of Wisconsin-Milwaukee, Milwaukee, WI
Adjunct Lecturer (1991-92) **Research Assistant** (1986-87; 1989-90) **Teaching Assistant** (1988-89)
Department of Civil Engineering and Mechanics

PROFESSIONAL REGISTRATION

Idaho #9888

RESEARCH INTERESTS

Unsaturated and saturated porous media flow, in situ testing and instrumentation, site characterization, contaminant fate and transport, remediation of contaminated soil and groundwater.

GRANTS/EQUIPMENT DONATIONS

1. NSF AGEP planning grant, subcontract from Idaho State University, Gribb (PI) and Fick, $50,000, 2013-14.
2. Pace Analytical, analytical equipment donation, Gribb, 2012, $126,000
3. NSF EPSCoR, planning grant for RII proposal, subcontract from South Dakota State University, Gribb (lead), Berdanier and Berry, 2012, $8,000.
4. US DOT, SD Local Technical Assistance Program, subcontract from SDSU, Gribb (PI), 2011-12, $43,391.
5. 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), 2010, $5,000.
6. NSF EPSCoR, “Research Infrastructure Improvement,” subcontract from U of I for instrumentation in the Dry Creek Experimental Watershed, Gribb (PI) and McNamara, 2009-2010, $50,000.

7. NASA EPSCoR, “Factors influencing soil moisture at the hillslope scale in a semi-arid mountainous environment,” Gribb (PI), 2009-10, $30,000.
8. National Weather Service Office of Hydrologic Development, “Improved hydrologic modeling of water resources for snow-dominated regions,” J. McNamara (PI), S. Benner, V. Sridhar and M. Gribb, 2009-10, $350,000.
9. Inland Northwest Research Alliance, Subsurface Biotechnology and Bioremediation Research Initiative, Gribb (PI), 2007-09, $16,500.
10. URS Corp., Field demonstration of a subsurface IMS, Gribb (PI), 2008-09, $75,000.
11. Environmental Protection Agency, “Boise State University for developing multi-purpose sensors to detect and analyze environmental contaminants,” Gribb (PI), Moll, Loo, Hampikian, Kuang and Hill, 2005–08, $2,248,420.
12. Inlands Northwest Research Alliance, Proposal for INRA SSRI/SSGP Core Sequence Development and Instruction, Gribb (PI), 2005-06, $20,700.
13. NSF EPSCoR, “Research Infrastructure Improvement,” BSU subcontract to U of I for Hydrologic Processes project, McNamara (PI) Gribb, Benner, Mead, 2005-08, $1,511,854.
14. Inlands Northwest Research Alliance, Proposal for INRA SSRI/SSGP Core Sequence Development and Instruction, Gribb (PI), 2004-05, $23,500.
15. Boise State University Office of the Vice President for Research, Collaborative Grant Improvement Initiative, McNamara and Gribb (co-PIs), 2004-06, $150,000.
16. Environmental Protection Agency, “Boise State University for developing multi-purpose sensors to detect and analyze environmental contaminants,” Gribb (PI), Moll, Jessing, Baker and Hill, 2002-06, $1,995,000.
17. USGS NIWR (through IWRRI), “Advanced Cone Penetrometer Technology for In-Situ Measurement of Unsaturated Soil Hydraulic Properties,” Gribb (PI), 2004-05, $15,000.
18. Inlands Northwest Research Alliance, INRA SSRI/SSGP Core Sequence Development Committee, Gribb (PI), 2004, $4,570.
19. State Board of Education Higher Education Research Council, Infrastructure grant, $15,000.
20. NSF-Idaho EPSCOR, Graduate student funding, $7,900.
21. NSF-Idaho EPSCOR Instrumentation Grant, “Acquisition of particle analyzer and gas chromographic equipment,” Gribb (PI), Dawson, Khanal, and Murgel, 2002, $30,000.
22. Department of Defense DURIP program, “Research instrumentation to enhance unsaturated soil hydraulic parameter studies,” Gribb (PI), 2001-02, $55,572.
23. 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, 2000, $169,969.
24. Department of Energy, “Novel optical detection schemes for in-situ mapping of volatile organochlorides in the vadose zone,” Angel (PI) and Gribb, 1999-2000 (at USC) and 2001-02 (at BSU) $63,870.
25. South Carolina Department of Health and Environmental Control, Bureau of Underground Storage Tank Management, “Validation of the Soil Leachability Model,” Gribb (PI) 1997-2000, 140,400.
26. **Army Research Office, Terrestrial Sciences Program, Young Investigator Award**, “Hydraulic conductivity measurement in unsaturated soils with a modified cone penetrometer,” Gribb (PI), 1995-99, $86,059.
27. Army Research Office, Terrestrial Sciences Program, Augmentation Award for Science and Engineering Research Training (AASERT), “Unsaturated soil hydraulic parameter studies,” Gribb (PI), 1997-2000, $84,000.
28. **National Science Foundation 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), 1995-2000. Includes four Research Experience for Undergraduates

(REU) Awards, 1997-99, and a Professional Opportunities for Women in Research and Education (POWRE) supplement, 1998-2000, $309,278.

Matching grants for NSF CAREER Award:

- South Carolina Department of Health and Environmental Control, Bureau of Underground Storage Tank Management, 1997, $5,000.
- South Carolina Hazardous Waste Management Research Fund, 1997 and 1999, $10,000.
- In Situ Group (Orlando, Florida), equipment donations, 1998, $6,500.

TEACHING

South Dakota School of Mines and Technology
CEE 500 Research Methods
CEE 463 Civil Engineering Profession
CEE 464/465 Senior Design

Boise State University

CE 120 Introduction to Civil Engineering	CE 480 Senior Design
CE 280 Civil Engineering Case Studies	CE 530 (GEOS 530) Vadose Zone Hydrology
CE 412/512 (GEOL 412/512) Hydrogeology	CE 533 (GEOS 533) Contaminant Transport
CE 422/522 Hazardous Waste Engineering	ENGR 400/500 Research Methods

GEOPHYS 697 Terrestrial Subsurface Processes I (1-month block of the Inland Northwest Research Alliance multi-institutional, distance delivery, subsurface science graduate course, Fall 2004, 2005)

Course highlights

- Student-centered approach to teaching
- All courses have been taught using D2L or Blackboard courseware, augmented with visual aids and handouts, including student time at the board
- Guest lectures to enhance courses
- Integration of research content in courses

RESEARCH & STUDENT SUPERVISION

Post-doctoral Associates (6)

R. Carter, 2007-08, "A subsurface ion mobility spectrometer for VOC detection."
I. Forkutsa, 2006-08, "Effects of soil-hydraulic property inputs on 1-D unsaturated flow modeling in the Dry Creek Watershed."
J. Imonigie, 2003-06, "Development of multi-purpose contaminant sensors."
H. Noshi, 2001, "Novel optical detection schemes for in-situ mapping of volatile organochlorides in the vadose zone."
K. J. Bene, 1997-2000, "Critical assessment of South Carolina Department of Health and Environmental Control petroleum release site guidance document."
R. Kodešová, 1997-99, "Inverse solution of cone permeameter data."

Graduate Students (15)

I. Geroy, MS CE 2010, "Factors influencing soil moisture at the hillslope scale in a semi-arid mountainous environment."
B. Stratton, MS CE 2008, "Evaluation of the spatially varying water balance processes in a semi-arid

mountainous watershed of Idaho using the soil water assessment tool (SWAT) model."
J. Figueras, MS CE 2007, "Design of a user-friendly automated multistep outflow test system."
J. Aulbach, MEngr CE 2007.
K. Ryan, MS CE 2006, "A Gas Sampling Module for a Subsurface Ion Mobility Spectrometer."
B. Schrage, MEngr CE, 2005-07.
P. Johansen, MEngr CE, 2004-07.
T. Riecke, MEngr CE, 2002-05.
R. Morgan, MEngr CE, 2002-05.
K. Donley, MS CE 2002, "GIS for determining groundwater elevation changes during stream restoration."
A. E. Cronican, MS CE 2001, "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."
Z. Al-Houri, MS CE 1999, "A regression analysis method for the cone permeameter."
L. Bilbrey, MS CE 1998, "Funnel and gate performance in a moderately heterogeneous flow domain."
M. F. Leonard, MS CE 1997, "Design and laboratory evaluation of a cone permeameter for unsaturated soil hydraulic parameter determination."
J. E. Singleton, MS CE 1997, "Characterization of the hydraulic properties of a laboratory aquifer."

Undergraduate Students (31)
M. Steffes, 2013; K. Schwab, 2010; H. Mirsadeghi, 2009-10; E. Contreras, 2009-10; A. Zumwalt, 2008-10; J. Dillon, 2008; S. Donley, A. Hansen and B. Duncan, 2006-07; K Unholz, 2005-07; J. Figueras, 2004-05; S. Wheeler, 2003-07; J. Brown, 2004; D. Baconguis, 2003-04; B. Steffens, 2003-05; M. Steffens, 2003-04; S. Klick, 2001-04; A. Mack, 2001; R. Johnson, 2001; G. Palacios, 2000-01; D. Porter, 2000; C. McAlister, 1999; M. Quinton, 1999-2000; M. Mwamba, 1998; S. Anderson, 1997-2000 (Honors College thesis: Construction of a large scale soil bed for unsaturated flow testing); A. Cronican, 1997-99 (Honors College thesis: Hydraulic conductivity estimation for South Carolina sandy soils); J. R. Devereaux, 1997; O. A. Givens, 1995-96; R. Kincanon, 1996; E. Ott, 1995; L. Bearden, 1995-96.

PUBLICATIONS

Refereed Journal Articles:

1. Geroy, I.J. and M.M. Gribb, H.P. Marshall, D.G. Chandler, S.G. Benner, 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., and J.P. McNamara, A.N. Flores, M.M. Gribb, P.S. Aishlin, 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. and J.P. McNamara, M.M. Gribb, 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, 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, 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, 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., Forkutsa I., Chandler D.G., and McNamara J.P. (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, 8 pages, doi:10.1155/2008/137295.
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.
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. A graphic from our paper was featured on front cover of the journal.
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 A quasi-direct insertion technique for validating a miniature ion mobility sensor," *Instrumentation Science & Technology, 34*, 677-695.
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.
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 antrophic 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. Tinant (2013). "Impact of Project-Based Service Learning in a Native American Community on Student Performance in Civil Engineering Capstone Design" 2013 Frontiers in Education Conference, Oklahoma City, OK, Oct. 23-26, 2013.

2. Sevier, D., K.P. Ryan, M.M. Gribb, S.M. Loo, H.H. Hill (2007), "A Novel Subsurface Ion Mobility Spectrometer Sensor System," Proceedings of the Symposium on Environmental Sensing, Inland Northwest Research Alliance 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," *Proceedings of the 2006 International Conference on Embedded Systems & Applications*, June 26-29, 2006, Las Vegas, NV.
4. Sevier, D., M.M. Gribb, R.N. Walters, J. Imonigie, K. Ryan, H. Hill, F. Hong, J. Baker, S.M. Loo (2006). "An In-Situ Ion Mobility Spectrometer Sensor System for Detecting Gaseous VOCs in the Vadose Zone," *Proceedings of the Fourth International Conference on Unsaturated Soils*, G.A. Miller, C.E. Zapata, S.L. Houston, and D.G. Fredlund, Eds., ASCE Geotechnical Special Publication No. 147(1), April 2-6, 2006, Carefree, AZ, 225-234.
5. 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 Publication No. 68, ASCE, New York, NY, 113-168.
6. Gribb, M.M. and G.W. Gribb (1994). "Use of neural networks for hydraulic conductivity determination in unsaturated soil," *Proceedings of the Second International Conference on Groundwater Ecology*, J. A. Stanford and H. M. Valett, eds., American Water Resources Association, 155-163, Atlanta, GA.
7. 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, ASTM, 299-312.
8. 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.

<u>*Magazine Articles:*</u>

1. Gribb, M.M. (2004), " 'The importance of being earnest' about education," message from the editorial board, *Geo-Strata*, Summer 2004 edition, 4.

<u>*Unrefereed Conference Papers*</u>

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 co-operation with Slovak Academy of Sciences - Institute of Hydrology, Slovak University of Technology - Faculty of Civil Engineering, Vol. XXXV 2003-2004, ISBN 80-967808-7-5, 216-229.
2. Kodesova 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, ISBN 80-02-01586, 41-48.
3. Hartman, J., W. Prouty, A. Moll, H. Hill, and M. Gribb (2003). "Control and signal processing for an IMS sensor," *Proceedings of the 2nd International Conference on Ion Mobility Spectrometry*, Umeå, Sweden, July 27-Aug.1.
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 Publication 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," *Proceedings of the Second International Conference on Unsaturated Soils, Unsat '98*, Beijing China, Aug. 27- 30, 1998, 515-520.

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," *Proceedings of the 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 (invited).
8. Kodešová, R., M.M. Gribb, and J. Šimůnek (1998). "A new CPT method for estimating soil hydraulic properties," *Proceedings of the International Site Characterization Conference*, P. K. Robertson and P.W. Mayne, eds., A. A. Balkema, Rotterdam, Vol. 2, 1421-1425.
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," *Proceedings of the Joint USAF/USA Contractor Grantee Meeting*, Panama City, FL, 259-263, 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," *Proceedings of the Third International Symposium and Exhibition on Environmental Contamination in Central and Eastern Europe*, Warsaw Poland, 660-662.
11. Morris, K. B, M.M. Gribb, and R. P. Ray (1995). "Integrated, full-scale model validation of unsaturated flow behavior," *Proceedings of the 1st International Conference on Unsaturated Soils*, E. E. Alonso and P. Delage, eds., A. A. Balkema, Rotterdam, Vol. 1, 399-403.
12. Olsen, R. S., and M.M. Gribb (1995). "Comprehensive presentation of raw CPT data," *Proceedings of the International Symposium on Cone Penetration Testing*, Swedish Geotechnical Society, Linkoping, Sweden, Vol. 2, 61-65, 1995.

<u>*Conference Abstracts:*</u>

1. Geroy, I., M.M. Gribb, J.P. McNamara, and D.G. Chandler, The Influence of Soil Hydraulic Properties On Soil Moisture in a Semi-Arid Mountainous Environment, SSSA Annual Meeting, Oct. 31-Nov. 4, 2010 Long Beach, CA.
2. Geroy, I., M.M. Gribb and J.P. McNamara, Spatial Trends in Soil Hydraulic Properties and Their Relation to Soil Moisture and Topography in a Semi-Arid Catchment, AGU Fall Meeting, Dec. 14-18, 2009, San Francisco, CA.
3. Geroy, I., M.M. Gribb, J.P. McNamara and D.G. Chandler, Factors Influencing Soil Moisture at the Hillslope Scale in a Semi-Arid Mountainous Environment, SSSA Annual Meeting, Nov. 2009, Pittsburgh, PA.
4. McNamara, JP, SG Benner, DG Chandler, M. M. Gribb, Hydrological Stores and Fluxes Along Elevation Gradients in the Dry Creek Watershed, AGU Chapman Conference on Examining Ecohydrological Feedbacks of Landscape Change along Elevation Gradients in Semiarid Regions, Oct. 5-9 2009, Boise and Sun Valley, Idaho.
5. Geroy, I., M.M. Gribb, J.P. McNamara, D.G. Chandler, Factors Influencing Soil Moisture at the Hillslope Scale in a Semi-Arid Mountainous Environment, AGU Chapman Conference on Examining Ecohydrological Feedbacks of Landscape Change along Elevation Gradients in Semiarid Regions, Oct. 5-9 2009, Boise and Sun Valley, Idaho.
6. Poulos, M.J., J.L. Pierce, T. Smith, S. Benner, A. Flores, J. McNamara, M. Gribb, Microclimate Controls on Slope Angles in the Idaho Batholith, AGU Chapman Conference on Examining Ecohydrological Feedbacks of Landscape Change along Elevation Gradients in Semiarid Regions, Oct. 5-9 2009, Boise and Sun Valley, Idaho.
7. Gribb, M. M., I. Irina Forkutsa, J.P. McNamara, and D.G. Chandler, (2008), "Effects of soil property estimates on 1-D model simulations of soil moisture," SSSA Annual meeting, Oct. 2008.

8. Gribb, M. M., I. Irina Forkutsa, J.P. McNamara, and D.G. Chandler, (2008) "Effects of various soil hydraulic property estimates on soil water content predictions in a semi-arid watershed, Understanding near-surface environmental processes symposium proceedings, Desert Research Institute and NV NSF EPSCoR, Las Vegas, NV, April 9-10, 2008.
9. Treneva, M. Gribb and J. McNamara, Using the chi-squared curve to assimilate large data sets from different sources, *AGU 2007 Fall Meeting Abstracts*.
10. Carter, R.S., Aulbach, J., Gribb, M.M., and H. H. Hill, In situ detection and analysis of soil gas samples through ion mobility spectroscopy. Center for Environmental Sensing, Boise State University, Boise, ID, USA. Abstracts of Papers, The Environmental Institute National Triad Conference, Amherst, MA, United States, June 10-13, 2008 (accepted for platform presentation).
11. Aulbach, J., M. M. Gribb, "Calibration of a field deployable ion mobility spectrometer (IMS) for the identification and quantification of volatile organic compounds (VOCs) in the vadose zone," Proceedings of the Symposium on Environmental Sensing, Inland Northwest Research Alliance and Boise State Center for Environmental Sensing, Boise Idaho, Oct. 25-26, 2007.
12. Figueras, J., and M. M. Gribb, "Design Of An Automated Multistep Outflow Apparatus For Measuring Soil Hydraulic Properties," Proceedings of the Symposium on Environmental Sensing, Inland Northwest Research Alliance and Boise State Center for Environmental Sensing, Oct. 25-26, 2007.
13. Hansen, A., and M. M.Gribb, "Soil hydraulic property measurements and estimates in the Dry Creek Watershed," Proceedings of the Symposium on Environmental Sensing, Inland Northwest Research Alliance and Boise State Center for Environmental Sensing, Oct. 25-26, 2007.
14. Forkutsa, I., M. M. Gribb, J. McNamara, J. Simunek and D. Chandler, "Estimation Of Effective Soil Hydraulic Properties At Treeline Site, Dry Creek Experimental Watershed, Idaho," Proceedings of the Symposium on Environmental Sensing, Inland Northwest Research Alliance and Boise State Center for Environmental Sensing, Oct. 25-26, 2007.
15. Forkutsa, I., M. M. Gribb, J. McNamara, J. Simunek and D. Chandler, "The influence of different soil hydraulic properties estimates on soil water content predictions in a semiarid watershed" (SSSA annual meeting, Nov. 2007).
16. Kanu, A.B., B.S. Kumar, M.M. Gribb, H. H Hill, "Micro Versus Nano Electrospray Ionization for Ambient Pressure Ion Mobility Spectrometry," 55th ASMS Conference on Mass Spectrometry, Indianapolis, Indiana, June 3-7, 2007.
    Figueras, J., M. M. Gribb, and J. McNamara, "Design of a new automated multi-step outflow test apparatus," *AGU 2006 Fall Meeting Abstracts*, Dec. 11-15, 2006.
17. Morgos, D., J.P. McNamara, D.C. Chandler and M.M. Gribb, "Integrating hydrometric, geochemical, and geophysical measurements in watershed investigations," *AGU 2006 Fall Meeting Abstracts*, Dec. 11-15, 2006.
18. Mead, J., R. Trevena, M.M. Gribb and J.P. McNamara, "Parameter Estimation in Spatially Varying and Heterogeneous Soils," *AGU 2006 Fall Meeting Abstracts*, Dec. 11-15, 2006.
19. Walters, R., M.M. Gribb, K. Ryan, A. Kanu and H. Hill (2006), "A Compact Ion Mobility Spectrometer Sensor for Subsurface Detection of Organic Vapors," International Society for Ion Mobility Spectrometry, Honolulu, Hawaii, July 23-28, 2006.
20. Abu B. Kanu, H. H. Hill Jr., M. Gribb, R.Walters, J. Imonigie, and K.P. Ryan, "Determining Optimal Resolving Power for Atmospheric Pressure Ion Mobility Spectrometry," International Society for Ion Mobility Spectrometry, Honolulu, Hawaii, July 23-28, 2006.
21. Gribb, M. D. Plumlee, A. Moll, H. Hill, J. Baker, S.M. Loo, R. Walters, J. Imonigie and K. Ryan, "A Miniature Ion Mobility Spectrometer Sensor System for Vadose Zone Monitoring, *SSSA Annual Meeting Abstracts*," Nov. 9, 2005.
22. Gribb, M. D. Plumlee, A. Moll, H. Hill, J. Baker, S.M. Loo, R. Walters, J. Imonigie and K. Ryan, A New Miniature Ion Mobility Spectrometer Sensor System for Long-term Monitoring, NEMC conference, Washington DC, July 25-27, 2005.

23. Gribb, M., R. Walters, J. Imonigie, A. Moll, D. Plumlee, J. Baker, and S.M. Loo, H. Hill, An Ion Mobility Spectrometer Probe for Vadose Zone Monitoring, Environmental & Subsurface Science Symposium, Sept. 19-21, 2005, Big Sky, MT.
24. Chandler, D.G., J.P. McNamara, and M.M. Gribb, "Air entrapment, soil water retention and distributed hydrologic response in a semi arid catchment," *AGU 2005 Fall Meeting Abstracts*, San Francisco, CA, Dec. 5-9, 2005.
25. Walters, R., M. Gribb, and J. Imonigie, "Rapid measurement of gaseous VOC mixtures with a new mass spectrometry technique" Environmental & Subsurface Science Symposium, Inland Northwest Research Alliance (INRA), Spokane WA, Sept. 20-22, 2004.
26. Hartman, J., J. Baker, M. Gribb, H. Hill, J. Jessing, A. Moll, W. Prouty, and D. Russell, "A miniaturized ion mobility spectrometer (IMS) sensor for wireless operation," *Proc. Frontiers in Assessment Methods for the Environment Symposium*, Minneapolis, MN, Aug. 10-13, 2003.
27. Prouty, W., A. Moll, H. Hill, M. Gribb and J. Hartman, "Embedded Microcontroller design for an IMS sensor," IEEE Sensors 2003, Toronto, Canada, October 22-24, 2003.
28. Walters, R., Gribb, M., Imonigie, J., Plumlee, D., Moll, A., Hill, H. and Hartman, J., "Measuring VOC transport for validation of new subsurface contaminant sensors," Subsurface Science Symposium, INRA, Salt Lake City UT, October 2003.
29. Gribb, M.M., and I. Lebron, "Variability of soil physical and hydraulic properties in a meso-scale test bed," *SSSA Annual Meeting Abstracts*, Indianapolis, IN, Oct. 2002.
30. Gribb, M.M., "A cone penetrometer method for measuring unsaturated soil properties in situ," *Proc. 12th Annual Intermountain Conference on the Environment (ICE)*, Idaho State University, Pocatello ID, April 3-4, 2002.
31. Chandler, D. G., J. M. McNamara, and M.M. Gribb, "Pressure-water content relations for a sandy, granitic soil under field and laboratory conditions," *AGU 2001 Fall Meeting Abstracts*, Dec. 17-21, 2001.
32. Cronican, A. E., M.M. Gribb, and J. R. Dickerson, "Sensitivity analysis of an analytical solution for contaminant transport at petroleum release sites," *SSSA Annual Meeting Abstracts*, Nov. 2001.
33. Gribb, M.M., "A cone penetrometer method for measuring hydraulic properties of unsaturated soils," 2001 Unsaturated Zone Interest Group Meeting, Idaho National Engineering and Environmental Laboratory, Idaho Falls, ID, July 30-Aug.2, 2001.
34. Cronican, A.E., and M.M. Gribb, "A regression equation for hydraulic conductivity prediction for southeastern sandy soils," *Proc. South Carolina Water and Environment Symposium*, Columbia, SC, Nov. 8-9, 2000.
35. Gribb, M.M., "Validation of the cone permeameter in large scale constructed deposits," *Proc. International Study Group on Inverse Modeling*, Perdido Beach, FL, Nov. 2, 2000.
36. Ordway, S. E., S.C. Anderson, and M.M. Gribb, "The cone permeameter for soil hydraulic property estimation," *SSSA Annual Meeting Abstracts*, 202, Nov. 2000.
37. Cronican, A. E., and M.M. Gribb, "Hydraulic conductivity prediction for South Carolina sandy soils," *SSSA Annual Meeting Abstracts*, 70, Nov. 1999.
38. Ordway, S. E., M.M. Gribb, and J. Simunek, "Field studies with the cone permeameter," *SSSA Annual Meeting Abstracts*, 70, Nov. 1999.
39. Ordway, S. E., Kodešová, R., M.M. Gribb and J. Šimůnek, "Comparison of several methods for measuring soil hydraulic properties in unsaturated sand," *Proc. 1st South Carolina Water and Environment Symposium*, Columbia SC, Apr. 6-7, 1999.
40. Gribb, M.M., and K. J. Bene, "Analysis of a soil leachability model for predicting groundwater contamination from petroleum-contaminated soils," *Proc. 1st South Carolina Water and Environment Symposium*, Columbia SC, Apr. 6-7, 1999.
41. Kodešová, R., S.E. Ordway, M.M. Gribb and J. Šimůnek, "Estimation of soil hydraulic properties via inverse modeling of lab and field transient flow data sets," *Proc. European Geophysical Society Annual Meeting*, The Hague, Netherlands, Apr. 19-23, 1999.

42. Kodešová, R., H. Damaskova, and M.M. Gribb, "Validation of HYDRUS-1D for nitrate movement simulation under field conditions," *SSSA Annual Meeting Abstracts*, 168, Baltimore, MD, Oct. 18-22, 1998.
43. Kodešová, R., M.M. Gribb, S. E. Ordway, and J. Šimůnek, "Hydraulic property estimation with the cone permeameter - field studies," *SSSA Annual Meeting Abstracts*, 330, Baltimore, MD, Oct. 18-22, 1998.
44. Kodešová, R., S. E. Ordway, M.M. Gribb, and J. Šimůnek, "Hydraulic property estimation with the cone permeameter: field studies," *Proc. International Study Group on Inverse Modeling*, Ravello, Italy, Sept. 1 - 3, 1998.
45. Gribb, M.M., "A modified cone penetrometer for soil hydraulic property determination," *Proc. NSF Civil and Mechanical Systems Workshop for the Advancement and Retention of Underrepresented and Minority Engineering Educators*, Washington DC, Sept. 24-26, 1997.
46. Leonard M.F., M.M. Gribb, and J.Simůnek, "Cone penetration test method for K(h) determination," *Proc. European Geophysical Society XXII General Assembly*, Vienna, Austria, C261, April 25-27, 1997.
47. Singleton, J.E., M F. Leonard, and M.M. Gribb, "A cone penetrometer method for K(h) measurement in situ," *AGU 1997 Spring Meeting Abstracts*, Baltimore, MD, S161, May 27-30, 1997.
48. Bene, K.J., R P. Ray, and M M. Gribb, "Measuring and modeling unsaturated flow," *Proc. South Carolina Environmental Symposium*, Myrtle Beach, South Carolina, Oct. 2-4, 1996.
49. Gribb, M.M, R P. Ray, and K B. Morris, "A modified cone penetrometer method for determining hydraulic conductivity of unsaturated soil," *Proc. ASTM Symposium on Environmental Sampling, Denver*, CO, April 5-7, 1995.

PATENT ACTIVITY

U. S. Provisional Patent Application No. 60/042,715, "Modified Cone Penetrometer," with M. F. Leonard, April 1997.

PROFESSIONAL SOCIETY MEMBERSHIPS

South Dakota Engineering Society
South Dakota Academy of Science
American Society of Civil Engineers
Women in Engineering Programs and Advocates Network

UNIVERSITY SERVICE ACTIVITIES

South Dakota School of Mines and Technology
Mines Collaboration Team, 2013-Present
RESPEC Undergraduate Research Grant Selection Committee, 2013
Member, SDSM&T presidential search committee, 2012-13
Member, University Tenure and Promotion committee, 2010-2013
Member, Workstudy task force, 2013
New faculty orientation speaker, 2012-13
Tenure and Promotion panel discussion chair, 2012-13
SDSM&T Foundation presidential search committees, 2010-12
F&A rate calculation committee, 2012
ASCE student chapter faculty advisor, 2010-12
Chair of Chemistry and Geol/GeoE department head search committees, 2010-12

Member, VP for research-economic development, VP for Finance and Administration, CEE faculty, University liaison to South Dakota Engineering Society, 2011-Present

Boise State University
Boise State University Employee Giving Campaign Member, 2009
Honorary Doctoral Degree Selection Committee, 2008-10
College of Engineering Safety Committee, 2007-08
Chair of CE faculty search committee, 2005-06; member of CE faculty search committee, 2007, 2008-09
Tenure and Promotion committees for various faculty members in college, 2005-10
Chair of ECE department chair search committee, 2003-04
College of Engineering dean search committee, 2002-03
University intellectual property committee, Aug. 2002-06
Foundation Scholars Service Award Selection Committee, 2001-02
College of Engineering Research and Scholarship committee, Aug. 2000-10
Departmental Graduate Studies Coordinator, 2002-05
College of Engineering Graduate Committee, 2003-05
Departmental ABET accreditation work, 2003-10
Boise State University representative on INRA Curriculum Development Committee for an inter-institutional PhD program in subsurface science, 2002
Environmental Studies Committee Member, 2004-06

COMMUNITY SERVICE ACTIVITIES

Outreach in local high schools and summer science camps, 2010-Present
Judge of statewide Engineering Excellence Awards for ACEC, 2011-13
Presenter/exhibitor, Women in Science program for middle school girls, 2011-13

NATIONAL SERVICE ACTIVITIES

Editorial Board Memberships
Editorial Board member - ASTM Geotechnical Testing Journal, 1999-2003
Editorial Board member - ASCE Geo-Institute GeoStrata Magazine, 2000-05

Technical Committee Member
International Conference on Unsaturated Soils, UNSAT2006, sponsored by the Geo-Institute of ASCE (June 2004-06) – paper reviews and session chair

Paper and Proposal Reviewer
National Science Foundation: panels, 2007, 2010, and many individual reviews
Army Research Office
U.S. Civilian Research and Development Foundation
Idaho National Laboratory
Canadian Geotechnical Journal
Ground Water, Journal of Contaminant Hydrology, Journal of Engineering Geology, Journal of Geotechnical and Geoenvironmental Engineering, Journal of Hydrologic Engineering, Journal of Hydrology, Scientia Agricola, Soil and Water Research, Soil Science Journal, Vadose Zone Journal

Other
Member, US University Council for Geotechnical Engineering Education and Research, 2000-Present
Tenure and Promotion external review letters, 2011-13