

## **Robert L. Mokwa**

**Interim Provost and Executive Vice President for Academic Affairs  
Montana State University**

### **EDUCATION**

Ph.D.	Engineering (Geotechnical focus)	Virginia Tech
M.S.	Civil Engineering (Geotechnical focus)	Purdue University
B.S.	Engineering (Structural and Engineering Mechanics focus)	Virginia Tech

### **ADMINISTRATIVE POSITIONS**

2016 – present	Interim Provost and Executive Vice President of Academic Affairs
2015 – 2016	Department Head, Mathematical Sciences
2014 – 2015	Presidential Leadership Fellow
2013 – present	Professor of Engineering
2006 – 2013	Associate Professor of Civil Engineering
2001 – 2006	Assistant Professor of Civil Engineering

### **HONORS, AWARDS AND RECOGNITIONS**

*MSU President's 2014 Excellence in Teaching Award*, January 2014

*MSU President's Excellence in Teaching Award* – Finalist and Honorable Mention. Montana State University, January 2013.

Nominated for the *National Teaching Award from the American Society of Engineering Education*, nominated by the MSU College of Engineering, 2010.

*Faculty Award for Excellence*. Montana State University and the Bozeman Area Chamber of Commerce, February 2009.

*Outstanding Teacher Award*. Montana State University, College of Engineering, May 8, 2002.

*Top Ten Paper Award*. ASCE Journal of Geotechnical and Geoenvironmental Engineering, October 2002.

*Presidents Research Excellence Award*. Paul E. Torgerson's Presidential Research Award, Virginia Tech, 1999.

*Charles E. Via Doctoral Fellowship*. Virginia Tech.

*Department of Energy Graduate Fellowship*. Purdue University.

*Licensed Professional Engineer*, Idaho and Montana.

## **SIGNIFICANT PROFESSIONAL ACTIVITIES**

### **Interim Provost and Executive Vice President for Academic Affairs, Montana State University. June 2015 – present:**

Lead and manage all aspects of academics at the university with direct report to the University President. Oversee and work collaboratively with deans, department heads and other member of the president's executive cabinet to ensure the university delivers the highest quality of education in over 100 academic programs —at both undergraduate and graduate levels— taught by about 1,000 faculty members (528 tenure track and 422 non-tenure track FTE, in academic year 2016). Administer and monitor procedures and criteria for faculty appointments and promotions, and oversee the tenure review and assessment process. Collaboratively manage and administer the assessment of existing programs and conduct ongoing strategic evaluations of opportunities for growth in new academic areas. Manage the instructional budget and the overall academic affairs budget that together account for about 67% of the university's general fund expenditures, which totaled about \$123 M in fiscal year 2016.

### **Department Head Mathematical Sciences, MSU. June 2015 – June 2016:**

Led and managed one of the largest units at the university, which consisted of four distinct academic areas: statistics, applied mathematics, pure mathematics and mathematics education. With 23 tenure track faculty and over 20 non-tenure track faculty, the department delivers about 10% of the university's student credit hours while maintaining a high level of scholarship and research, and a graduate program with over 60 masters and doctoral students.

### **Presidential Leadership Fellow, MSU. 2014:**

Served a one-year appointment to the President's office to work on university and system-level initiatives and to receive mentorship and training in the culture, policies, budgeting and decision-making process of higher education from the university's senior executive leadership team. The program included four different components of higher education administration: mentorship, perspective, knowledge and contribution — modeled after the American Council on Education Fellowship. During this appointment, I participated in cabinet meetings at MSU and at four other institutions in Montana, and also worked closely with senior administrators in the Commissioner's Office of Higher Education. Led a project that successfully re-organized and re-structured the Extended University Program at MSU.

### **Chair, Montana University System Faculty Association Representatives. 2012 – 2013:**

Represented faculty leaders from all state institutions in Montana on various Board of Regents, Office of the Commissioner of Higher Education and other state-level academic meetings, conferences, sub-committees and working groups. For the 2012 academic year, was the faculty representative and spokesperson at each quarterly Board of Regents meeting.

### **Chair, Faculty Senate, MSU. 2013 – 2014:**

Provided academic leadership for faculty on academic, administrative and governance issues. Presided over Faculty Senate and the Executive (steering) Committee of the senate. Represented the senate at the Board of Regents and numerous University committees and councils including University Council, Deans Council, President's Executive Council, weekly meetings with the President and Provost, Association of Shared Governance Leaders, and academic course and program sub-committees. Provided leadership presentations at New-Faculty orientation, MSU Leadership seminars, Ph.D. seminar courses, the President's Open House town-hall meetings, and other university functions.

### **Professor, Department of Civil Engineering, MSU. August 2001 – present:**

Served as Assistant Professor, Associate Professor and Professor of Civil Engineering teaching a full range of undergraduate and graduate courses in engineering mechanics and geotechnical engineering topics. Consistently received outstanding ratings on student evaluations of teaching. Received department, college

and university-wide recognition for teaching excellence. Research is focused in the areas of engineering education, soil mechanics, geotechnical and materials engineering, structural settlement and forensic engineering, soil-structure interactions and x-ray computed tomography. Authored numerous research reports, peer-reviewed journal papers, engineering and teaching manuals, and other scholarly publications.

**Assistant Professor, Department of Civil Engineering, University of Massachusetts, Amherst, MA. 1999 – 2001:**

Taught courses in the Department of Civil Engineering and conducted research on deep foundations in a tenure-track faculty position.

**Doctoral Studies and Degree, Virginia Polytechnic Institute and State University, Blacksburg, VA. 1996 – 1999:**

Ph.D. Dissertation: Lateral capacity of embedded pile caps and large pile groups. Developed an applied solution to a complex soil-structure interaction phenomenon that is now used in the design of large multi-story buildings and bridges subjected to intense lateral loadings. Taught and co-taught undergraduate and graduate level courses.

**Project Manager and Project Engineer, CH2M Hill. 1986 – 1996:**

Design and constructed structures and engineered systems for a large, multi-disciplinary international consulting firm at many locations across North America.

**Instructor, Boise State University. 1994 – 1996:**

Adjunct instructor for geotechnical engineering courses in the college of engineering and the department of construction management.

## SIGNIFICANT SERVICE AND OUTREACH ACTIVITIES

- Steering Committees and Task Forces, MT Office of Commissioner of Higher Ed., 2012 – present
- Chair, MSU University Athletic Council, 2012 – 2016
- Chair, MSU Academic Programs Working Group, 2012 – 2014
- Rapid Action Task Force on Research Office Budget - Appointed by the President, 2013 – 2014
- Joint Association of Shared Governance Leaders, 2012 – present
- Executive Faculty Steering Committee, MSU Faculty Senate, 2012 – 2015
- Chair, Faculty Senate, 2013-2014
- Chair-Elect, Faculty Senate, 2012 – 2013
- Senator, Montana State University Faculty Senate, 2009 – 2012
- Member, MSU University Curriculum and Programs Committee, 2012 – 2013
- Member, MSU University Planning Council
- Member, MSU University Research Council
- Member, Gallatin College Advisory Committee (MSU Faculty Representative), 2011 – 2012
- Member, Scholarship Review and Selection Committee – MSU CE Department, 2011 – 2012
- Member, Curriculum Committee MSU Civil Engineering Department, 2003 – 2011
- Member, American Society of Engineering Educators (ASEE), 2008 – present
- Member, American Society of Civil Engineers (ASCE), 1983 – present
- Member, International Society for Soil Mechanics and Geotechnical Engineering, 2001 – present
- Member, ASCE Geo-Institute Deep Foundations Technical Committee, 2005 – 2012
- Member, Transportation Research Board (TRB) Tech. Committee on Frost Action, 2003 – 2006
- Member, TRB Technical Committee on Soils and Rock Instrumentation, AFS20, 2009 – 2012
- Member, TRB Technical Committee on Soil and Rock Properties, AFP30, 2009 – 2012
- Vice President – American Society of Civil Engineers (ASCE), SW Montana Branch, 2002 – 2003, Secretary/Treasurer – American Society of Civil Engineers, Idaho Section, 1993 – 1996
- **Major Search and Hiring Participation (previous five years):**
  - Vice President for Student Success (2)
  - Vice President for Research, Creative Activity and Technology Transfer
  - Dean, College of Engineering
  - Dean, College of Health and Human Development — hiring authority and coordinator
  - Deputy Commissioner of Higher Education, Office of the Commissioner of Higher Ed.
  - Civil Engineering Department TT and NTT faculty positions
  - Statistics TT faculty (2) and NTT faculty — hiring authority and coordinator
  - Mathematics TT faculty (2) and NTT faculty — hiring authority and coordinator
  - Director of Instructional Technologies
  - University Athletic Director
  - MSU Head Football Coach
- **Senior Fellow** at Charles A. Dana Center, Mathematics Pathway Initiative, University of Texas at Austin. June 2016 – present.
- **Invited Plenary Special Speaker.** X-Ray CT Visualization for Socio-Cultural Engineering and Environmental Materials, X-Earth (IWX). Kumamoto University, Japan, December 6-7, 2012.
- **Invited Sponsored Speaker.** Micro-Geomechanics Across Multiple Scales Workshop. Cambridge, England, March 20-23, 2005. Sponsored by the National Science Foundation and the United Kingdom Engineering and Physical Science Research Council. Examine future research needs and the future direction of discovery and applications for the Geotechnical/Geomechanics discipline.

## TEACHING AND PEDAGOGICAL-RELATED PUBLICATIONS

*Following is a partial list of publications by Dr. Mokwa that involved scholarly pedagogical work and instructionally related activities. (Student contributing authors are underlined.)*

- Mokwa, R.L.** and Miller, J. (2014). Innovative Approach to Modernizing Civil Engineering Pedagogy. *American Society of Engineering Education (ASEE)*, in-press, Indianapolis, IN, June 2014.
- Mokwa, R.L.** (2012). Nondestructive Particulate Measurements in Ambient and Subzero Conditions Using X-Ray Computed Tomography. Invited Special Lecture and white paper that introduced the concept of using x-ray computed tomography as both a teaching and research tool. *Proceedings of X-Earth (IWX) 2012: X-Ray CT Visualization for Socio-Cultural Engineering and Environmental Materials*, Workshop at Kumamoto University, Japan, December 6-7, 2012.
- Mokwa, R.L.** and Morris, Z. (2011). X-ray computed tomography: A new pedagogical tool for studying micro and macro geomaterial properties. *Proceedings of the American Society of Engineering Education Annual Conference (ASEE 2011)*, Vancouver, CN, June 26-29 2011.
- Mokwa, R.L.** (2011). Solution Manual for the textbook *An Introduction to Geotechnical Engineering, 2<sup>nd</sup> Ed.*, by R. Holtz, W. Kovacs and T. Sheahan. Published by Prentice Hall/Pearson.
- Mokwa, R.L.** (2010). Classroom integration of a construction case study using active learning. *Proceedings of the International Conference on Engineering Education (ICEE-2010)*, Gliwice, Poland, July 18-22, 2010.
- Mokwa, R.L.**, Robbins, B., and Nichols, J. (2010). *X-Ray CT Imaging of Geomaterials — User's Manual*. Instructional manual for x-ray CT scanning of geomaterials created by students as part of a MSU special studies undergraduate research project.
- Mokwa, R. L.**, Anderson D., Jackson, R., and Shearin, K. (2008). *MDT Geotechnical Manual*. Prepared for Montana Department of Transportation to provide guidance in performing geotechnical investigations and design analyses on Department of Transportation projects. July 2008.
- Mokwa, R.L.** (2007). *Geotechnical Laboratory Testing Manual for University Undergraduate Students*. Prepared for the Montana State University Civil Engineering Department. Funded through the MSU Enhancing Scholarship and Teaching Program. January 2007, pp. 100.
- Mokwa, R.L.** (2004). *Advanced Soil Applications in Highway Construction*. Instructional manual prepared for the Montana Department of Transportation, January 2004, pp. 77.
- Mokwa, R.L.** (2004). *Fundamentals of Soils and Highway Construction, 2<sup>nd</sup> Ed.* Instructional manual prepared for the Montana Department of Transportation, January 2004, pp. 45.

## REFEREED (PEER-REVIEWED) ARCHIVAL PUBLICATIONS

*(Student contributing authors are underlined)*

- Takano, D., Otani, J., Nakamura, M. and **Mokwa, R.** (2013). X-ray CT imaging of 3-D bearing capacity mechanism for vertically loaded shallow foundations. *Geotechnical Engineering Journal of the SEAGS & AGSSEA*, vol. 44 (2), p. 35-41.
- Mokwa, R.L.**, Mokwa, L.P., and Mokwa, T.P. (2011). A case study on construction dewatering-induced settlement damage: could this have been avoided? *Journal of Civil Engineering and Architecture*, vol. 5 (8), p. 670-678.
- Mokwa, R.L.**, Nielsen, B., Morris, Z., Robbins, B. and Nichols, J. (2011). Nondestructive Measurements of Geomaterials Using X-ray Computed Tomography: Some Practical Applications. *Journal of the Nevada Water Resources*, vol. 6 (1), p. 428-440.

- Mokwa, R. L.** and **Fridleifsson, S.** (2007). Earthwork compaction evaluation using soil air voids. *Canadian Geotechnical Journal*, vol. 44 (2): 151-159.
- Mokwa, R. L.**, **Peebles, C.**, and **Robinson, E.** (2006). Strength, stiffness, and compressibility of RAP/aggregate blends. *ASCE Geotechnical Special Publication, GSP 154, Pavement Mechanics and Performance*. Proceedings of the GeoShanghai International Conference, Shanghai, China. June 2-4, 2006.
- Mokwa, R. L.** and **Nielsen, B.** (2006). Characterization of soil porosity using x-ray computed tomography. *ASCE Geotechnical Special Publication, GSP 149, Site and Geomaterial Characterization*, p.96-103. Proceedings of the GeoShanghai International Conference, Shanghai, China. June 2-4, 2006.
- Duncan, J. M., **Robinette, M.**, and **Mokwa, R. L.** (2005). Analysis of laterally loaded pile groups with partial pile head fixity. *ASCE Geotechnical Special Publication, GSP No. 132, Advances in Deep Foundations*, Geo-Frontiers Conference, Austin Texas, January 24-26, p.1-16.
- Duncan, J. M., **Robinette, M.**, and **Mokwa, R. L.** (2005). Analysis of laterally loaded pile groups with partial pile head fixity. *ASCE Geotechnical Special Publication, GSP No. 129, Advances in Designing and Testing Deep Foundations*, (special publication of selected papers), p. 235-250.
- Mokwa, R. L.** and Duncan, J. M. (2005). Discussion of “Centrifuge Model Study of Laterally Loaded Pile Groups in Clay” by T. Ilyas, C. F. Leung, Y. K. Chow, and S. S. Budi. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, vol. 131 (10), p. 1305-1308.
- Mokwa, R. L.**, Womack, R., and Cameron, D. (2004). Quantifying the risk of construction in landslide prone areas. *ASCE Geotechnical Special Publication, GSP No. 126, Geotechnical Engineering for Transportation Projects*. Proceedings of the Geo-Transportation Conference, Los Angeles, California, July, 2004, p. 2010-2019.
- Sisson, R. C., Harris, C. J., and **Mokwa, R. L.** (2004). Design of cantilever soldier pile retaining walls in stiff clays and claystones. *ASCE Geotechnical Special Publication GSP No. 124, Deep Foundations, Soil Mixing, Ground Improvement*. Proceedings of the Geo-Support 2004 Conference, Orlando, FL, p. 309-321.
- Mokwa, R. L.** and Duncan, J. M. (2003). Rotational restraint of pile caps during lateral loading. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, vol. 129 (9), p. 829-837.
- Mokwa, R. L.** and Duncan, J. M. (2001). Laterally loaded pile group effects and p-y multipliers. *ASCE Geotechnical Special Publication, GSP No. 113, Foundations and Ground Improvement*, Proceedings of the GEO-Odyssey Conference, Blacksburg, VA, p. 728-742.
- Mokwa, R. L.** and Duncan, J. M. (2001). Experimental evaluation of lateral-load resistance of pile caps. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, vol. 127 (2), p. 185-192.
- Duncan, J. M. and **Mokwa, R. L.** (2001). Passive earth pressures: theories and tests. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, vol. 127 (3), p. 248-257.
- Mokwa, R. L.** and Duncan, J. M. (2000). Development of p-y curves for partly saturated silts and clays with both cohesion and friction. *ASCE Geotechnical Special Publication, GSP No. 100, New Technological and Design Developments in Deep Foundations*, Proceedings of the GEO-Denver Conference 2000, p. 224-239.
- Mokwa, R. L.** (1999). *Investigation of the resistance of pile caps to lateral loading*. Ph.D. Dissertation, Virginia Polytechnic Institute and State University, Civil and Environmental Engineering Department, September, pp. 383.



## NATIONAL OR INTERNATIONAL CONFERENCE PROCEEDINGS AND TECHNICAL PUBLICATIONS

(Student contributing authors are underlined)

- Mokwa, R.L.** (2012). Nondestructive Particulate Measurements in Ambient and Subzero Conditions Using X-Ray Computed Tomography. Special Lecture and white paper. *Proceedings of X-Earth (IWX) 2012: X-Ray CT Visualization for Socio-Cultural Engineering and Environmental Materials*, Workshop at Kumamoto University, Japan, December 6-7, 2012.
- Mokwa, R.L.** and Morris, Z. (2011). X-ray computed tomography: A new pedagogical tool for studying micro and macro geomaterial properties. *Proceedings of the American Society of Engineering Education Annual Conference (ASEE 2011)*, Vancouver, CN, June 26-29, 2011.
- Robbins, B., Nichols, J., **Mokwa, R.L.**, Kuhn, B., MacLaughlin, M.M., and Hudyma, N. (2011). Quantifying internal macroporosity using CT scanning. *American Rock Mechanics Association*, 45<sup>th</sup> U.S. Rock Mechanics/Geomechanics Symposium, San Francisco, CA, June 26-29, 2011.
- Mokwa, R.L.**, Nielsen, B., Morris, Z., Robbins, B. and Nichols, J. (2011). Nondestructive Measurements of Geomaterials Using X-ray Computed Tomography: Some Practical Applications. *Proceedings of the 43<sup>rd</sup> Engineering Geology and Geotechnical Engineering Symposium*. Las Vegas, NV, March 23-25, 2011.
- Mokwa, R.L.** (2010). Classroom integration of a construction case study using active learning. *Proceedings of the International Conference on Engineering Education (ICEE-2010)*, Gliwice, Poland, July 18-22, 2010.
- Mokwa, R.L.** and Brooks, H. (2009). Driven pile capacity in intermediate geomaterial formations. *Proceedings of the ASCE GeoInstitute International Foundation Congress (IFCEE'09)*. Geotechnical Special Publication, GSP No. 185, Contemporary Topics in Deep Foundations. Orlando, FL, March 15-19, 2009.
- Mokwa, R.L.**, Peebles, C., and Adams, E. (2008). Laboratory testing of high density sintered snow. *Proceedings of the 41<sup>st</sup> Engineering Geology and Geotechnical Engineering Symposium*. Boise, ID, April 9-11, 2008.
- Scarr, K. and **Mokwa, R.L.** (2008). Axial capacity of piles founded in permafrost: a case study on the applicability of modern pile design in remote Mongolia. *Proceedings of the 41<sup>st</sup> Engineering Geology and Geotechnical Engineering Symposium*. Boise, ID, April 9-11, 2008.
- Brooks, H. and **Mokwa, R.L.** (2008). Axial capacity of piles founded in intermediate geomaterials: a state of the practice review. *Proceedings of the 41<sup>st</sup> Engineering Geology and Geotechnical Engineering Symposium*. Boise, ID, April 9-11, 2008.
- Mokwa, R. L.**, Cuelho, E., and Browne, M. (2008). Laboratory testing of soil using the Superpave gyratory compactor. *Proceedings of the 88th Transportation Research Board Annual Conference*, TRB 2008, Committee AFS10 (Transportation Earthworks), January 13-18, 2008, Washington DC.
- Cuelho, E., **Mokwa, R. L.**, Obert, K., and Miller, A. (2008). Comparative analysis of micro-deval, L.A. abrasion, and sulfate soundness tests. *Proceedings of the 88th Transportation Research Board Annual Conference*, TRB 2008, January 13-18, 2008, Washington DC.
- Mokwa, R.** and Trimble, N. (2008). Permeability of coarse-grain soil from void space and pore distribution. *Proceedings of the ASCE GeoCongress-08 Conference, The Challenge of Sustainability in the Geoenvironment*. New Orleans, Louisiana, March 9-12, 2008.

**Mokwa, R.** (2007). Soil air voids method for geoconstruction compaction control. *Proceedings of the 13th PanAmerican Conference on Soil Mechanics and Geotechnical Engineering*, Isla de Margarita, Venezuela, July 15-19, 2007, pp. 838-843.

Cuelho, E., **Mokwa, R.**, and Akin, M. (2007). Quantifying the benefits of flexible pavement preventative maintenance techniques – a synthesis and survey. *5th International Conference on Maintenance and Rehabilitation of Pavements and Technological Control (MAIREPAV5)*, August 8-10, 2007, Park City, Utah.

**Mokwa, R. L.**, Peebles, C., and Trimble, N. (2006). Evaluation of the engineering characteristics of RAP/aggregate blends. *Proceedings of the 86<sup>th</sup> Transportation Research Board Annual Conference*, TRB 2006, Committee AFD70, January 22-26, 2006.

**Mokwa, R. L.** and Fridleifsson, S. (2006). Soil air voids method for compaction control. *Proceedings of the 86<sup>th</sup> Transportation Research Board Annual Conference*, TRB 2006, Committee AFS 10, January 22-26, 2006.

**Mokwa, R. L.** and Nielsen, B. (2006). Nondestructive measurements of soil geotechnical properties using x-ray computed tomography. *Proceedings of the ASCE GeoCongress Conference, Geotechnical Engineering in the Information Technology Age*, Atlanta, GA, Feb. 26-March 1, 2006.

Browne, M., **Mokwa, R. L.**, and Cuelho, E. (2006). Feasibility of using a gyratory compactor to determine compaction characteristics of soil. *Proceedings of the 40<sup>th</sup> Engineering Geology and Geotechnical Engineering Symposium*. Logan, UT, May 24-26, 2006. (Received 2<sup>nd</sup> place award for best conference paper and presentation.)

**Mokwa, R. L.** and Trimble, N. R. (2006). Permeability characteristics of RAP/aggregate blends for use in highway and embankment construction. *Proceedings of the 40<sup>th</sup> Engineering Geology and Geotechnical Engineering Symposium*. Logan, UT, May 24-26, 2006.

Trimble, N. R. and **Mokwa, R. L.** (2006). Permeability investigation of a silty clay alluvium as it relates to chromium contamination transport – a case study. *Proceedings of the 40<sup>th</sup> Engineering Geology and Geotechnical Engineering Symposium*. Logan, UT, May 24-26, 2006.

Obert, K., Cuelho, E., and **Mokwa, R. L.** (2006). Investigation of coarse aggregate durability using the micro-deval abrasion testing apparatus. *Proceedings of the 40<sup>th</sup> Engineering Geology and Geotechnical Engineering Symposium*. Logan, UT, May 24-26, 2006.

**Mokwa, R. L.** (2005). *Channel Tunnel*. Contributing Author for the World Book Encyclopedia, World Book Publishing, Chicago, Illinois.

**Mokwa, R. L.** (2004). Soil Response in sub-freezing environments; the frost heave model. *Transportation Research Board*, 83rd Annual Meeting, Vol. 83, Washington D. C.

**Mokwa, R. L.** (2004). Help! I'm out of Dirt. *Civil Engineering News Magazine*, vol. 16, no. 11, p. 35-38.

**Mokwa, R. L.**, Newell, Z., and Eschbach, E. (2004). Experimental evaluation of the frost heave phenomena. *Proceedings of the 39<sup>th</sup> Engineering Geology and Geotechnical Engineering Symposium*, Butte, Montana, May 18-21, p. 11-23.

**Mokwa, R. L.** and Nielsen, B. D. (2004). Geotechnical seismicity assessment of the Montana State University–Bozeman Campus. *Proceedings of the 39<sup>th</sup> Engineering Geology and Geotechnical Engineering Symposium*, Butte, Montana, May 18-21, p. 227-240.

**Mokwa, R. L.** (2004). Transportation engineering in cold regions: state of the practice review. *Proceedings of the 12<sup>th</sup> Annual Cold Regions Engineering Specialty Conference*, Edmonton, Canada, June 2004.



Duncan, J. M. and **Mokwa, R. L.** (2003). Lateral load resistance of pile groups. *ASCE 20<sup>th</sup> Central Pennsylvania Geotechnical Conference*, Invited Paper, Hershey, PA, October 29-31, p. 1-20.

**Mokwa, R. L.** and Duncan, J. M. (2002). Simplified method of analysis for laterally loaded pile groups. *Proceedings of the 37<sup>th</sup> Engineering Geology and Geotechnical Engineering Symposium*, Boise State University, Boise, Idaho, p. 133-146.

## RESEARCH REPORTS

*(Student contributing authors are underlined)*

**Mokwa, R.L.** and Foster, A. (2013). *Testing and Evaluation of Recovered Traction Sanding Material*. Research Report FHWA/MT-xx for the Montana Department of Transportation and the U.S. Department of Transportation. Helena, MT, January 2013.

Nichols, J., Robbins, B., supervised by **Mokwa, R.** (2010). *Identification of Voids in Vesicular Basalt Cores Using X-Ray Computed Tomography*. Montana State University Undergraduate Research Report. May 2010, 32 pp.

**Mokwa, R.L.** (2009). *Lisa-Colter Inscription Stone Geotechnical Evaluation*. Report prepared for the National Park Service Heritage Partnership Program, September 23, 2009.

**Mokwa, R. L.** and Akin, M. (2009). *Measurement and Evaluation of Subgrade Soil Parameters: Phase I – Synthesis of Literature* Research Report FHWA/MT-09-006/8199 for the Montana Department of Transportation and the U.S. Department of Transportation. Helena, MT, September 2009.

**Mokwa, R. L.** and Brooks, H. (2008). *Axial Capacity of Piles Supported on Intermediate Geomaterials*. Research Report FHWA/MT-08-8117-32 for the Montana Department of Transportation and the U.S. Department of Transportation. Helena, MT, September 2008.

**Mokwa, R. L.**, Cuelho, E., and Trimble, N. (2007). *Experimental Assessment of Aggregate Surfacing Materials*. Research Report FHWA/MT-07-011/8117-30 for the Montana Department of Transportation and the U.S. Department of Transportation, Helena, MT, July 2007.

Cuelho, E., **Mokwa, R. L.**, and Obert, K. (2007). *Comparative Analysis of Coarse Surfacing Aggregate Using Micro-Deval, L.A. Abrasion, and Sulfate Soundness Tests*. Final Report FHWA/MT-06-017/8117-27 for the Montana Department of Transportation and the U.S. Department of Transportation, Helena, MT. January 2007, pp. 47.

Cuelho, E., **Mokwa, R. L.**, and Akin, M. (2006). *Preventive Maintenance Treatments of Flexible Pavements: A Synthesis of Highway Practice*. Final Report FHWA/MT-06-009/8117-26 for the Montana Department of Transportation and the U.S. Department of Transportation, Helena, MT, September 2006, pp. 57.

**Mokwa, R. L.** (2006). *Subsurface Exploration for the MSU CO<sub>2</sub> Injection Project – Phase I*. Montana State University Research Report, Bozeman, MT, July 31, 2006.

**Mokwa, R. L.** and Frioleifsson, S. (2005). *Soil Air Voids Method for Compaction Control*. Final Report FHWA/MT-05-010/8117-23 for the Montana Department of Transportation, Helena, MT, August 2005, pp. 104.

**Mokwa, R. L.** and Peebles, C. (2005). Evaluation of the Engineering Characteristics of RAP/Aggregate Blends. Final Report FHWA/MT-05-008/8117-24 for the Montana Department of Transportation, Helena, MT, July 2005, pp. 100.

Nielsen, B. D. and **Mokwa, R. L.** (2004). *Non-Destructive Soil Testing Using X-Ray Computed Tomography*. Research report to the Western Transportation Institute, November 2004, pp. 126.

**Mokwa, R. L.** (2004). *Report of Seismic Piezocone Testing for Mike Horse Dam*. Prepared for the U.S. Forrest Service and Hydrometrics, September 15, 2004, pp. 43.

Nielsen, B. D. with **Mokwa, R. L.** (2004). *Bearing Capacity Reliability Analysis*. Graduate Student Special Study Report prepared under the guidance of R. Mokwa for fulfillment of CE570 Graduate Individual Problems Course, May 5, 2004, pp. 20.

Trimble, N. R. with **Mokwa, R. L.** (2004). *Permeability Characteristics of RAP/Aggregate Blends for Use in Highway Construction*. National Science Foundation Research Experience for Undergraduate Students, Western Transportation Institute Research Report, prepared under the guidance of R. Mokwa. August 10, 2004, pp. 28.

**Mokwa, R. L.** (2003). *Fundamentals of Soils and Highway Construction*. Instructional manual for the Montana Department of Transportation, January 2003, pp. 43.

**Mokwa, R. L.** and Nielsen, B. D. (2003). *Geotechnical Soil Assessment of the Montana State University Bozeman Campus*. Research Report prepared for Montana State University Facilities Services, Bozeman, MT, October 2003, pp. 15.

Eschbach, E. with **Mokwa, R. L.** (2003). *Examination of Frost Depth Characteristics of Subgrade Soils*. National Science Foundation Research Experience for Undergraduate Students, Western Transportation Institute Research Report, prepared under the guidance of R. Mokwa, August 1, 2003, pp. 22.

**Mokwa, R. L.** and Duncan, J. M. (1999). *Investigation of the Resistance of Pile Caps to Lateral Loading*. Report of Research Performed under Sponsorship of the VA Transportation Research Council, VTRC 99-CR, Charlottesville, VA.