DR. DONALD ALEXANDER BRUCE

EDUCATION	 B.Sc. (First Class Honours) Geology and Mineralogy, University of Aberdeen, Scotland Ph.D. Faculty of Science, Engineering Department University of Aberdeen, Scotland D.Sc. University of Aberdeen, Scotland (Under preparation)
PROFESSIONAL QUALIFICATIONS	Chartered Civil Engineer (UK) Fellow, Institution of Civil Engineers (UK) Licensed Geologist Licensed Engineering Geologist Diplomate, Geotechnical Engineering
Professional Societies	Member, American Society of Civil Engineers Member, Association of Engineering Geologists Fellow, Geological Society of London Member, Deep Foundations Institute Member, U.S. Society on Dams Member, ADSC: The International Association of Foundation Drilling Member, Association of State Dam Safety Officials Member, Canadian Dam Association
PROFESSIONAL COMMITTEES	ASCE Ground Improvement Committee ASCE Grouting Committee (Former Chairman) ADSC Micropile Committee ADSC Epoxy Coated Strand Committee DFI Diaphragm Wall/Slurry Trench Committee (Former Chairman) DFI Micropile Committee (Former Chairman) DFI Deep Mixing Committee International Society of Rock Mechanics (Grouting) International Society for Micropiles (ISM) (Honorary Chairman) PTI Ground Anchor Recommendations Committee (1996, 2004, 2012) AUA Technical Committee on Backfill and Contact Grouting of Tunnels and Shafts
PRINCIPAL PROFESSIONAL DISTINCTIONS	Martin S. Kapp Award Winner 1998: ASCE Geotechnical Division Wallace Hayward Baker Award Winner 2004: Geo-Institute of ASCE Terzaghi Award Winner 2015: Geo-Institute of ASCE Lecturer - Annual Grouting Course, Colorado School of Mines (Formerly Missouri, Rolla) 1988-Present

	Lecturer and Chairman - Annual Short Courses on Geotechnical Engineering
	University of Wisconsin/Milwaukee, 1989-1999
	Organizing Committee - International Grouting and Deep Mixing Conference, New Orleans, February, 1992, 2003, 2012
	Invited Lecturer - First International Symposium and Workshop on Ground Anchors, Mexican Society of Civil Engineers, September, 1994 Principal Lecturer - Short Course in Ground Treatment, AIT Bangkok, 1996
	Co-Founder – Japanese Association of Micropiles, 1997
	Keynote Speaker – XI PanAmerican Conference, Sao Paolo, Brazil, 1999
	Faculty – ADSC Workshop 2000, 2009
	Keynote Speaker – GeoEng2000, Melbourne, Australia 2000
	Organizing Committee, ASCE Conference, Blacksburg, VA 2001
	Lecturer and Organizer – ADSC/DFI/ASCE Short Course Workshops on various topics, 2000-present
	Technical Program Chair and Proceedings Editor, ADSC GeoCubed,
	Construction Quality Assurance/Quality Control Technical
	Conference, Dallas, Texas, 2005
	Invited Lecturer, Cross Canada Lecture Tour, 2006
	Instructor, NHI Short Courses on Ground Improvement and Micropiles,
	2000-present
PROFESSIONAL	PRINCIPAL, GEOSYSTEMS, L.P., PITTSBURGH, PA, MAY 1996 TO PRESENT
EXPERIENCE AND	(FORMERLY KNOWN AS ECO GEOSYSTEMS, INC.)
BACKGROUND	
	Dr. Bruce formed Geosystems, L.P. and continues to act as President. Geosystems L.P. offers advisory services in the practical and business aspects of specialty geotechnical construction, with a focus on drilling and grouting techniques, anchors, micropiles, deep mixing, cut-offs, and dam safety remediation. The scope of services includes all phases of projects from feasibility assessments and bid preparation to crisis management and expert witness duties. Dr. Bruce is a member of numerous Boards of Consultants and Advisory Panels for major dam projects in North America and elsewhere. Dr. Bruce continues to teach at short courses, seminars, universities and conferences both throughout North America and worldwide, and is active in many national and international technical societies and committees. He has acted as FHWA Principal Investigator for Micropiles and Deep Mixing.
	DIRECTOR, CENTER ROCK, INC., NOVEMBER 2008 TO PRESENT
	Dr. Bruce is a Board Member for this company which manufactures drilling equipment.
	PARTNER, SBMA LLC, JANUARY 2001 TO DECEMBER 2008
	Dr. Bruce was a Partner in SBMA LLC, a company specializing in designing and supplying high capacity ground anchors.

DIRECTOR, SOLDATA, INC., APRIL 2000 TO DECEMBER 2008

Dr. Bruce was a Director of Soldata, Inc., a largely French-owned company based in Rockville, MD specializing in the collection, management and real time display of geotechnical and structural data.

TECHNICAL DIRECTOR, NICHOLSON CONSTRUCTION COMPANY, PITTSBURGH, PA, OCTOBER 1986 - MAY 1996

Dr. Bruce assumed the position of Technical Director, with special responsibility for the transfer and promotion of "European Technologies" to the U.S.A. These technologies were largely the newer developments of the related Rodio group of companies, then one of the world's largest geotechnical contractors. Dr. Bruce spent much time on sites throughout Europe gaining first-hand experience, especially in ground treatment and ground support. In June 1994, he also became Manager of the Business Development Group before being appointed Manager of the newly formed Technical Services Group a year later following the amalgamation of Nicholson and Rodio in North America. Duties included the management of the Engineering, Safety, and Contracts/Claims Sections. Responsibility was also held for Research and Development, project troubleshooting, process quality initiatives, special project management, and technical writing. He was appointed Vice President in June 1991.

MAIN BOARD DIRECTOR, COLCRETE LTD., WETHERBY, UK, DECEMBER 1983 -SEPTEMBER 1986

Dr. Bruce was promoted as Main Board Director, responsible for the operation of the Geotechnical Engineering Division. This Division encompassed activities worldwide in the field of anchors, micropiles, nails, all forms of grouting, tunnels, structural repair, and fabric formwork. During the period Dr. Bruce headed the Division, volume increased five-fold, and the contribution of the Division to total group volume increased from 10% in 1983 to about 60% in 1986. The major contract won and executed in this period was a tunnel chemical grouting project in Cairo, Egypt, then valued at almost \$4 million. Dr. Bruce was also responsible for the company marketing and publicity matters, and undertook over 20 major marketing/technical visits to countries in Western and Southern Europe, North Africa and the Middle East.

MANAGING DIRECTOR, COLCRETE LTD., HONG KONG, JANUARY 1982 -NOVEMBER 1983

Dr. Bruce was appointed Managing Director of the newly formed Hong Kong subsidiary and was responsible for all aspects of the establishment of the new company. Duties were wide-ranging and included marketing, bidding,

contract management, technical direction, and financial reporting. Contracts worth over \$3 million U.S. were won and executed in this period, and featured the chemical grouting of many sections for tunneling of the Mass Transit Railway, sealing of deep excavations, and the installation of micropiles. At the height of activity, monthly volume ranged from \$300,000 to \$500,000 U.S., and involved 10 expatriates and over 200 locals. During this time, several technical visits were made to tunneling and grouting specialists in Japan, Taiwan, Thailand, and Malaysia.

<u>GROUP TECHNICAL MANAGER, COLCRETE GROUP, WETHERBY, UK, AUGUST</u> <u>1980 - DECEMBER 1981</u>

Upon his return from Pakistan, Dr. Bruce was appointed Group Technical Manager. His role was involvement with all matters relating to technical development within the Group, including troubleshooting at site level, studies on new techniques or processes, rationalization of existing methods, and delivering both in-house and external lectures and seminars. He was also a member of the "Special Projects Group" and was directly responsible for major projects in the North Sea and Middle East. He also took part in two major market assessment tours with the Managing Director (to U.S.A. and Australia, Far East), both in 1991.

TECHNICAL AND PLANNING MANAGER, COLCRETE-RODIO-KELLER JOINT VENTURE, PAKISTAN, OCTOBER 1979 - JULY 1980

Dr. Bruce was appointed Technical and Planning Manager for the Joint Venture for the massive remedial works executed at Tarbela Dam, on the Indus River. The scope of the duties included responsibility for all scheduling, planning, testing, quality assurance, general technical services, production analyses, and technical reporting. The value of the season's work was then over \$7 million, and the staff comprised over 30 expatriates and 350 locals. The work involved rock anchors, soil and rock grouting, slabjacking, and drainage systems.

PROJECT ENGINEER, COLCRETE, LTD., WETHERBY, UK, FEBRUARY 1977 - OCTOBER 1979

Dr. Bruce joined Colcrete, specialist ground engineering contractors, as a Project Engineer. During this time he was responsible for all aspects of the drilling and grouting work conducted on four major dams in England, and several mine infill sites in Scotland. From February 1979 he also acted as the liaison engineer with VSL in Bern, Switzerland, with respect to rock anchor technology.

Ph.D. RESEARCH, DEPARTMENT OF ENGINEERING, ABERDEEN, OCTOBER 1973 - JANUARY 1977

Donald Bruce joined the Geotechnics Research Group to conduct Doctoral studies under Professor G.S. Littlejohn into the fundamental behavior of prestressed rock anchor systems. This involved very close liaison with specialists worldwide and with contractors in the U.K., with whom two full-scale field trails were organized and conducted. During this period he taught in both the Geology and Engineering Departments of Aberdeen University and acted as anchor consultant to two specialist contractors.

PUBLICATIONS

- 1. Littlejohn, G.S. and D.A. Bruce. (1975). "Rock Anchors Design and Quality Control." 10th Symposium on Rock Mechanics, University of Minnesota, Minneapolis, MN, September 22-24, pp. 77-88, plus discussions, pp. 151-157.
- 2. Bruce, D.A. (1976). Contribution to Discussion, "Detailed Design of Anchorages," Section IV, A Review of Diaphragm Walls, I.C.E., London, September, pp. 75-76 and 106-109.
- 3. Littlejohn, G.S. and D.A. Bruce. (1977). "Rock Anchors State of the Art." Foundation Publications, Essex, England, 50 p. (Previously published in Ground Engineering in 5 parts, 1975-1976.)
- 4. Littlejohn, G.S., D.A. Bruce, and W. Deppner. (1978). "Anchor Field Test in Carboniferous Strata." Revue Francais Geotechnique 3 pp. 82-86 (Previously presented at ISSMFE Conference, Tokyo, 1977.)
- 5. Littlejohn, G.S. and D.A. Bruce. (1979). "Long Term Performance of High Capacity Rock Anchors at Devonport." Ground Engineering 12 (9) pp. 25-33.
- 6. Bruce, D.A. and C.R.F. George. (1982). "Rock Grouting at Wimbleball Dam." Geotechnique 21 (4) 14 p.
- Bruce D.A. (1982). "Aspects of Rock Grouting Practice on British Dams." ASCE Geotechnical Engineering Specialty Conference on Grouting, New Orleans, February 10-12, pp. 301-216.
- 8. Bruce, D.A. and J.P. Millmore. (1983). "Rock Grouting and Water Testing at Kielder Dam." Quarterly Journal of Engineering Geology 16 (1) pp. 13-29.
- 9. Bruce, D.A. and G.M. Joyce. (1983). "Slabjacking at Tarbela Dam, Pakistan." Ground Engineering 16 (3) pp. 35-39.

- 10. Bruce, D.A. and L.A. Bell. (1983). "Cement Bags Bring Solutions to Pipe Laying Problems." Petroleum News, March, pp. 40-41.
- 11. Bruce, D.A. (1983). "Job Site Report on Diaphragm Wall Blasting." Hong Kong Contractor, April, 2 p.
- 12. Bruce, D.A. and C.K. Yeung. (1983). "Minipiling at Hong Kong Country Club", Hong Kong Contractor, November, pp. 13-18.
- 13. Bruce, D.A. and C.K. Yeung. (1983). "A Review of Minipiling with Particular Regard to Hong Kong Applications." Hong Kong Engineer, June, pp. 31-54.
- Bruce, D.A. (1984). "The Drilling and Treatment of Overburden." Geodrilling, August and October, 11 p. (First presented at Drillex 84 Conference, Stoneleigh, Warwickshire, April, 1984.)
- 15. Bruce, D.A. and J.N. Shirlaw. (1985). "Grouting of Completely Weathered Granite with Special Reference to the Construction of the Hong Kong Mass Transit Railway," 4th International Symposium, Tunneling 85, Brighton, March 10-15, pp. 253-264.
- Bruce D.A., J.L. Ingle, and M.R. Jones. (1985). "Recent Examples of Underpinning Using Minipiles." 2nd International Conference on Structural Faults and Repairs, London, April 30 - May 2, pp. 13-28.
- 17. Bruce, D.A. (1986). "Enhancing the Performance of Large Diameter Piles by Grouting." Ground Engineering 19 (4), 7 p. and 19 (5) 7 p.
- 18. Bruce, D.A. and R.A. Jewell. (1986, 1987). "Soil Nailing: Application and Practice." Ground Engineering 19 (8) pp. 10-15, and 20 (1) pp. 21-38.
- 19. Bruce, D.A., D.L. Boley, and F. Gallavresi. (1987). "New Developments in Ground Reinforcement and Treatment for Tunneling." Rapid Excavation and Tunneling Conference, New Orleans, June 14-17, Vol. 2, pp. 811-835.
- 20. Bruce, D.A. (1987). "Tunnel Grouting: An Illustrated Review of Recent Developments in Ground Treatment." International Conference on Foundations and Tunnels, London, March 24-26, pp. 156-173.
- 21. Bruce, D.A. and R.A. Jewell. (1987). "Soil Nailing: The Second Decade." International Conference on Foundations and Tunnels, London, March 24-26, pp. 68-83.
- 22. Bruce, D.A. and D.L. Boley. (1987). "New Methods of Highway Stabilization." 38th Annual Highway Geology Symposium, Pittsburgh, PA, May 11-13, pp. 57-72.

- 23. Bruce, D.A. (1987). "Structural Repair by Grouting." 3rd International Conference on Structural Faults and Repairs, London, July, 21 p.
- 24. Bruce, D.A. (1988). "Developments in Geotechnical Construction Processes for Urban Engineering." Civil Engineering Practice 3 (1) Spring, pp. 49-97.
- 25. Bruce, D.A. and F. Gallavresi. (1988). "The MPSP System: A New Method of Grouting Difficult Rock Formations." ASCE Geotechnical Special Publication No. 14, "Geotechnical Aspects of Karst[™] Terrains." pp. 97-114. Presented at ASCE National Convention, Nashville, TN. May 10-11.
- 26. Bruce D.A. and F. Gallavresi. (1988). "Special Tunneling Methods for Settlement Control: Infilaggi and Premilling." 2nd International Conference on Case Histories in Geotechnical Engineering, St. Louis, Vol. 2, June 1-5, pp. 1121-1126.
- 27. Bruce, D.A. (1988). "Urban Engineering and the New Technologies." 39th Highway Geology Symposium, Park City, UT, August 17-19, 29 p.
- 28. Bruce, D.A. (1988). "Pinpiling in the United States Practice and Potential." Conference on Developments in Geotechnical Engineering, ASCE and Pennsylvania Department of Transportation, Hershey, PA, September 7-8, 23 p.
- 29. Bruce, D.A. (1988). "Practical Aspects of Rock Anchorages for Dams." Association of State Dam Safety Officials 5th Annual Conference, Manchester, New Hampshire, September 25-28, 26 p.
- 30. Bruce, D.A. (1988). "Piling and Insitu Reinforcement." Deep Foundations Institute 1988 Annual Meeting, Atlanta, GA, October 3-5, 22 p.
- 31. Bruce, D.A. (1988, 1989). "Aspects of Minipiling Practice in the United States." Ground Engineering, 21 (8) pp. 20-33 and 22 (1) pp. 35-39.
- 32. Bruce, D.A. and P.J. Nicholson. (1988). "Minipiles Mature in America." Civil Engineering, 58 (12) December, pp. 57-59.
- 33. Bruce, D.A. and P.J. Nicholson. (1989). "The Practice and Application of Pin Piling." ASCE Foundation Engineering Conference, Evanston, IL, June 25-29, 19 p.
- 34. DePaoli, B., R. Tornaghi, and D.A. Bruce. (1989). "Jet Grout Stabilization of a Peaty Layer to Permit Construction of a Railway Embankment in Italy." ASCE Foundation Engineering Conference, Evanston, IL, June 25-29, pp. 272-290.
- 35. Bruce, D.A., B. DePaoli, C. Mascardi, and E. Mongilardi. (1989). "Monitoring and Quality Control of a 100 Meter Deep Diaphragm Wall." DFI International Conference on Piling and Deep Foundations, London, May 15-18, pp. 23-32.

- 36. Bruce, D.A. (1989). "American Developments in the Use of Small Diameter Inserts as Piles and In Situ Reinforcement." DFI International Conference on Piling and Deep Foundations, London, May 15-18, pp. 11-22.
- 37. Bruce, D.A. (1989). "Contemporary Practice in Geotechnical Drilling and Grouting." Keynote Lecture, First Canadian International Grouting Seminar, Toronto, April 18, 28 p.
- Bruce, D.A. (1989). "Methods of Overburden Drilling in Geotechnical Construction A Generic Classification." Ground Engineering 22 (7), pp. 25-32. Also published in "Drill Bits The Official Publication of the International Drilling Federation", Fall 1989, pp. 7, 8, 110, 11, 13, 14.
- Bruce, D.A., and P. DePorcellinis. (1989). "The RODUR Process of Concrete Dam Repair." Proc. 4th International Conference on Structural Faults and Repairs, London, June 27-29, pp. 63-78.
- 40. Bruce, D.A. and J.E. Croxall. (1989). "The MPSP Grouting System: A New Application for Raise Boring." Proc. 2nd International Conference on Foundations and Tunnels, London, September 19-21, pp. 331-340.
- 41. Bruce, D.A. (1989). "An Overview of Current U.S. Practice in Dam Stabilization Using Prestressed Rock Anchors." 20th Ohio River Valley Soils Seminar, Louisville, KY, October 27, 15 p.
- 42. Bruce, D.A. and P.J. Nicholson. (1989). "Nicholson PinPilessm on Interstate 78 Structure Dig In." Highway Builder, Summer, pp. 36-38.
- 43. Bruce, D.A. and J.H. Clark. (1989). "The Stabilization of Shepaug Dam, CT, Using High Capacity Prestressed Rock Anchors." Association of State Dam Safety Officials 6th Annual Conference, Albuquerque, NM, October 1-5, 10 p.
- 44. Bruce, D.A. (1989). "The Repair of Large Concrete Structures by Epoxy Resin Bonding." The REMR Bulletin (US Army Corps of Engineers), 6 (4), October, pp. 4-7, and in Association of State Dam Safety Officials Newsletter, 6 (3), May, pp. 7-10.
- 45. Bruce, D.A. (1990). "The Sealing of Concrete Dams and Their Foundations: Two New Techniques." 10th Annual USCOLD Lecture Series, March 6 and 7, New Orleans, LA. 33 p.
- 46. Bruce, D.A. (1990). "Common Sense in Rock Anchoring." Geotechnical News, 8 (1), March, pp. 36-38.
- 47. Bruce, D.A., S.L. Pearlman, and J.H. Clark. (1990). "Foundation Rehabilitation of the Pocomoke River Bridge, MD, Using High Capacity Preloaded Pinpiles." Proc. 7th Annual International Bridge Conference, Pittsburgh, PA, June 18-20, Paper IBC-90-42, 9 p.

- 48. Bruce, D.A. (1990). "Major Dam Rehabilitation by Specialist Geotechnical Construction Techniques: A State of Practice Review." Proc. Canadian Dam Safety Association 2nd Annual Conference, Toronto, Ontario, September 18-20, 63 p. Also reprinted as Volume 57 of the Institute for Engineering Research, Foundation Kollbrunner-Rodio, Zurich, September.
- 49. Bruce, D.A. (1990). "Structural Repair of Major Concrete Dams through Epoxy Resin Bonding." Concrete Repair Bulletin, 3 (3), May, pp. 4, 5, 22.
- 50. Bruce, D.A. and J.W. Pratt. (1990). "A Hydraulic Cut-off through Unconsolidated Mine Dump Material." Association of State Dam Safety Officials, 7th Annual Conference, New Orleans, LA, October 14-18, pp. 417-430.
- Bruce, D.A. (1990). "The Practice and Potential of Grouting in Major Dam Rehabilitation." ASCE Annual Civil Engineering Convention, San Francisco, CA, November 5-8, Session T13, 41 p.
- 52. Bruce, D.A. and B. Bianco. (1991). "Large Landslide Stabilization by Deep Drainage Wells." Proc. ICE International Conference on Slope Stability Engineering, Shanklin, Isle of Wight, UK, April 15-19, 8 p.
- 53. Bruce, D.A. and P.H.C. Chan. (1991). "Design, Construction, and Performance of a Deep Circular Diaphragm Wall, Staten Island, New York," Seminar on Tunnels and Underground Construction, Construction Group, ASCE Metropolitan Section, New York, February 4-5, 18 p.
- 54. Bruce, D.A. and F.M. Kord. (1991). "A First for Kidd Creek." Canadian Mining Journal, 112 (7), September, October, pp. 57, 59, 62 and 65
- 55. Bruce, D.A. and P. DePorcellinis. (1991). "Sealing Cracks in Concrete Dams to Provide Structural Stability." Hydro Review, 10 (4), pp. 116-124.
- 56. Bruce, D.A. (1991). "Equal Rights for Grouters." Geotechnical News, 9- (1), March pp. 47-48. Also in Canadian Dam Safety Newsletter, 2, (2), April, pp. 3-4.
- 57. Bruce, D.A., P.H.C. Chan, and G.J. Tamaro. (1991). "Design Construction and Performance of a Deep Circular Diaphragm Wall." Proc. ASTM International Symposium on Slurry Walls, Atlantic City, NJ, June 27-28, 12 p.
- 58. Bruce, D.A., W.R. Fiedler, M.R. Randolph, and J.D. Sloan. (1991). "Load Transfer Mechanisms in High Capacity Prestressed Rock Anchors for Dams" Association of State Dam Safety Officials, 8th Annual Conference, San Diego, CA, September 29 - October 2, 15 p.
- 59. Bruce, D.A. (1991). "The Construction and Performance of Prestressed Ground Anchors in Soils and Weak Rocks: A Personal Overview." Proc. 16th Annual Meeting, DFI, Chicago, October 7-9, 20 p.

- 60. Bruce, D.A., W.R. Fiedler, and R.E. Triplett. (1991). "Anchors in the Desert." Civil Engineering, 61 (12), pp. 40-43.
- 61. Bruce, D.A. and F.M. Kord. (1991) "Grouting with the MPSP Method at Kidd Creek Mines, Ontario." Ground Engineering 24 (8), October, pp. 26, 28, 30, 31, 34, 37, 38, 41.
- 62. DePaoli, B., B. Bosco, R. Granata, and D.A. Bruce. (1992). "Fundamental Observations on Cement Based Grouts (1) : Traditional Materials." Proc. ASCE Conference, "Grouting, Soil Improvement and Geosynthetics," New Orleans, LA, February 25-28, 2 Volumes, pp. 474-485.
- 63. DePaoli, B., B. Bosco, R. Granata, and D.A. Bruce. (1992). "Fundamental Observations on Cement Based Grouts (2): Microfine Cements and the Cemill Process." Proc. ASCE Conference, "Grouting, Soil Improvement and Geosynthetics," New Orleans, LA, February 25-28, 2 Volumes, pp. 486-499.
- 64. Bruce, D.A. (1992). "Progress and Developments in Dam Rehabilitation by Grouting." Proc. ASCE Conference, Grouting, Soil Improvement and Geosynthetics," New Orleans, LA, February 25-28, pp. 601-613.
- 65. Bruce, D.A. (1992). "Recent Progress in American Pinpile Technology." Proc. ASCE Conference, "Grouting, Soil Improvement and Geosynthetics," New Orleans, LA, Feb. 25-28, pp. 765-777.
- 66. Bruce, D.A., W.R. Fiedler, G.A. Scott, and R.E. Triplett. (1992). "Stewart Mountain Dam Stabilization." USCOLD Newsletter, 97, (March) pp. 6-10.
- 67. Bruce, D.A. (1992). "Recent Advances in American Pinpiling Practice." Proc. ICE Conference, "Piling: European Practice and Worldwide Trends," London, April 7-9, pp. 123-130.
- 68. Bruce, D.A. and R. Gemme. (1992). "Current Practice in Structural Underpinning Using Pinpiles." Proc. NY Met. Section ASCE Seminar, New York, April 21-22, 46 p.
- 69. Scott, G.A. and D.A. Bruce. (1992). "Full Scale Field Tests of High Capacity Rock Anchors." Proc. 33rd U.S. Rock Mechanics Symposium, Santa Fe, NM, June 3-6, 10 p.
- 70. Bruce, D.A. and F.M. Kord. (1992). "The Stabilization of Loose Backfill by Drilling and Grouting Techniques." Proc. International Symposium on Rock Support, Sudbury, ON, June 16-19, pp. 227-236.
- Bruce, D.A. (1992). "Two New Specialty Geotechnical Processes for Slope Stabilization." Proc. ASCE Conference, "Stability and Performance of Slopes and Embankments," Univ. California - Berkeley, June 30-July 2, pp. 1505-1519.

- 72. Bruce, D.A. and R.E. Triplett. (1992). "Environmental Safeguards During Rock Anchoring." Proc. CDSA - CANCOLD Joint Conference, Quebec City, Quebec. September 8-12, 13 p.
- 73. Bruce, D.A. (1992). "Drilling and Grouting Techniques for Dam Rehabilitation." Proc. ASDSO 9th Annual Conference, Baltimore, MD, September 13-16, pp. 85-96.
- 74. Nicholson, P.J. and D.A. Bruce. (1992). "Opportunities and Constraints for the Innovative Geotechnical Contractor." ASCE Annual Convention, New York, NY, Sept. 14-17, 20 p.
- 75. Bruce, D.A. (1992). "Prestressed Anchorages for Retaining Structures Applications and Construction." ADSC Boston Earth Retention Seminar, Boston, MA, September 30 October 1, 28 pp. Also presented at Oakland, CA Seminar.
- Bruce, D.A. (1992). "New Horizons in Ground Anchorages, Pinpiles and Cement Grouting." Ohio River Valley Soils Seminar XXIII, Louisville, KY, Oct. 16, 25 p.
- 77. Bruce, D.A., C.H. Hall, and R.E. Triplett. (1992). "Structural Underpinning by Pinpiles." Proc. 17th DFI Annual Meeting, New Orleans, LA. October 21-23, pp. 49-80.
- 78. Bruce, D.A. (1992). "High Capacity Pinpiles for Structural Underpinning." Proc. 45th Canadian Geotechnical Conference, Toronto, ON, October 26-28, paper 37, 18 p.
- 79. Bruce, D.A. and L.K. Nuss. (1992). "Anchoring Stewart Mountain Dam Against Seismic Loadings." Proc. 45th Canadian Geotechnical Conference, Toronto, ON, October 26-28, paper 25, 11 p.
- 80. Bruce, D.A. (1992). "Current Technologies in Ground Treatment and In Situ Reinforcement." Proc. 2nd Interagency Symposium on Stabilization of Soils and Other Materials, Metairie, LA, November 2-5, pp. 271-295.
- 81. Bruce, D.A. and R.H. Bianchi. (1992). "The Use of Post-Tensioned Tendons on Stewart Mountain Dam, Arizona: A Case Study Involving Precision Drilling." Proc. 2nd Interagency Symposium on Stabilization of Soils and Other Materials, Metairie, LA, Nov. 2-5, pp. 5.39-5.54.
- 82. Bruce, D.A. (1992). "Trends and Developments in American Grouting Practice." Proc. I.C.E. Conference, Grouting in the Ground, London. November 25-26, pp 573-589.
- 83. Bruce, D.A. (1993). "Innovations in American Grouting Practice." Seminar on "Innovation in Construction," Sponsored by ASCE, Metropolitan Section, New York, February 1-2, 22 p.
- 84. Bruce, D.A. (1993). "A Review of Drilling and Grouting Methods for Existing Embankment Dams." ASCE Specialty Conference on Geotechnical Practice in Dam Rehabilitation, North Carolina State University, Raleigh, NC, April 25-28, pp. 803-819.

- 85. Bruce, D.A. (1993). "The Stabilization of Concrete Dams by Post-Tensioned Rock Anchorages: The State of American Practice." ASCE Spec. Conference on Geotechnical Practice in Dam Rehabilitation, North Carolina State University, Raleigh, NC, April 25-28, pp. 320-332.
- 86. Bianchi, R.H. and D.A. Bruce. (1993). "The Use of Post Tensioned Anchorages on the Arch Portion of Stewart Mountain Dam, Arizona." ASCE Specialty Conference on Geotechnical Practice in Dam Rehabilitation, North Carolina State University, Raleigh, NC, April 25-28, pp. 791-802.
- 87. Bruce, D.A. (1993). "A Review of Specialty Geotechnical Techniques for Dam Safety." Proc. National Earthquake Conference, Memphis, TN, May, Volume II, pp. 625-635.
- 88. Bruce, D.A., S.L. Pearlman, and J.R. Wolosick. (1993). "Support of Bridge Piers by High Capacity PinPilessm." Proc. National Earthquake Conference, Memphis, TN, May 3-5, Volume II, pp. 563-573.
- 89. Bruce, D.A., R. Granata, M. Mauro, and A. PerelliCippo. (1993). "Some Recent Developments in Ground Treatment for Tunneling." Proc. Rapid Excavation and Tunneling Conference, Boston, MA, June 13-17, pp. 93-108.
- 90. Bruce, D.A., R. Bjorhovde. And J.R. Kenny. (1993). "Fundamental Tests on the Performance of High Capacity PinPilessm." Proc. 18th Annual DFI Conference, Pittsburgh, PA, October 18-20, 33 p.
- 91. Bruce, D.A. (1993). "In Situ Earth Reinforcing by Soil Nailing." Chapter 11, "Underpinningand Retention." Edited by S. Thornburn and G.S. Littlejohn. Published by Blackie Academic and Professional, pp. 340-394.
- 92. Bruce, D.A. (1993). "Contemporary Practice in the Stabilization of Concrete Dams by Post Tensioned Rock Anchors." Ohio River Valley Soils Seminar XXIV, Cincinnati, OH, October 15, 15 p.
- 93. Bruce, D.A., E.C. Luttrell, and L.J. Starnes. (1993). "Remedial Grouting Using Responsive Integrationsm at Jocassee Dam, Oconee County, South Carolina." Proc. ASDSO 10th Annual Conference, Kansas City, MO, September 26-28, 13 pp. Also in Ground Engineering 27 (3), April, pp. 23-29.
- 94. Groneck, P.B., D.A. Bruce, J.H. Greenman, and G. Bingham. (1993). "PinPilessm Save Silos." Civil Engineering 63 (9), September, pp. 66-68.
- 95. Bruce, D.A., J.A. Gerlach, B.H. Greene, and A. Schaffer. (1994). "Locking into Success." Civil Engineering 64 (4) April pp. 48-50.

- 96. Xanthakos, P.P., L.W. Abramson, and D.A. Bruce. (1994). "Ground Control and Improvement." Published by John Wiley and Sons, Inc., New York, 910 p.
- 97. Bruce, D.A. and P.B. Groneck. (1994). "Dam Repair by Anchoring and Grouting: Some Recent Notable Case Histories." Proc. 14th Annual USCOLD Lecture Series, Phoenix, AZ, June 6-8, pp. 15-38.
- 98. Bruce, D.A. and P.J. Nicholson. (1994). "Researches into the Behavior of High Capacity PinPilessm." DFI International Conference Bruges, June, 9 p.
- 99. Snider, S.H. and D.A. Bruce. (1994). "Boonton Dam: Partnering in a Conventional Bid Climate." Proc. ASDSO 11th Annual Conference, Boston, MA, September 11-14, 7 pp. Also in "Foundation Drilling," August 1995 pp. 16-20.
- 100. Bruce, D.A., J.R. Wolosick, and A. Rechenmacher. (1994). "Researches into the Behavior of High Capacity PinPilessm." Proc. US FHWA International Conference on Design and Construction of Deep Foundations, Orlando, FL, Dec. 6-8, 23 pp. Also at Ohio River Valley Soils Seminar XXV. Lexington, KY, October 21.
- 101. Bruce, D.A. (1994). "PinPilessm." Geotechnical News 12 (4) December, pp. 33-36.
- 102. Bruce, D.A. (1994). "An Overview of Grouting Developments," Geotechnical News, 12 (4). December, pp. 36-40.
- 103. Bruce, D.A. (1994). In "Jet Grouting Gains," by P. Tarricone, Civil Engineering 64 (12) December, pp. 40-43.
- 104. Bruce, D.A. and G. Dugnani. (1994). "Innovations in American Grouting Practice." International Symposium on Anchoring and Grouting Techniques, Guangzhou, China," December 7-10, 21 p.
- 105. Bruce, D.A. and P.J. Nicholson. (1994). "The Stabilization of Concrete Dams by Post-Tensioned Rock Anchorages." International Symposium on Anchoring and Grouting Techniques, Guangzhou, China, December 7-10, 13 p.
- 106. Schaffer, A., B.H. Greene, and D.A. Bruce. (1995). "The Instrumentation and Stabilization of a Major Excavation: Point Marion Lock, Pennsylvania." Proc. 35th US Rock Mechanics Symposium, Univ. Nevada, Reno, June 5-7, 8 p.
- 107. Bruce, D.A. and G. Pellegrino. (1995). "Jet Grouting for Solving Tunneling Problems in Soft Clay." Canadian Tunnelling, The Tunnelling Association of Canada, October.
- 108. Bruce, D.A., A.F. DiMillio, and I. Juran. (1995). "Introduction to Micropiles: An International Perspective." "Foundation Upgrading and Repair for Infrastructure Improvement." ASCE Geotechnical Special Publication No. 50. Proc. ASCE Convention, San Diego, CA, Oct. 23-26, pp. 1-26.

- 109. Bruce, D.A., P.J. Nufer, and R.E. Triplett. (1995). "Enhancement of Caisson Capacity by Micro-Fine Cement Grouting - A Recent Case History." In "Verification of Geotechnical Grouting." ASCE Geotechnical Special Publication No. 57. Proc. ASCE Convention, San Diego, CA, October 23-26, pp. 142-152.
- 110. Bruce D.A. and G. Dugnani. (1995). "Seepage Cutoff Wall at Beaver Dam, Arkansas." USCOLD Newsletter 108, November, pp. 1, 5-11. Also in Proc. ASDSO Conference, Atlanta, GA, Sept. 17-20, pp. 377-395.
- 111. Bruce, D.A. (1995). "Technological States." Ground Engineering 28 (9) November, pp. 24-25.
- 112. Bruce, D.A., A.F. DiMillio, and I. Juran. (1995). "A Primer on Micropiles." Civil Engineering 65 (12) December, pp. 51-54.
- Bruce, D.A. and E.K. Chu. (1995). "Micropiles for Seismic Retrofit" Proc. National Seismic Conference on Bridges and Highways. Sponsored by FHWA and Caltrans. San Diego, CA, Dec. 10-13, 17 p.
- 114. Bruce, D.A., B. Greene, and A. Schaffer. (1996). "Unique Cofferdam Construction: Pt. Marion Lock and Dam," Ground Engineering, Vol. 29, No. 3, April. pp. 41-44.
- 115. G. Pellegrino and D.A. Bruce. (1996). "Jet Grouting for the Solution of Tunneling Problems in Soft Clays," Grouting and Deep Mixing, Proc. of IS-Tokyo'96, The Second International Conference on Ground Improvement Geosystems, Tokyo, May 14-17. Edited by R. Yonekura, M. Terashi, and M. Shibazaki, A.A. Balkema, Rotterdam, pp. 347-352.
- 116. Bruce, D.A. (1996). Chapters on Construction and Stressing, Load Testing and Acceptance, "Recommendations for Prestressed Rock and Soil Anchors," Third Edition, Post Tensioning Institute. PTI Ground Anchor Recommendations Committee Member. Phoenix, AZ, 52 p.
- 117. Nicholson, P.J. and D.A. Bruce. (1996). "Jet Grouted Envelope for Soft Ground Tunnel," Proc. of North American Tunneling '96". Edited by Ozdemir, A.A. Balkema, Rotterdam, pp. 395-400.
- 118. Bruce, D.A. and S. Stefani. (1996). "Rehabilitation of Beaver Dam: A Major Seepage Cutoff Wall," Ground Engineering, Vol. 29, No. 5, June, pp. 40-45.
- 119. Bruce, D.A. and G. Dugnani. (1996). "Pile Wall Cuts Off Seepage," Civil Engineering, Vol. 66, No. 7, July, pp. 8A-11A.
- 120. Juran, I., A. Benslimane, and D.A. Bruce. (1996). "Group and Network Effect in Micropile Design Practice," International Conference of Soil Mechanics and Foundation Engineering, Hamburg, Germany, September, 5 p.

- Bruce, D.A. (1996). "Micropiles for Structural Support and In Situ Reinforcement," Presented at the 1996 Oregon Section Geotechnical Seminar, Portland, OR, November 6, 26 p.
- 122. Bruce, D.A. (1996). "The Return of Deep Soil Mixing," Civil Engineering. Vol. 66, No. 2, December, pp. 44-46.
- 123. Bruce, D.A., A.F. DiMillio, and I. Juran. (1997). "Micropiles: The State of Practice Part 1: Characteristics, Definitions, and Classifications." Ground Improvement. Thomas Telford, Vol. 1, No. 1, January, pp. 25-35.
- 124. Bruce, D.A. (1997). "The Stabilization of Concrete Dams by Post-Tensioned Rock Anchors: The State of American Practice," Ground Anchorages and Anchored Structures, Proceedings of the International Conference, Institution of Civil Engineers, London, U.K., Thomas Telford. Edited by G.S. Littlejohn, March 20-21, pp. 508-521.
- 125. Nierlich, H. and D.A. Bruce. (1997). "A Review of the Post-Tensioning Institute's Revised Recommendations for Prestressed Rock and Soil Anchors," Ground Anchorages and Anchored Structures, Proceedings of the International Conference, Institution of Civil Engineers, London, U.K., Thomas Telford. Edited by G.S. Littlejohn, March, 20-21, pp. 522-530.
- 126. Bruce, D.A. (1997). "Seepage Cutoffs Using Overlapping Concrete Piles." U.S. Committee on Large Dams, Annual Meeting, San Diego, CA, April 7-11, 17 p.
- 127. Bruce, D.A. and I. Juran. (1997). "Drilled and Grouted Micropiles: State of Practice Review, Volumes I, II, III, and IV." Prepared for the Federal Highway Administration, Publication Nos. FHWA-RD-96-016. -017, -018, and -019, July.
- 128. Gause, C.C. and D.A. Bruce. (1997). "Control of Fluid Properties of Particulate Grouts: Part 1 – General Concepts." Grouting – Compaction, Remediation, and Testing, Proc. of Sessions Sponsored by the Grouting Committee of the Geo-Institute of the American Society of Civil Engineers, Logan UT. Edited by C. Vipulanandan, Geotechnical Special Publication No. 66, July 16-18, pp. 212-229.
- 129. Gause, C.C. and D.A. Bruce. (1997). "Control of Fluid Properties of Particulate Grouts: Part 2 – Case Histories." Grouting – Compaction, Remediation, and Testing, Proc. of Sessions Sponsored by the Grouting Committee of the Geo-Institute of the American Society of Civil Engineers, Logan UT. Edited by C. Vipulanandan, Geotechnical Special Publication No. 66, July 16-18, pp. 230-241.
- 130. Bruce, D.A., G.S. Littlejohn, and A. Naudts. (1997). "Grouting Materials for Ground Treatment: A Practitioner's Guide," Grouting – Compaction, Remediation, and Testing, Proc. of Sessions Sponsored by the Grouting Committee of the Geo-Institute of the American Society of Civil Engineers, Logan UT. Edited by C. Vipulanandan, Geotechnical Special Publication No. 66, July 16-18, pp. 306-334.

- 131. Bruce, D.A. (1997). "Ground Improvement, Reinforcement, and Treatment: Developments 1987-1997," Chapter 2.6 on Micropiles, Proc. of Sessions Sponsored by the Committee on Soil Improvement and Geosynthetics of the Geo-Institute of the American Society of Civil Engineers, Logan, UT, July 17-19. Edited by V.R. Schaefer, Geotechnical Special Publication No. 69, pp. 151-175.
- 132. Gause, C.C. and D.A. Bruce. (1997). "Great Grouts." Civil Engineering. Vol. 67, No. 8, August, pp. 2A-7A.
- 133. Bruce, D.A., W.G. Smoak, and C.C. Gause. (1997). "Seepage Control: A Review of Grouts for Existing Dams," Proc. of the Association of State Dam Safety Officials, 14th Annual Conference, Pittsburgh, PA, September 7-10, Compact Disc.
- Bruce, D.A., and M.E.C. Bruce. (1997). "International Workshop on Micropiles." Proceedings of DFI Specialty Conference on Micropiles, Seattle, WA, September 26-28, 463 p.
- 135. Cadden, A.W., D.A. Bruce, and R.P. Traylor. (1998). "Micropile Underpinning of a Machine Foundation," Concrete International. Vol. 20, No. 1, January, pp. 53-57.
- Bruce, D.A. and A. Naudts. (1998). "Contemporary Drilling and Grouting Practices for Dam Remediation," 1st Canadian Dam Association Conference, Halifax, Nova Scotia, September 27 - October 1, 24 p.
- 137. Bruce, D.A., J.A. Hamby, and J.F. Henry. (1998). "Tims Ford Dam, Tennessee: Remedial Grouting of Right Rim." Proceedings of the Annual Conference, Dam Safety '98, Association of State Dam Safety Officials, Las Vegas, NV, October 11-14, 13 p.
- 138. Bruce, D.A., A. Naudts, and W.G. Smoak. (1998). "High Flow Reduction in Major Structures: Materials, Principles, and Case Histories," Grouts and Grouting: A Potpourri of Projects. Proceedings of Sessions of Geo-Congress 98, American Society of Civil Engineers, Geotechnical Special Publication No. 80, Boston, MA, October 18-21, pp. 156-176.
- 139. Zelenko, B.H., D.A. Bruce, D.A. Schoenwolf, and R.P. Traylor. (1998). "Micropile Application for Seismic Retrofit Preserves Historic Structure in Old San Juan, Puerto Rico." Grouts and Grouting: A Potpourri of Projects. Proceedings of Sessions of Geo-Congress 98, American Society of Civil Engineers, Geotechnical Special Publication No. 80, Boston, MA, October 18-21, pp. 43-62.
- 140. Bruce, D.A., M.E.C. Bruce, and A.F. DiMillio. (1998). "Deep Mixing Method: A Global Perspective." Soil Improvement for Big Digs. Proceedings of Sessions of Geo-Congress 98, American Society of Civil Engineers, Geotechnical Special Publication No. 81, Boston, MA, October 18-21, pp. 1-26.

- 141. Bruce, D.A., M.E.C. Bruce, and A.F. DiMillio. (1998). "Deep Mixing Method: A Global Perspective." Civil Engineering. Vol. 68, No. 12, December, pp. 38-41.
- 142. Bruce, D.A., M.E.C. Bruce, and R.P. Traylor. (1999). "High Capacity Micropiles Basic Principles and Case Histories." GeoEngineering for Underground Facilities. Proc. of the 3rd National Conference of the Geo-Institute of the American Society of Civil Engineers. Geotechnical Special Publication No. 90, Urbana-Champaign, IL, June 13-17, pp. 188-199.
- 143. Bruce, D.A., A. Naudts, and C. Gause. (1999). "Rock Grouting: Contemporary Concepts in Materials, Methods, and Verification." GeoEngineering for Underground Facilities. Proc. of the 3rd National Conference of the Geo-Institute of the American Society of Civil Engineers. Geotechnical Special Publication No. 90, Urbana-Champaign, IL, June 13-17, pp. 936-949.
- 144. Bruce, D.A., and M.E.C. Bruce. (1999). "An Update on Deep Mixing Technology Worldwide." GeoEngineering for Underground Facilities. Proc. of the 3rd National Conference of the Geo-Institute of the American Society of Civil Engineers, Geotechnical Special Publication No. 90. Urbana-Champaign, IL, June 13-17, pp. 1007-1015.
- 145. Juran, I., D.A. Bruce, A. DiMillio, and A. Benslimane. (1999). "Micropiles: The State of Practice. Part II: Design of Single Micropiles and Groups and Networks of Micropiles." Ground Improvement, 3 (July) pp. 89-110.
- 146. Bruce, D.A., A. Naudts, and C. Gause. (1999). "Rock Grouting: Contemporary Concepts in Materials, Methods, and Verification." Proceedings, XI Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Iguassu Falls, Brazil, August 8-12, pp. 99-107.
- 147. Bruce, D.A., M.E.C. Bruce, and R.P. Traylor. (1999). "High Capacity Micropiles Basic Principles and Case Histories." Proceedings, XI Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Iguassu Falls, Brazil, August 8-12, pp. 1505-1511.
- 148. Bruce, D.A.. (1999). "Recent Developments in Specialty Geotechnical Construction Processes." First Keynote Address, XI Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Iguassu Falls, Brazil, August 8-12, 46 p.
- 149. Bruce, D.A. (1999). "Opportunities for Admixtures in the Geotechnical Engineering Market: The U.S. Model." International Meeting of the Underground Construction Division, Master Builders Technologies, Meiringen, Switzerland, October 6, 17 p.
- 150. Bruce, D. A., M.E.C. Bruce, and A.F. DiMillio. (1999). "Dry Mix Methods: A Brief Overview of International Practice." Dry Deep Mix Methods for Deep Soil Stabilization, Proceedings of the International Conference on Dry Deep Mix Methods for Deep Soil Stabilization. Edited by H. Bredenberg, G. Holm, and B. Broms, Stockholm, Sweden, October 13-15, pp. 15-25.

- 151. Bruce, D.A. and H. Nierlich. (2000). "Ground Anchors and Micropiles: A Decade of Progress in the United States." Grouting Soil Improvement, Geosystems Including Reinforcement. Proceedings of the 4th International Conference on Ground Improvement Geosystems. Finnish Geotechnical Society, Helsinki, Finland, June 7-9, pp. 333-345.
- 152. Bruce, D.A., M.E.C. Bruce, A.F. DiMillio. (2000). "Deep Mixing: QA/QC and Verification Methods." Grouting Soil Improvement Geosystems Including Reinforcement. Proceedings of the 4th International Conference on Ground Improvement Geosystems. Finnish Geotechnical Society, Helsinki, Finland, June 7-9, pp. 11-22.
- 152a. Federal Highway Administration. (2000a). "An Introduction to the Deep Mixing Method as Used in Geotechnical Applications." Prepared by Geosystems, L.P., Document No. FHWA-RD-99-138, March, 143 p.
- 152b. Federal Highway Administration. (2000b). "Supplemental Reference Appendices for an Introduction to the Deep Mixing Method as Used in Geotechnical Applications." Prepared by Geosystems, L.P., Document No. FHWA-RD-99-144, December, 295 p.
- 153. Hamby, J.A. and D.A. Bruce. (2000). "Monitoring and Remediation of Reservoir Rim Leakage at TVA's Tims Ford Dam." U.S. Commission on Large Dams (USCOLD) 20th Annual Meeting, Seattle, WA, July 10-14, pp. 233-249.
- 154. Bruce, D.A. and R.P. Traylor. (2000). "The Repair and Enhancement of Large Diameter Caissons by Grouting." New Technological and Design Developments in Deep Foundations. Proceedings of Sessions of GeoDenver 2000, American Society of Civil Engineers, Denver, CO, August 5-8, Geotechnical Special Publication No. 100, Eds. N.D. Dennis, Jr., R. Castelli, and M.W. O'Neill, pp. 59-71.
- 155. Müller, R., and D.A. Bruce. (2000). "Equipment for Cement Grouting: An Overview." Advances in Grouting and Ground Modification. Proceedings of Sessions of GeoDenver 2000, American Society of Civil Engineers, Denver, CO, August 5-8, Geotechnical Special Publication No. 104, Eds. R.J. Krizek and K. Sharp, pp. 155-172.
- 156. Cadden, A.W., D.A. Bruce, and R.P. Traylor. (2000). "The Value of Limited Mobility Grouts in Dam Remediation." Association of State Dam Safety Officials Annual Meeting, Providence, Rhode Island, September.
- 157. Bruce, D.A., S.T. Hague, and R. Hitt. (2001). "The Treatment by Jet Grouting of a Bridge Foundation on Karstic Limestone." Foundations and Ground Improvement, Proceedings of a Specialty Conference, American Society of Civil Engineers, Blacksburg, VA, June 9-13, Geotechnical Special Publication No. 113, pp. 145-159.

- 158. Bruce, D.A., R.P. Traylor, and J. Lolcama. (2001). "The Sealing of a Massive Water Flow through Karstic Limestone." Foundations and Ground Improvement, Proceedings of a Specialty Conference, American Society of Civil Engineers, Blacksburg, VA, June 9-13, Geotechnical Special Publication No. 113, pp. 160-174.
- 158a. Federal Highway Administration. (2001). "An Introduction to the Deep Mixing Method as Used in Geotechnical Applications: Verification and Properties of Treated Soil." Prepared by Geosystems, L.P., Document No. FHWA-RD-99-167, October, 455 p.
- 159. Cadden, A.W., D.A. Bruce, and L.M. Ciampitti. (2001). "Micropiles in Karst[™]: A Case History of Difficulties and Success." Foundations and Ground Improvement, Proceedings of a Specialty Conference, American Society of Civil Engineers, Blacksburg, VA, June 9-13, Geotechnical Special Publication No. 113, pp. 204-215.
- 160. Andersson, H.M.K., P.J. Borchardt and D.A. Bruce. (2001). "The Use of Polyurethane Resins in Tunnel Grouting." Rapid Excavation and Tunneling Conference, San Diego, CA, June 11-13, 18 p.
- 161. Bruce, D.A. (2001). "Practitioner's Guide to the Deep Mixing Method." Ground Improvement, Vol. 5, No. 3, July, pp. 95-100.
- 162. Bruce, D.A., M.E.C. Bruce and A.F. Dimillio. (2001). "Deep Mixing Method: An International Overview of Technology, Testing and Product." XV International Conference on Soil Mechanics and Geotechnical Engineering, Istanbul, Turkey, August 27-31, 4 p.
- 163. Bruce, D.A., I. Juran and A.F. Dimillio. (2001). "High Capacity Grouted Micropiles: The State of Practice in the United States." XV International Conference on Soil Mechanics and Geotechnical Engineering, Istanbul, Turkey, August 27-31, 4 p.
- 164. Bruce, D.A. (2001). "Anchors and Grouting: What Can We Reasonably Expect?" Dam Safety 2001, Association of State Dam Safety Officials, Annual Conference, Snowbird, UT, September 9-12.
- 165. Mason, J.A. and D.A. Bruce. (2001). "Lizzi's Structural System Retrofit with Reticulated Internal Reinforcement Method." Journal of the Transportation Research Board, No. 1772, Soil Mechanics, National Academy Press, Washington, D.C., pp. 107-114.
- 166. Traylor, R.P., A.W. Cadden, and D.A. Bruce. (2002). "High Capacity Micropiles in Karst[™]: Challenges and Opportunities." Deep Foundations 2002: An International Perspective on Theory, Design, Construction, and Performance, American Society of Civil Engineers, Geotechnical Special Publication No. 116, Orlando, FL, February 14-16, pp. 743-759.
- 167. Bruce, D.A. (2002). "Anchors, Micropiles, Rock Grouting and Deep Mixing: A Decade of Progress in the United States," Current Trends in Geotechnical Engineering, 19th Central Pennsylvania Geotechnical Conference, Hershey, PA, May 13-15, 33 p.

- 168. Bruce, D.A., and G.M. Weinstein. (2002). "Full Scale Field Tests of Single Micropiles and Groups/Networks of Titan Micropiles and Future Initiatives." International Workshop on Micropiles, Venice, Italy, May 29-31, (available on CD through ADSC: The International Association of Foundation Drilling), 13 p.
- 169. Bruce, D.A., and M.E.C. Bruce (Editors). (2002). "IWM 2002: International Workshop on Micropiles," Venice, Italy, May 30-June 1 (available on CD from ADSC: The International Association of Foundation Drilling).
- 169a. Bruce, D.A., A.W. Cadden, M. Chuaqui and R. P. Traylor. (2002). "The Challenges of Construction in Karstic Limestone: Three Major Case Histories," Proceedings, 9th International Conference on Piling and Deep Foundations, Nice, France, June, 6 p.
- 169b. Vanderpool, W.E., D.A. Bruce, E.E. Rinne, and F.H. Kulhawy. (2002). "Micropile Performance Variability: A fundamental Case Study," Proceedings, 9th International Conference on Piling and Deep Foundations, Nice, France, June, pp. 131-137.
- 170. Bruce, D.A. (2002). "Micropiles: Think Small for Big Loads." Geo-Strata. Geo Institute of the American Society of Civil Engineers, July, pp. 15-18.
- 171. Bruce, D.A. (2002). "A Historical Review of the Use of Epoxy Protected Strand for Prestressed Rock Anchors." Dam Safety, 2002, Annual Conference of the Association of State Dam Safety Officials, Tampa, FL, September 8-11, available on CD, 21 p.
- 172. Bruce, D.A. (2002). "Epoxy Protected Strand: A Historical Review of its Use for Prestressed Rock Anchors, Part I." Foundation Drilling. ADSC: The International Association of Foundation Drilling, Vol. XXII, No. 8, November, pp. 14-18.
- 173. Bruce, D.A. (2003). "Epoxy Protected Strand: A Historical Review of its Use for Prestressed Rock Anchors, Part II." Foundation Drilling. ADSC: The International Association of Foundation Drilling, Vol. XXIII, No. 1, December/January, pp. 22-31.
- 174. Bruce, D.A., and M.E.C. Bruce. (2003). "The Practitioner's Guide to Deep Mixing." Grouting and Ground Treatment, Proceedings of the Third International Conference, Geotechnical Special Publication No. 120. Edited by L.F. Johnsen, D.A. Bruce, and M.J. Byle, American Society of Civil Engineers, pp. 475-488.
- 175. Walz, A.H., D.B. Wilson, D.A. Bruce, and J.A. Hamby. (2003). "Grouted Seepage Cutoffs in Karstic Limestone." Grouting and Ground Treatment, Proceedings of the Third International Conference, Geotechnical Special Publication No. 120. Edited by L.F. Johnsen, D.A. Bruce, and M.J. Byle, American Society of Civil Engineers, New Orleans, LA, February 10-12, pp. 967-978.

- 176. Bruce, D.A. (2003). "The Basics of Drilling for Specialty Geotechnical Construction Processes." Grouting and Ground Treatment, Proceedings of the Third International Conference, Geotechnical Special Publication No. 120. Edited by L.F. Johnsen, D.A. Bruce, and M.J. Byle, American Society of Civil Engineers, New Orleans, LA, February 10-12, pp. 752-771.
- 177. Chuaqui, M. and D.A. Bruce. (2003). "Mix Design and Quality Control Procedures for High Mobility Cement Based Grouts." Grouting and Ground Treatment, Proceedings of the Third International Conference, Geotechnical Special Publication No. 120. Edited by L.F. Johnsen, D.A. Bruce, and M.J. Byle, American Society of Civil Engineers, New Orleans, LA, February 10-12, pp. 1153-1168.
- 178. Barley, A.D., D.A. Bruce, M.E.C. Bruce, and J.C. Lang. (2003). "High Capacity and Fully Removable Soil Anchors." 2nd PTI Technical Conference and Exhibition, Post Tensioning Institute, Huntington Beach, CA, May 18-20, 7 p.
- 179. Bruce, D.A., and M. Gillon. (2003). "Seepage Evaluation and Remediation under Existing Dams." Commission Internationale Des Grands Barrages. Question 82, Montreal, June 16-20, pp. 423-438.
- Bruce, D.A. (2003). "Issues Regarding the Use of Epoxy Protected Strand for Prestressed Rock Anchors." Commission Internationale Des Grands Barrages. Question 82, Montreal, June 16-20, pp. 439-446.
- 181. Gillon, M., and D.A. Bruce. (2003). "High Pressure Seepage at Arapuni Dam, New Zealand: A Case History of Monitoring, Exploration and Remediation." United States Society on Dams, San Diego, CA, June 24-28, 10 p.
- 182. Bruce, D.A. and A.D. Barley. (2003). "Two Important Recent Developments in Ground Anchor Technology." Soil and Rock America 2003, 12th Pan-American Conference on Soil Mechanics and Geotechnical Engineering, 39th U.S. Rock Mechanics Symposium. Massachusetts Institute of Technology, Cambridge, MA, June 26, 8 p.
- 183. Gómez, J.E., A.W. Cadden, and D.A. Bruce. (2003). "Micropiles Founded in Rock. Development and Evolution of Bond Stresses." Soil and Rock America 2003, Proceedings of the 12th Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Cambridge, MA, June 22-26, pp. 1911-1916.
- 184. Bruce, D.A. (2003). "Sealing of Massive Water Inflows through Karst[™] by Grouting: Principles and Practice." 9th Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst[™], American Society of Civil Engineers, Huntsville, AL, September 6-10, 12 p.

- 185. Bruce, D.A. (2003). "Rock Anchors Then and Now." Dam Safety 2003, Annual Conference of the Association of State Dam Safety Officials, Minneapolis, MN, September 7-10, available on CD, 9 p.
- 186. Bruce, D.A., and M.E.C. Bruce (Editors). (2003). "IWM 2003: International Workshop on Micropiles," Seattle, WA, September 25-28 (available on CD from ADSC: The International Association of Foundation Drilling).
- 187. Gómez, J., M.E. Bruce, D.A. Bruce, D.L. Basinger and A.W. Cadden. (2004). "Stabilization of Retaining Wall along Tailrace Channel of Hodenpyl Dam," GeoSupport 2004 Drilled Shafts, Micropiling, Deep Mixing, Remedial Methods, and Specialty Foundation Systems, , ADSC: International Association of Foundation Drilling and American Society of Civil Engineers, Geotechnical Special Publication No. 124, Orlando, FL January 29-31, pp. 346-360.
- 188. Bruce, M.E., R.P. Traylor, A.D. Barley, D.A. Bruce and J. Gómez. (2004). "Post Grouted Single Bore Multiple Anchors at Hodenpyl Dam, Michigan," GeoSupport 2004 Drilled Shafts, Micropiling, Deep Mixing, Remedial Methods, and Specialty Foundation Systems, , ADSC: International Association of Foundation Drilling and American Society of Civil Engineers, Geotechnical Special Publication No. 124, Orlando, FL January 29-31, pp. 361-373.
- 189. Bruce, D.A. (2004). "Keeping Water Out of the Quarry Floor, Part 1: Emergency procedures for dealing with water in heavily karstified limestone deposits." Aggregates Manager, Vol. 9, No. 1, January/February, pp. 16-19.
- Bruce, D.A. (2004). "Keeping Water Out of the Quarry Floor, Part 2: Effective construction techniques and design considerations for grout curtains." Aggregates Manager, Vol. 9, No. 2, March/April, pp. 10-12.
- 191. Bruce, D.A. (2004). "Crisis Management: Dealing with Massive Underflows in Karstic Limestone." The Journal of Dam Safety, Association of State Dam Safety Officials, Vol. 2, Issue 2, Spring, pp. 12-18.
- 192. Bruce, D.A., M.F. Wells, and J. Venter. (2004). "Construction of Permanent Intruded Plugs at South Deep Gold Mine," Colloquium on Water Barriers in Underground Mines, The South African Institute of Mining and Metallurgy, Johannesburg, South Africa, April 22, 14 p.
- 193. Littlejohn, G.S., D.A. Bruce, C.O. Brawner, O. Olivier, A.H. Swart and M.F. Wells. (2004). "Recommendations for Site Investigation, Design, Construction, Testing, Monitoring and Maintenance of Permanent Intruded Concrete Plugs," Colloquium on Water Barriers in Underground Mines, The South African Institute of Mining and Metallurgy, Johannesburg, South Africa, April 22, 10 p.

- 194. Littlejohn, G.S., D.A. Bruce, C.O. Brawner, and A.H. Swart. (2004). "Design of Permanent Intruded Plugs at South Deep Gold Mine," Colloquium on Water Barriers in Underground Mines, The South African Institute of Mining and Metallurgy, Johannesburg, South Africa, April 22, 15 p.
- 195. Cadden, A., J. Gómez, D.A. Bruce, and T. Armour. (2004). "Micropiles: Recent Advances and Future Trends," Current Practices and Future Trends in Deep Foundations, Geotechnical Special Publication No. 125, ASCE Geo-Institute GSP Honoring Dr. George Goble, GeoTrans Conference, Los Angeles, CA, July 27, 27 p.
- 196. Bruce, D.A. and D.L. Depres. (2004). "Drilling and Sampling of Embankments Using the Sonic Drilling Method," ASDSO Annual Conference, Phoenix, AZ, September 26-29, 9 p.
- 197. Bruce, D.A. (2004). "Evolution of Rock Anchor Practice over Three Decades," ADSC Ohio River Valley Soils Seminar XXXV, October 20, 9 p.
- 198. Bruce, D.A. (2004). "Recommendations for Prestressed Rock and Soil Anchors," Fourth Edition. PTI Ground Anchor Recommendations Committee Member. Reviewed and endorsed by ADSC Anchored Earth Retention Committee, copyright by Post-Tensioning Institute, Phoenix, AZ, 98 p.
- 199. Bruce, D.A. "IWM 2004: The Transition to ISM Begins." Foundation Drilling, ADSC: The International Association of Foundation Drilling, Vol. XXVI, No. 1, December/January, pp. 30-34.
- 200. Bruce, D.A., D.M. Heenan, and D.B. Wilson. (2005). "Quality and Quantification in Rock Drilling and Grouting." Geo-Frontiers Geotechnical Special Publications 130-142 and GRI-18; Sponsored by The Geo-Institute of the American Society of Civil Engineers Geosynthetic Materials Association of the Industrial Fabrics Association International Geosynthetic Institute, January 24–26, Austin, TX, 10 p.
- 201. Brawner, C.O., D.A. Bruce, and G.S. Littlejohn. (2005). "Intruded Concrete Plugs in a Deep Gold Mine: An Exercise in Quality Control, Assurance, and Performance Verification." Geo-Frontiers Geotechnical Special Publications 130-142 and GRI-18; Sponsored by The Geo-Institute of the American Society of Civil Engineers Geosynthetic Materials Association of the Industrial Fabrics Association International Geosynthetic Institute, January 24–26, Austin, Texas, 15 p.
- 202. Bruce, D.A., A.W. Cadden, and P.J. Sabatini. (2005). "Practical Advice for Foundation Design – Micropiles for Structural Support," Geo-Frontiers Geotechnical Special Publications 130-142 and GRI-18; Sponsored by The Geo-Institute of the American Society of Civil Engineers Geosynthetic Materials Association of the Industrial Fabrics Association International Geosynthetic Institute, January 24–26, Austin, Texas, 25 p.

- Bruce, D.A. (2005). "Grouting Massive Water Inflows into Quarries: Principles of Crisis Management," ASCE 21st Central Pennsylvania Geotechnical Conference, March 23-25, Hershey, PA. 13 p.
- 204. Bruce, D.A. (2005). "Drilling in the Urban Environment," American Society of Civil Engineers, Metro-Section Conference, Manhattan, NY, May 11-12, 12 p.
- 205. Bruce, D.A., P.R. Cali. (2005). "State of Practice Report: Session 3 Design of Deep Mixing Implications," International Conference on Deep Mixing, Swedish Geotechnical Institute, Stockholm Sweden, May 23-25, 12 p.
- 206. Cali, P.R., M. Woodward, D.A. Bruce, E. Forte. (2005). "Levee Stability Application for Deep Mixing (1) – Design of Full Scale Test Section Using Dry Mixed Soil Cement Columns," International Conference on Deep Mixing, Swedish Geotechnical Institute, Stockholm Sweden, May 23-25, 8 p.
- 207. Cali, P.R., M. Woodward, D.A. Bruce, E. Forte. (2005). "Levee Stability Application for Deep Mixing (2) – Conclusions from Test Section Using Dry Mixed Soil Cement Columns," International Conference on Deep Mixing, Swedish Geotechnical Institute, Stockholm Sweden, May 23-25, 9 p.
- 208. Bruce, D.A., J.P. Davis. (2005). "Drilling through Embankments: The State of Practice," USSD 2005 Conference, Salt Lake City, UT, June 6-10, 12 p.
- 209. Bruce, D.A., J.J. Jensen, J.S. Wolfhope. (2005). "High Capacity Rock Anchors for Dams: Some Fundamental Observations on the Analysis of Stressing Data," USSD 2005 Conference, Salt Lake City, UT, June 6-10, 18 p.
- 210. Bruce, D.A. (2005). "Pregrouting in Rock: Contemporary Basic Principles," 17th Rapid Excavation and Tunneling Conference and Exhibit, Seattle, WA, June 27-29, 19 p.
- 211. Forbes, G., J.S. Wolfhope, D.A. Bruce, and M.L. Boyd. (2005). "Post-Tensioned Rehabilitation of Hydropower Dams: Continuously Improving on an Anchor Program," Waterpower XIV Conference, Austin, Texas, July 18-22, 12 p.
- 212. Bruce, D.A. and J.S. Wolfhope. (2005). "Rock Anchors for Dams: The Preliminary Results of the National Research Project," ASDSO Dam Safety Conference, Orlando, FL, September 23-26, 6 p.
- 213. Carter, J. and D.A. Bruce. (2005). "Enhancing the Quality of the Specialty Contractor Procurement Process: Creating an Alliance," Geo3 GEO Construction Quality Assurance/Quality Control Conference Proceedings, Editors D.A. Bruce and A.W. Cadden, Dallas/Ft. Worth, TX, November 6-9, pp. 76-87.

- 214. Bruce, D.A. and D.W. McBreen. (2005). "High Capacity Rock Anchors at Marmet Locks and Dam, West Virginia, A Case History Providing Some Fundamental Observations on the Analysis of Stressing Data," Geo3 GEO Construction Quality Assurance/Quality Control Conference Proceedings, Editors D.A. Bruce and A.W. Cadden, Dallas/Ft. Worth, TX, November 6-9, pp. 135-143.
- 215. Gómez, J., A.W. Cadden, R.P. Traylor and D.A. Bruce. (2005). "Connection Capacity between Micropiles and Concrete Footings: Interpretation of Test Results and Design Recommendations," Geo3 GEO Construction Quality Assurance/Quality Control Conference Proceedings, Editors D.A. Bruce and A.W. Cadden, Dallas/Ft. Worth, TX, November 6-9, pp. 196-216.
- 216. Bruce, D.A. and J.P. Davis. (2005). "Quality and Quantification in Small Hole Drilling," Geo3 GEO Construction Quality Assurance/Quality Control Conference Proceedings, Editors D.A. Bruce and A.W. Cadden, Dallas/Ft. Worth, TX, November 6-9, pp. 271-282.
- 217. Cadden, A.W., D.A. Bruce and J.J. Bean. (2005). "The Field Inspection and Documentation of Micropile Works," Geo3 GEO Construction Quality Assurance/Quality Control Conference Proceedings, Editors D.A. Bruce and A.W. Cadden, Dallas/Ft. Worth, TX, November 6-9, pp. 283-296.
- 218. Gibler, P., D.A. Bruce and M. Hadzariga. (2005). "Quality Assurance Issues Related to the Installation of High Capacity Micropiles, Richmond-San Rafael Bridge Seismic Retrofit Project, California," Geo3 GEO Construction Quality Assurance/Quality Control Conference Proceedings, Editors D.A. Bruce and A.W. Cadden, Dallas/Ft. Worth, TX, November 6-9, pp. 570-592.
- 219. National Rock Anchor Research Program. (2005). "High Capacity Rock Anchors for Dams: Thirty Years of Recommendations for Practice", Co-Principal Investigators D.A. Bruce and J.W. Wolfhope, Geo3 GEO Construction Quality Assurance/Quality Control Conference Proceedings, Editors D.A. Bruce and A.W. Cadden, Dallas/Ft. Worth, TX, November 6-9, pp. 88-105.
- 220. Grouting Committee of the Geo-Institute. (2005). "Glossary of Grouting Terminology," D.A. Bruce Committee Chairman, ASCE Journal of Geotechnical and Geoenvironmental Engineering, Volume 131, Number 12, December, pp. 1534-1542.
- 220a. Bruce, D.A. (2006). "The Basics of Geotechnical Construction Drilling Part 1," National Driller, Volume 27, No. 4, April, pp. 10-11.
- 220b. Bruce, D.A. (2006). "The Basics of Geotechnical Construction Drilling Part 2," National Driller, Volume 27, No. 5, May, pp. 26-27.
- 221. Bruce, D.A., M.F. Wells, and J. Venter. (2006). "Construction of Permanent Intruded Plugs at South Deep Gold Mine," The Journal of The South African Institute of Mining and Metallurgy Volume 106, Non-Refereed Paper, May.

- 222. Bruce, D.A. (2006) "An Education in Micropiles: The Expansion of the Market in North America and How You Can Do It Too," IWM 2006: International Workshop on Micropiles, , Schrobenhausen, Germany, (available on CD through ISM at <u>www.ismicropiles.org</u>), May 3-7, 9 p.
- 223. Bruce, D.A.. (2006). "Traits of the Admirable People in Our Industry," Foundation Drilling, ADSC: The International Association of Foundation Drilling, Volume XXVII, No. 5, June/July, pp. 51-52, 54.
- 224. Bruce, D.A. and J.S. Wolfhope. (2006). "Rock Anchors for Dams: The National Research Project: The Evolution of Post-Tensioned Anchors on Hydropower Dams," Hydrovision 2006, Portland, OR, July 31-August 4, 11 p.
- 225. Bruce, D.A., A. Ressi di Cervia and J. Amos-Venti. (2006). "Seepage Remediation by Positive Cut-Off Walls: A Compendium and Analysis of North American Case Histories," ASDSO Dam Safety, Boston, MA, September 10-14.
- 226. Bruce, D.A. and J. Wolfhope. (2006). "Rock Anchors for Dams: National Research Project, The (Semi) Final Results of the Phase 1 Study," ASDSO Dam Safety, Boston, MA, September 10-14, 20 p.
- 227. Bruce, D.A., A. Ressi di Cervia and J. Amos-Venti. (2006). "Seepage Remediation by Positive Cut-Off Walls: A Compendium and Analysis of North American Case Histories," Canadian Dam Association Conference, September 30-October 5, Québec City, Québec.
- 228. Bruce, D.A. and J. Wolfhope. (2006). "Rock Anchors for Dams: National Research Project, The (Semi) Final Results of the Phase 1 Study," Canadian Dam Association Conference, September 30-October 5, Québec City, Québec.
- 229. Weaver, K.D. and D.A. Bruce (2007). "Dam Foundation Grouting, Revised and Expanded Edition," American Society of Civil Engineers, ASCE Press, New York, 504 p.
- 230. Bruce, D.A. (2007). "Managing the Design and Construction of Grouted Cut-Offs in Emergency Conditions," American Society of Civil Engineers, GeoDenver, February 18-21, Denver, CO, 11 p.
- 231. Bruce, D.A. (2007). "Pregrouting for Tunnels in Rock: The Case for New Thinking," American Society of Civil Engineers, GeoDenver, February 18-21, Denver, CO, 12 p.
- 232. Bruce, D.A, and J. Wolfhope (2007). "Rock Anchors for Dams: Evolution and Analysis of Corrosion Protection Systems and Construction Costs," Dam Safety '07, Annual National Conference, September 9-13, Austin, TX, 20 p.
- 233. Amos, P.D. D.A. Bruce, M. Lucchi, T.S. Newson, N. Wharmby (2007). "Design and Construction of Seepage Cut-Off Walls Under a Concrete Dam in New Zealand with a Full Reservoir," Dam Safety '07, Annual National Conference, September 9-13, Austin, TX, 12 p.

- 234. Bruce, D.A., W. Duryee, M.C. Middleton and T. Myers (2007). "High Capacity Micropiles in Mined Ground for Bridge Support: A Case History of Investigation, Design, Construction and Performance: Paper 4 Load Testing," IWM 2007: International Workshop on Micropiles, Toronto, Ontario, Canada, (available on CD through ISM at <u>www.ismicropiles.org</u>), September 26-20, 14 p.
- 235. Bruce, D.A. (2007). "Dam Remediation by Anchors and Cut-Offs: A Summary of Two National Research Programs," Ohio River Valley Soils Seminar, ORVSS XXXVIII, Louisville, KY, November 14, 35 p.
- 236. Bruce, D.A., and J. Wolfhope (2007). "Rock Anchors for North American Dams: The National Research Program Bibliography and Database," Institution of Civil Engineers, Ground Anchorages and Anchored Structures in Service, November 26-27, London, England, U.K., 11 p.
- 237. Bruce, D.A., and J. Wolfhope (2007). "Rock Anchors for North American Dams: The Development of the National Recommendations (1974-2004)," Institution of Civil Engineers, Ground Anchorages and Anchored Structures in Service, November 26-27, London, England, U.K., 11 p.
- 238. Zicko, K.E., D.A. Bruce, and R.A. Kline, Jr. (2007). "The Stabilization of Gilboa Dam, New York, Using High Capacity Rock Anchors: Addressing Service Performance Issues," Institution of Civil Engineers, Ground Anchorages and Anchored Structures in Service, November 26-27, London, England, U.K., 10 p.
- 239. Bruce, D.A. (2008). "Crisis Management and Real Time Response: The Nine Steps to Success," *Geo-Strata*. Geo-Institute of the American Society of Civil Engineers, January/February, Volume 9, Issue 1, 6 pp.
- 240. Amos, P.D., D.A. Bruce, M. Lucchi, N. Watkins, N. Wharmby (2008). "Design and Construction of Seepage Cut-Off Walls Under a Concrete Dam with a Full Reservoir," The Journal of Dam Safety, Volume 6, Issue 1, Association of State Dam Safety Officials (ASDSO), March, pp. 32-43.
- 241. Bruce, D.A., T.L. Dreese, and D.M. Heenan (2008). "Concrete Walls and Grout Curtains in the Twenty-First Century: The Concept of Composite Cut-Offs for Seepage Control," USSD Annual Conference, Portland, OR, April 28-May 2, 35 pp.
- 242. Bruce, D.A. and J.S. Wolfhope (2008). "40 Years of Rock Anchors for Dams in the U.S. Lessons Learned," USSD Annual Conference, Portland, OR, April 28 - May 2.
- 243. Amos, P.D., D.A. Bruce, M. Lucchi, N. Watkins, and N. Wharmby (2008). "Design and Construction of Deep Secant Pile Seepage Cut-Off Walls Under the Arapuni Dam in New Zealand," USSD Annual Conference, Portland, OR, April 28 May 2.

- 244. Carter, T.G., J.L. Carvalho, J.P. Dittrich, B.J. Cottrell, B. Leew, K. Cirulis, D.A. Bruce, and J. Burdess (2008) "Use of Innovative Numerical Modelling and Rock Mass Characterization Approaches for Design of Foundations within Weak Coralline Limestones," the 42nd U.S. Rock Mechanics Symposium and 2nd U.S.-Canada Rock Mechanics Symposium, San Francisco, CA, June 29-July 2.
- 245. Bruce, D.A. and K.A. Ferguson (2008). "Embankment Dams on Karstic Limestone, Soluble and Erodible Foundations: Challenges and Solutions," ASDSO Dam Safety Conference, Indian Wells, CA, September 7-10, 44 pp.
- 246. Bruce, D.A. and G. Sills (2009). "Seepage Cutoffs for Levees: A Technology Review," USSD Annual Conference, April 20-24, Nashville, TN, 29 pp.
- Bruce, D.A., T.L. Dreese, D.B. Wilson (2009). "Design, Construction and Performance of Seepage Barriers for Dams on Carbonate Foundations," USSD Annual Conference, April 20-24, Nashville, TN, 16 pp.
- 248. Heslin, G., D.A. Bruce, G.S. Littlejohn, T. Westover (2009). "Performance of Aging Post-Tensioned Rock Anchors in Dams," ASDSO Northeast Regional Conference, June 14-16, State College, PA, 12 pp.
- 249. Bruce, D.A. (2009). "Seepage Cutoffs for Dams: Reassertion of the "Composite Wall" Concept," USACE Infrastructure Conference, PowerPoint Slide Presentation, July 20-24, Cleveland, OH, 42 pp.
- 250. Bruce, D.A. (2009). "Rock Anchors for Dams: The Need for Common Sense and Clarity," USACE Infrastructure Conference, PowerPoint Slide Presentation, July 20-24, Cleveland, OH, 42 pp.
- 251. Dittrich, J.P., T.G. Carter, J.L. Carvalho and D.A. Bruce (2009). "Micropile and Low-Mobility Grouting Foundation Remediation for a Coastal Development in Barbados," GeoHalifax, 62nd Canadian Geotechnical Conference and 10th Joint CGS/ IAH-CNC Groundwater Specialty Conference, Nova Scotia, Canada, September 20-24, 8 pp.
- 252. Bruce, D.A. (2009). "Seepage Cutoffs for Levees and Dams: The Technology Review," ASDSO Dam Safety Conference, September 27 October 1, Hollywood, FL, 28 pp.
- 253. Bruce, D.A., T.L. Dreese, D.M. Heenan. (2009). "Contemporary Grouting Practices in 'Composite' Seepage Cutoff Construction," Geo-Strata Magazine, Volume 13, Issue 5, September/October, pp. 18-23.
- 254. Ferguson, K.A. and D.A. Bruce. (2010). "The Bear Creek Dam, Alabama," 30th Annual USSD Conference, Sacramento, CA, April 12-16, pp. 351-366.
- 255. Dittrich, J.P., D.A. Bruce and J.R. Wolosick. (2010). "Foundation Remediation at Sandy Cove, St. James, Barbados," Deep Foundations Magazine, Summer, pp. 51-54.

- 256. Bruce, D.A. (2010). "Seepage Cutoffs for Levees and Dams: The Technology Review," Deep Foundations Institute Technical Lectures: Use of Slurry Walls for Cutoffs, July 22, Sacramento, CA, 28 pp.
- 257. Bruce, D.A., T.L. Dreese and D.M. Heenan. (2010). "Design, Construction, and Performance of Seepage Barriers for Dams on Carbonate Foundations," Environmental and Engineering Geoscience, V. 16, No. 3, August, pp. 183-193.
- Charlton, J.E., C.H. Ginther and D.A. Bruce. (2010). "Comprehensive Foundation Rehabilitation at Bear Creek Dam," Environmental and Engineering Geoscience, V. 16, No. 3, August, pp. 211-227.
- 259. Bruce, D.A. and M. Mauro. (2010). "Quality Control and Assurance and Performance Verification for Cut-off Walls," ASDSO Dam Safety Conference, September 19-23, Seattle, WA, 14 pp.
- 260. Bruce, D.A. and T.L. Dreese. (2010). "Specifications for Rock Mass Grouting," ASDSO Dam Safety Conference, September 19-23, Seattle, WA, 12 pp.
- 261. Wolosick, J.R., J. P. Dittrich, and D.A. Bruce. (2010). "Foundation Remediation using Micropiles and Low Mobility Grouting (LMG) at Sandy Cove Condominium, Barbados," International Workshop on Micropiles, Washington, DC, (available on CD through International Society for Micropiles (ISM) at <u>www.ismicropiles.org</u>), September 22-25, 11 pp.
- 262. Bruce, D.A., J.J. Bean and T.J. Myers. (2010). "miniJET[®]: A New Type of Micropile," International Workshop on Micropiles, Washington, DC, (available on CD through International Society for Micropiles (ISM) at <u>www.ismicropiles.org</u>), September 22-25, 10 pp.
- 263. Bruce, D.A. (2011) "Seepage Cut-Off Walls for Levees and Dams: In-Situ Mixing Methods," Deep Foundations Magazine, Spring, 2011, pp. 51-55.
- 264. Bruce, D.A. (2011). "Design, Construction and Performance of Seepage Barriers for Dams on Carbonate Foundations," PELA 12th Multidisciplinary Conference on Sinkholes, January 10-14, St. Louis, MO, 35 pp.
- 265. Bruce, D.A. (2011). "Saving Institutional Memory and the Extraordinary Cost-Effectiveness of Project Databases," USSD Annual Conference, April 12-13, San Diego, CA, 16 pp.
- 266. Bruce, D.A. (2011). "Rock Grouting for Dams and the Need to Fight Regressive Thinking," USSD Annual Conference, April 12-13, San Diego, CA, 16 pp. and in Grout Line, Geotechnical News, Volume 29, Number 2, June, p. 36-43.

- 267. Anastasopoulos, K., D.A. Bruce, and G. Rizopoulos. (2011). "Construction of Papadia Dam Secant Pile Plastic Concrete Cutoff Wall," Proceedings of the 15th European Conference on Soil Mechanics and Geotechnical Engineering - Geotechnics of Hard Soils – Weak Rocks. Edited by Andreas Anagnostopoulos, Michael Pachakis, Christos Tsatsanifos. Athens, Greece, September 12-15, pp. 1105-1110.
- Bruce, D.A. (2011). "Deep Mixing Methods Used for Levee and Dam Remediation: An Updated Classification for U.S. Practice," ASDSO Dam Safety Conference, September 25-29, Washington, DC, 9 pp.
- 269. Anastasopoulos, K., D.A. Bruce, C. Oikonomidis and G. Rizopoulos. (2012). "Seepage Control Measures for the Papadia Dam Foundation: Design, Construction and Performance," Deep Foundation Institute, 4th International Conference on Grouting and Deep Mixing, New Orleans, LA, February 15-18.
- 270. Bruce, D.A., P.R. Cali and M.L. Woodward. (2012). "The History of Deep Mixing in New Orleans," Deep Foundation Institute, 4th International Conference on Grouting and Deep Mixing, New Orleans, LA, February 15-18.
- 271. Bruce, D.A, T.L. Dreese, M.C. Harris and D.M. Heenan. (2012). "Composite Cut-Off Walls for Dams: Theory and Practice," Deep Foundation Institute, 4th International Conference on Grouting and Deep Mixing, New Orleans, LA, February 15-18.
- Cali, P.R., B. Lelong, D.A. Bruce, S. Valagussa, J. Beckerle, J. Gardner and G. Filz. (2012).
 "Overview of Deep Mixing at Levee LPV 111, New Orleans, LA," Deep Foundation Institute, 4th International Conference on Grouting and Deep Mixing, New Orleans, LA, February 15-18.
- 273. Stare, D.P., A.N. Hockenberry, T.L. Dreese, D.B. Wilson, and D.A. Bruce. (2012). "Protection of Embankments during Drilling and Grouting," Deep Foundation Institute, 4th International Conference on Grouting and Deep Mixing, New Orleans, LA, February 15-18.
- 274. Littlejohn, S. and D.A. Bruce (2012). "Grouting of Permanent Intruded Concrete Tunnel Plugs at South Deep Gold Mine, South Africa," Deep Foundation Institute, 4th International Conference on Grouting and Deep Mixing, New Orleans, LA, February 15-18.
- 275. Bruce, D.A. (2012). "The Evolution of Small Hole Drilling Methods for Geotechnical Construction Techniques," ADSC EXPO, ADSC: The International Association of Foundation Drilling, March 14-17, San Antonio, TX, 18 pp.
- 276. Bruce, D.A. (2012). "Computer Monitoring in the Grouting Industry," Geo-Institute GeoCongress, State of the Art and Practice in Geotechnical Engineering Conference, San Francisco, CA, March 25-29, 16 pp.

- 277. Bruce, D.A. and G. Filz. (2012). "Quality Control and Quality Assurance in Cut-Off Walls," USSD 32nd Annual Meeting and Conference, Innovative Dam and Levee Design and Construction for Sustainable Water Management, New Orleans, LA, April 23-27, 11 pp.
- 278. Vasquez, V.M., M.L. Boyd, J.L. Rutledge, M.J. Cristofaro, D.A. Bruce and P. Carr. (2012).
 "The Third Time's a Charm," USSD 32nd Annual Meeting and Conference, Innovative Dam and Levee Design and Construction for Sustainable Water Management, New Orleans, LA, April 23-27, 10 pp.
- 279. Mortensen, D., M.L. Boyd, V.M. Vasquez, D.A. Bruce and P. Carr. (2012). "Third Post-Tensioned Anchors Stabilization at Olmos Dam," Association of State Dam Safety Officials Annual Conference, September 16-21, Denver, CO.
- 280. Bruce, D.A. (2012). "Specialty Construction Techniques for Dam and Levee Remediation," Spon Press, an imprint of Taylor and Francis, 304 pp.
- 281. Bruce, D.A., P.R. Cali, and M.L. Woodward (2013). "The History of Deep Mixing in New Orleans," ICE Ground Improvement Special Issue, 22 pp.
- 282. Bruce, D.A., J.S. Wolfhope and J.D. Wullenwaber. (2013). "Rock Anchors for Dams: A Five-Year Update," 33rd USSD Annual Meeting and Conference, Glendale, AZ, February 11-15, 10 pp.
- Bruce, D.A. and J.S. Wolfhope. (2013). "Evaluating Post-Tensioned Anchors in Dams," 33rd USSD Annual Meeting and Conference, PowerPoint Presentation, Glendale, AZ, February 11-15, 21 pp.
- 284. Bruce, D.A., and G. Filz. (2013). "Quality Control and Quality Assurance Methods for Cutoff Walls in Dams and Levees," Geo-Congress: Stability and Performance of Slopes and Embankments III, Geo-Institute of ASCE: American Society of Civil Engineers, San Diego, CA, March 3-6, 2013, 11 pp.
- 285. Bruce, D.A. (2013). "Rock Anchors and Concrete Cutoffs: A Historical Review and Future Research Needs Assessment," CEATI Hydropower Workshop PowerPoint Presentation, Las Vegas, NV, March 12-13, 28 slides.
- 286. Bruce, D.A. (2013). "Micropile Installation Methods and Selection," DFI/ADSC Micropile and Anchored Earth Retention Design and Construction Seminar, PowerPoint Presentation, Salt Lake City, UT, March 21-22, 2013, 54 slides.
- 287. Bruce, D.A. (2013). "A Review of Specialty Geotechnical Construction Techniques for American Dams and Levees," International Commission on Large Dams, ICOLD 2013 International Symposium - Changing Times: Infrastructure Development to Infrastructure Management, Seattle, WA, August 12-16, 11 pp.

- 288. Bruce, D.A., R. Lyon, S. Swartling (2013). "The History of Down-the-Hole Drilling and the Use of Water-Powered Hammers," Association of State Dam Safety Officials Annual Conference, Providence, RI, September 8-12, 11 pp.
- 289. Bruce, D.A., R. Lyon, S. Swartling (2013). "An Introduction to Water-Powered Down-the-Hole Drilling in Specialty Geotechnical Construction," Deep Foundations Institute 38th Annual Conference, Phoenix, AZ, September 25-28, 7 pp.
- 290. Bruce, D.A. (2013). "Remedial Techniques for Dams and Levees: A Comparison of Technologies," Canadian Dam Association Annual Conference, Montréal, Québec, Canada October 5-10, 2013, 9 pp.
- 291. Bruce, D.A. (2013). "A Brief History of the Use of the Deep Mixing Methods in the United States," Deep Foundations Institute Soil Mixing Seminar, PowerPoint Presentation, San Francisco, CA, October 24-25, 2013, 64 slides.
- 292. Bruce, D.A. (2013). "Cutoff Walls for Dams and Levees," New Zealand Society of Large Dams (NZSOLD) and the Australian National Committee on Large Dams (ANCOLD) Conference, Rotorua, New Zealand, November 13-15, 2013, 7 pp.
- 293. Bruce, D.A. (2013). "Contemporary Rock Drilling and Grouting Practices," New Zealand Society of Large Dams (NZSOLD) and the Australian National Committee on Large Dams (ANCOLD) Conference, Rotorua, New Zealand, November 13-15, 12 pp.
- 294. Bruce, D.A. and G.M. Filz (2013). "A Brief History of Deep Mixing Methods," Deep Foundations Institute Magazine, Special Issue: Landmarks, November/December, pp. 53-56.a
- 295. Bruce (2013). "Design, Construction and Performance of Seepage Barriers for Dams on Carbonate Foundations," Carbonates and Evaporites: Volume 28, Issue 1, p. 229-241.
- 296. Bruce, D.A., B.E. Brosi, T.L. Dreese, and M.W. Terry (2014). "The History of Grouting at Wolf Creek Dam, Kentucky," 34th USSD Annual Meeting and Conference, San Francisco, CA, April 7-11, 30 pp.
- 297. Bruce, D.A. (2014). "Deep Mixing in the United States: Milestones in Evolution," DFI-EFFC International Conference on Piling & Deep Foundations, Stockholm, Sweden, May 21-23, 10 pp.
- 298. Bruce, D.A., B.E. Brosi, T.L. Dreese, and M.W. Terry (2014). "The History of Grouting at Wolf Creek Dam, Kentucky," The Journal of Dam Safety, Volume 12, Issue 3, p. 23-41.
- 299. Bruce, D.A, B.H. Greene, B.E. Williams, and J.H. Williams (2014). "Evolution of Grouting in Karst at Logan Margin Dam, Alabama," The Journal of Dam Safety, Volume 12, Issue 4, p. 21-35.