

GEOSYSTEMS, L.P.

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DR. DONALD ALEXANDER BRUCE

SPECIALTY/SKILLS:

Specialty geotechnical processes, researcher

GEOGRAPHIC BASE: Pittsburgh, PA

TYPE OF COMPANY: Sole Proprietor

RESUMÉ

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 Soil Mechanics and Geotechnical Engineering
(Ground Improvement – TC-17 Committee – Industry Liaison)
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
Euronorm WG10 Deep Mixing

**PRINCIPAL
PROFESSIONAL
DISTINCTIONS**

Martin S. Kapp Award Winner 1998: ASCE Geotechnical Division
Wallace Hayward Baker Award Winner 2004: 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
Keynote Lecturer - First Canadian International Grouting Seminar, Toronto,
1989
Invited Lecturer - 3rd Cross Canada Lecture Tour: Tunneling Society of
Canada, 1989
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
International Who's Who, 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

**PROFESSIONAL
EXPERIENCE AND
BACKGROUND**

**PRINCIPAL, GEOSYSTEMS, L.P., PITTSBURGH, PA, MAY 1996 TO PRESENT
(FORMERLY KNOWN AS ECO GEOSYSTEMS, INC.)**

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 in situ reinforcement. 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.

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 \$4M U.S. 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 \$3M 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.

GROUP TECHNICAL MANAGER, COLCRETE GROUP, WETHERBY, UK, AUGUST 1980 - DECEMBER 1981

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 \$7M U.S., 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 trials 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: Over 280.