

PERSONAL RESUME

NORBERT R. MORGENSTERN

EDUCATION

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| B.A.Sc. | (Civil Engineering) | University of Toronto | 1956 |
| D.I.C. | (Soil Mechanics) | Imperial College of Science and Technology | 1964 |
| Ph.D. | (Soil Mechanics) | University of London | 1964 |
| D.Eng. | (h.c.) | University of Toronto | 1983 |
| D.Sc. | (h.c.) | Queen's University | 1989 |
| D.Sc. | (h.c.) | University of Alberta | 2007 |

EXPERIENCE

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| 1956 | Geocon Ltd. |
| 1957-1958 | Graduate Studies, Imperial College of Science and Technology |
| 1958-1960 | Research Assistant, Imperial College of Science and Technology |
| 1960-1968 | Lecturer in Civil Engineering, Imperial College of Science and Technology |
| 1968 to 1983 | Professor of Civil Engineering, University of Alberta |
| 1983 to 1999 | University Professor of Civil Engineering, University of Alberta |
| 1999 to present | Distinguished University Professor (Emeritus) of Civil Engineering, University of Alberta |
| 1994 to 1997 | Chair, Department of Civil and Environmental Engineering, University of Alberta |
| 1961 to present | Advisor to consulting engineers and public agencies on a variety of problems in Engineering Earth Sciences, examples below. |

PROFESSIONAL AFFILIATIONS

Association of Professional Engineers of Alberta
Engineering Institute of Canada
Canadian Committee on Large Dams
Association of Engineering Geologists
Geological Society of London
British Geotechnical Society
American Society of Civil Engineers
International Society for Rock Mechanics
International Society for Soil Mechanics and Foundation Engineering
Canadian Geotechnical Society
Canadian Institute for Mining and Metallurgy
International Association for Engineering Geologists

PROFESSIONAL AFFILIATIONS (continued)

Canadian Society for Civil Engineering
 Royal Society of Canada
 Canadian Academy of Engineering
 National Academy of Engineering, U.S.A.
 Royal Academy of Engineering, United Kingdom
 National Academy of Engineering, India

SELECTED CONSULTING ENGAGEMENTS

Dams and Tailings Facilities

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| Fiddler's Ferry | for Sandeman, Kennard and Partners, United Kingdom |
| Peterborough | for Sandeman, Kennard and Partners, United Kingdom |
| Mangla Project | for Binnie and Partners, Pakistan |
| Balderhead | for Sandeman, Kennard and Partners, United Kingdom |
| Muda | for Sir William Halcrow and Partners, Malaysia |
| Pedu | for Sir William Halcrow and Partners, Malaysia |
| Mavrokolymbus | for Department of Water Development, Republic of Cyprus |
| Palekhor | for Department of Water Development, Republic of Cyprus |
| Rocky Mountain House | for Department of Agriculture, Government of Alberta |
| Bayano Project | for Montreal Engineering Co. Ltd., Panama |
| Syncrude Tailings | for E.W. Brooker Ltd., Canada |
| Little Paddle River | for Department of Environment, Government of Alberta |
| Tar Island Dyke | for Department of Environment, Government of Alberta |
| Red Deer River | for Department of Environment, Government of Alberta |
| Paddle River | for Department of Environment, Government of Alberta |
| South Saskatchewan River Dam | for PFRA, Government of Canada |
| Nipawin Project | for Crippen-Acres Ltd., Canada |
| Wreck Cove Project | for Lavery, O'Brien, Canada |
| Peace River Project, Site C | for B.C. Hydro Power Authority, Canada and Klohn Crippen Berger/SNC |
| Slave River Hydro Project | for Shawinigan-Stanley, Canada |
| Glenmore Dam | for Montreal Engineering Co. Ltd., Canada |
| Norden Dam | for Water and Power Resources Services, Dept. of the Interior, USA |
| Forks Hydro Project | for Crippen-Acres Ltd., Canada |
| Dunvegan Dam | for Montreal Engineering Co. Ltd., Canada |
| Tailings Dam | for B.C. Coal, Canada |
| Liard River Development | for B.C. Hydro Power Authority, Canada |
| Three Sisters Dam | for Montreal Engineering Co. Ltd., Canada |
| Gwynne Dam | for Department of Environment, Government of Alberta |
| Hinds Lake Project | for L.W. Biegler, Inc., Canada |
| Anitapolis Project | for Paulo Abib Eng., SA, Brazil |
| Bighorn Dam | for Montreal Engineering Co. Ltd., Canada |
| Dickson Dam | for Department of Environment, Government of Alberta |

Betania Dam for SEDIC Ltda., Colombia
 Basha Dam for Montreal Engineering Co. Ltd., Pakistan

Dams and Tailings Facilities (continued)

El Haouareb Dam for SNC Ltd., Tunisia
 Waterton Dam for Department of Environment, Government of Alberta
 Red Dog Mine Tailings Dam for Cominco, Alaska
 Sand River Dam for Department of Environment, Government of Alberta
 Kompienga Project for SNC Ltd., Bourkina Faso
 Tar Island Dyke for Hardy Associates and SUNCOR, Canada
 Stava Tailings Dam for Montedison S.A., Italy
 Forty Mile Coulee Dam for Klohn Leonoff Ltd., Canada
 Oued Barbara Project for SNC Ltd., Tunisia
 Duncan Dam for B.C. Hydro Power Authority, Canada
 Merowe Project for Montreal Engineering Co. Ltd., Sudan; Ministry of Energy, Govt. of the Sudan

Isle Maligne, Dyke 8 for SNC and Alcan Ltd., Canada
 Alameda Dam for Cochrane-Lavalin, Canada
 Whitehorse Rapids Dam for Yukon Electric Co. Ltd., Canada
 Lornex Tailings Dam for Highland Valley Copper Ltd., Canada
 Gatun Dam for Panama Canal Commission
 Ste-Marguerite Project for Hydro Quebec, Canada
 Coursier Dam for B.C. Hydro, Canada
 Upper Mammoth Tailings Dam for SHB AGRA and Cyprus Bagdad Copper Corp, USA
 Costilla Dam for USBR and State of New Mexico, USA
 San Manuel Tailings Dams for SHB AGRA and Magma Copper Corp., USA
 Whiteman's Dam for Trans Alta Utility, Canada
 Sir Adam Beck III for Ontario Hydro, Canada
 Omai Tailings Dams for Omai Gold Mine, Guyana
 Tailings Dams for Cambior Ltd., Canada
 Bennett Dam for B.C. Hydro Power Authority, Canada
 El Pachon Tailings Dam for El Pachon Project, Chile
 La Granja Water and Tailings for La Granja Project, Peru
 Various Till Core Dams for Hydro Quebec, Canada
 Diavik Mine Dike for Diavik Mine, Canada
 Carlotta Heap Leach for Carlota Copper Mine, USA
 Bilin Hydroelectric Project for Daewoo, Myanmar
 Various Tailings Dams for Barrick Gold Corporation, Canada, Chile, USA
 Tailings Dam Stability for Kennecott Corp., U.S.A.
 Los Frailes Dam Failure for Boliden, Spain
 Myra Falls Tailings Facility for Boliden – Westmin, Canada
 Cerro San Pedro Heap Leach for Cambior Ltd., Mexico
 Pierina Gold Project for Barrick Gold Corporation, Peru
 North Ridge Dam for Alberta Environment, Canada
 Quirke Tailings Facility for Rio Algom, Canada
 Antamina Tailings Facility for Golder Associates, Peru and Compania Minera Antamira

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| Muskeg River Project | for Shell Canada/BHP |
| Keechelus Dam | for US Bureau of Reclamation, USA |
| Thompson Creek Tailings Dam | for Thompson Creek Mining Company, USA |

Dams and Tailings Facilities (continued)

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| Tailings Facility Labrador City | for Iron Ore Company, Canada |
| Elsie Lake Dam | for B.C. Hydro Power Authority, Canada |
| Kettle Dam | for AGRA-Monenco and Manitoba Hydro, Canada |
| Karkheh Project | for Iran Water and Power Resources Development Co., Iran |
| Las Cruces Tailings Facility | for AGRA Earth and Environmental and Cobre Las Cruces, Spain |
| Oahe Dam | for U.S. Corps of Engineers, U.S.A. |
| Cleveland Dam | for EBA Consultants & GVRD, Canada |
| Fort Hills Tailings Facility | for Norwest Consultants, Canada; Petro Canada; Suncor |
| Gotwand Project | for Iran Water and Power Resources Development Co., Iran |
| Pascua–Lama Tailing Facility | for Barrick Argentina and Chile |
| San Francisco Waste Dump | for Geotecnica, Chile |
| Alumbrera Tailings Facility | for Minera Alumbrera, Argentina |
| Coquitlam Dam | for BC Hydro, Canada |
| Arab Phosphate Dikes | for Gibbs Consultants, Jordan |
| Fly Ash Stack Stability | for Tarong Energy Corp., Australia |
| Ridge Dam | for AMEC E & E and Government of Alberta |
| Rosebel Tailings Facility | for Cambior Ltd., Surinam |
| Nickel Plate Tailings Facility | for Barrick Gold Corporation, Canada |
| Homestake Tailings Facility | for Barrick Gold Corporation, Canada |
| McLaughlin Tailings Facility | for Barrick Gold Corporation, Canada |
| Rio Paracutau Tailings Facility | for Rio Tinto Brasil, Brazil; AMEC (Kinross) |
| Travers Dam | for AMEC E & E and Alberta Environment |
| INCO Tailings Facility (Sudbury) | for INCO, Canada |
| Shikwamkwa Dam | for Great Lakes Power Ltd., Canada |
| Pueblo Viejo Project | for Placer Dome, Dominican Republic |
| Tar River Dam | for Horizon Project, CNRL, Canada |
| Oldman Dam | for Alberta Environment |
| Valedero Project | for Barrick, Argentina |
| KCGM Tailings Facility | for Barrick, Australia |
| Folsom Project & MIAD | for US Bureau of Reclamation, USA |
| Las Palembres Tailings Facility | for Las Palembres Mining, Chile |
| Kobaka Tailings Dam | for Kinross Gold, USSR |
| Cerro Verde Project | for Phelps Dodge and Montgomery Watson, Harza, Peru |
| Tailings Dams and Gypsum Stacks | for Bunge SA and Fosfertil SA, Brazil |
| Galore Creek Mine | for Novagold and BGE Consultants, Canada |
| Donlin Creek Mine | for Placer Dome, Alaska and Barrick Gold, Canada |
| Gaicho Kue Mine | for De Beers, Canada |
| Horizon Oil Sands Project | for CNRL, Canada |

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| Camp Caiman Tailings Facility | for Cambior Ltd., French Guinea |
| Muskeg River Mine and Tailings | for Albian Sands Energy Ltd., Canada |
| Jackpine Oil Sands Facility | for Klohn Crippen Berger Ltd., Canada |
| Kupol Tailings Facility | for Bema Gold Corporation, Russia |

Dams and Tailings Facilities (continued)

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| Laguna Norte | for Barrick Gold, Peru |
| Meadowbank Tailings and Water Dams | for Agnico – Eagle Mines, Canada |
| Mupane Tailings Facility | for IAMGOLD, Botswana |
| Ambatovy Project | for Sherritt, Madagascar |
| Brisas Project | for Gold Reserve Inc., Venezuela |
| Boleo Project | for Baja Mining Co. |
| Roseires Project | for Dam Implementation Unit, Govt. of Sudan |
| Joslyn North Mine | for Total Canada |
| Dunvegan Dam | for Thurber Consultants Ltd. |
| Oyo Tolgoi Tailings Facility | for Klohn Crippen, Mongolia and Rio Tinto |
| Kearl Lake Project | for Imperial Oil, Canada |
| Site C Hydro Project (2008) | for BC Hydro, Canada |
| Cerro Casale | for Barrick, South America |
| Rosia Montana | for Gabriel Resources |
| Cobre Panama | for Inmet, Panama |
| Kennecott Expansion | for URS, USA |
| Sisk Dam | for USBR, USA |
| Keephills Ash Dam | for TAU, Canada |
| Ovejeria Tailings Dam | for Hatch Associates and CODELCO, Chile |
| Lihir Gold Mine | for Newcrest Gold Corp., PNG |
| Lumwana Copper Mine | for Barrick, Zambia |
| Goldex Mine | for Agnico Eagle, Canada |
| Golden Sunlight Tailings Dam | for Barrick Gold, USA |
| Candelaria Tailings Dam | for Freeport McMoran, Chile |
| Sierrita Tailings Dam | for Freeport McMoran, USA |
| Climax Tailings Dam | for Freeport McMoran, USA |
| Henderson Tailings Dam | for Freeport McMoran, USA |
| Bagdad Tailings Dam | for Freeport McMoran, USA |
| Morenci Tailings Dam | for Freeport McMoran, USA |
| Chimo Tailings Dam | for Freeport McMoran, USA |
| Mount Polley Tailings Dam Failure | For Govt. of British Columbia, Canada |
| Libby Tailings Dam | for MWH, USA |
| Cougar Creek Dam | for Town of Canmore, Canada |
| Brazeau Dam, Seismic Assessment | for Govt. of Alberta, Canada |

Landslides and Slope Stability (Soil, Rock and Permafrost)

Department of Water Development, Republic of Cyprus
Soil Mechanics Ltd., United Kingdom
Freeman, Fox and Partners, United Kingdom
Marples Ridgway Ltd., United Kingdom
Kent County Council, United Kingdom
U.S. Atomic Energy Commission, United States
Sir Bruce White, Wolfe Barry and Partners, Malaysia
United States Army Corps of Engineers, United States
Syncrude Project, Canada
Department of Energy, Mines and Resources, Canada
City of Edmonton, Canada
Cassiar Asbestos Corporation
R.M. Hardy and Associates, Canada
Department of Highways, British Columbia, Canada
Milner and Steer, Canada
Geotecnica S.A., Brazil
Government of Hong Kong
Thurber Consultants Ltd., Canada
Montreal Engineering Co. Ltd. - Anandekaleka Project, Madagascar
City of Calgary, Canada
Golder Associates Ltd., Canada
Union Oil Company, Canada
Amoco Oil Company, USA
Denver and Rio Grande Railway, USA
Montreal Engineering Co. Ltd. - Electricity Trust of S. Australia, Australia
Alexander Holburn, Canada
City of Ft. McMurray, Canada
Alberta Transportation, Canada
Leigh Creek Mine, Australia
Panama Canal Commission, Panama
OK Tedi Mining Ltd., Papua New Guinea
Dyregrov and Burgess, Canada
Ware and Freidenrich, USA
SNC Inc., Canada
Icelandic Civil Defence, Iceland
The OSLO Project, Canada
Porgera Mine (Placer Dome), Papua New Guinea
Department of Environment, British Columbia, Canada
B.C. Hydro, Canada
CP Rail Systems, Canada
RKTG Consultants, USA
IRMS Ltd., Canada
City of Nanaimo, Canada
Osler, Hoskin and Harcourt, Canada
City of Lethbridge, Canada
Bentall Corporation, Canada
Singleton, Urquhart and Associates, Canada

Golden Cross Mine, New Zealand
 Phosphogypsum Stack, Fosfertil, Brazil
 Shapiro, Hankinson and Knutsoon, Canada
 Town of Quesnel, Canada
 Trans Colorada Pipeline, USA
 Oahe Reservoir, US Dept. Of Justice
 Highland Valley Mine, Canada

Landslides and Slope Stability (Soil, Rock and Permafrost) (continued)

Chilliwack Development, Canada
 Waste Dump Stability, Molycorp, USA
 McGregor Dam Slide, Klohn Crippen, Canada
 North Vancouver Flowslide, Municipality of North Vancouver and Singleton Urquhart
 Cheekye Fan Development, Canada
 Codelco Waste Dumps, Chile
 Dielman Pit Stability, Cameco, Canada
 Marandoo Pit Slopes, Australia

Highway, Bridge, Building and other Foundation Problems

Freeman, Fox and Partners, United Kingdom
 Ove Arup and Partners, United Kingdom
 Marples Ridgway Ltd., United Kingdom
 Devon County Council, United Kingdom
 A.J. & J.D. Harris, Ltd., United Kingdom
 Conch Methane Services Ltd., United Kingdom and Algeria
 Ricketts, Evers and Associates, Canada
 C.H. Dobbie and Partners, United Kingdom
 Bernard and Hoggan, Canada
 Parlee Irving et al, Canada
 Bishop and Mackenzie, Canada
 Franki Pile Co., Canada
 Trow and Associates, Canada
 EBA Consulting Engineers, Canada
 Milner and Steer, Canada
 R.M. Hardy and Associates (for Manitoba Hydro), Canada
 D'Appolonia Consultants (for Montalto Nuclear Plant), Italy
 B.J. Wensley and City of Edmonton, Canada
 BBT Geotechnical Consultants Ltd.
 Northern Transportation Company Ltd.
 Hoggan Engineering Ltd.
 Ellis-Don Construction Co.
 Public Works Canada
 Pitts Construction Ltd., Canada
 Golder Associates Ltd., Canada
 Tumbler Ridge Project, Canada
 Echo Bay Mines, Canada

Town of Mayerthorpe, Canada
 Saskatchewan Power Commission, Canada
 Singleton, Urquhart and Associates, Canada
 Western Caissons Ltd., Canada
 McLeod Dixon, Canada
 Emery Jamieson, Canada
 Alberta Power, Canada
 Montreal Engineering co. Ltd. (for Suralaya Project), Indonesia
Highway, Bridge, Building and other Foundation Problems (continued)

Westcan Malting Ltd., Canada
 Stewart McKelvey Stirling Scales, Canada
 Golder Associates (PEI Bridge), Canada
 AMOCO LNG Plant, Trinidad
 RECO, South Dakota, U.S.A.
 Petrifond Foundation Ltd., Canada
 Brownlee Beaton Kreke, Canada
 TKO Regional Settlement, Hong Kong
 Leader Grain Terminal, Canada
 Anthony Henday Bridge, Alberta Transportation, Canada
 Hong Kong Government (Reclamation settlement)
 Hong Kong Government (Construction dispute)
 Tunnel Portal Stability, Edmonton LRT, Canada

Pipelines

Mackenzie Valley Pipeline Ltd., Canada
 E.W. Brooker Ltd., Canada
 Centennial Gas Pipeline, Canada
 Stone and Webster Engrg. Corp., United States
 Northern Engineering Services Ltd., Canada (for Canadian Arctic Gas)
 Great Lakes Dock and Dredging, United States
 Alyeska Pipeline Service Ltd., United States
 Beaufort Delta Oil Project, Canada
 R.J. Brown and Associates, Canada (Drake Point Flowline)
 Northwest Alaska Pipeline Ltd., United States
 Interprovincial Pipe Line (NW) Ltd., Canada
 Frigg Gas Pipe Line, United Kingdom
 Gulf Northern Pipeline, Canada
 Nova Pipeline
 Mackenzie Gas Pipeline, Canada
 Gateway Pipeline, Canada

Underground Excavations

Edmonton Transit Tunnels, Canada
 Jonquierre Sewer Tunnel, Canada
 Saline Creek Tunnel, Canada

Cold Lake Shafts and Tunnels, Canada
 Rio Blanco Oil Shale Project, United States
 Athabasca Oil Sands Shafts and Tunnels, Canada
 Cavities in Frozen Ground, Canada
 Mine Assisted Oil Sand Recovery, Gulf Canada Ltd.
 Nuclear Waste Storage, Atomic Energy of Canada Ltd.
 Mine Assisted Oil Sand Recovery, Thurber Consultants Ltd., for PETRO-CAN
 Fording Coal Mine, Shaughnessy, Alberta, for Thyssen Mining Construction of Canada Ltd.
 North Slope Oil Sands, Alaska, for Anaconda Minerals, United States
 Golder Associates, USA
 Cigar Lake Mining Corporation, Canada
 Cementation Mining Ltd., U.K.
 I.M.C. Potash Mine, Saskatchewan
 TBM Retrieval Shaft, St. Clair Tunnel, Canada
 Melbourne Tunnels, Australia

Offshore Geotechnical Engineering

W.D. Noble and Co., U.K. (North Sea, Niger Delta, Mississippi Delta)
 Chevron Oil Company, USA (Gulf of Mexico)
 D'Appolonia Consultants, Belgium (Cameroon)
 Dome Petroleum Ltd., Canada (Beaufort Sea)
 Gulf Canada Resources Ltd., Canada (Beaufort Sea)
 SOHIO, USA, (Beaufort Sea)
 PMB, USA, (Beaufort Sea)
 AMOCO, USA, (Beaufort Sea)
 B. Gerwick and Associates (N. Rankin Platform, Australia)
 ESSO Resources Canada Ltd. (Beaufort Sea)
 Pluto Gas Field, Australia
 Browse Gas Field, Australia

Additional Studies

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| Mining Reclamation | for Department of Energy, Mines and Resources, Canada |
| Mechanical Properties of Ice | for Imperial Oil Ltd., Canada |
| Downdrag on Wells in Permafrost | for Imperial Oil Ltd., Canada |
| Manual on Permafrost | for National Research Council of Canada |
| In-Situ Tar Sand Recovery | for Imperial Oil Ltd., Canada |
| Pressuremeter Tests in Ice | for Imperial Oil Ltd., Canada |
| Blasting in Permafrost | for Department of National Defense, Canada |
| Pollution from Tailings Dam | for Department of Environment, Government of Alberta |
| Geotechnical Properties of Tailings | for Syncrude Canada Ltd. |
| Ground Movements Due to In-Situ Oil Sand Extraction | for Imperial Oil Ltd., Canada |
| Rock Engineering for Water Resource Developments | for Ministry of Irrigation, Government of India and United Nations Development Program |
| Ice Mechanics | for Dome Petroleum Ltd., Canada |

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| Geotechnical research and development | for Syncrude Canada Ltd. |
| Sand production in oil wells | for Husky Oil Co., Canada |
| Ice Rubble Behaviour | for Canada Marine Engineering Ltd., Canada |
| Material Testing Laboratory | Government of Pakistan and United Nations Development Program |
| Nuclear Waste Isolation | for Atomic Energy Canada Ltd. |
| Dam Safety Evaluation | for Ontario Hydro, Canada |
| Edmonton Waste Management Centre | for City of Edmonton and Stanley Associates Eng. Ltd. |
| Clover Bar Landfill | for City of Edmonton |
| Additional Studies (continued) | |
| Upgrading Testing Facilities | for Central Soils and Materials Research Station, Govt. of India and United Nations Development Program |
| Borehole Mining of Oil Sands | for ESSO Resources Canada Ltd. |
| Takoradi Power Project | for World Bank and Volta River Authority, Ghana |
| Lethbridge Landfill | for City of Lethbridge, Canada |
| Sliding Reservoir Technology Review | for ESSO Resource Canada Ltd. |
| Daubert Opinion, Baker Environmental Vs LTV Steel Company | for Kirkpatrick and Lockhart LLP, USA |
| Taglu Gas Plant | for Imperial Oil Ltd., Canada |
| Advisory Board | for Tetra Tech Ltd., USA |
| Casino Mine Assessment | for YESAB, Yukon, Canada |

PUBLICATIONS

1. Stability coefficients for earth slopes (with A.W. Bishop), *Geotechnique*, 10, pp. 129-150, 1960.
2. A note on the stability of cuttings in normally consolidated clays (with R.E. Gibson), *Geotechnique*, 12, pp. 212-216, 1962.
3. A relation between hydraulic fracture pressures and tectonic stresses, *Geofisica Purae Applicata*, 52, pp. 104-114, 1962.
4. Stability charts for earth slopes during rapid drawdown, *Geotechnique*, 13, pp. 121-131, 1963.
5. Maximum entropy of granular materials, *Nature*, 200, pp. 559-600, 1963.
6. Some observations on allowable grouting pressures (with P.R. Vaughan), *Proc. Conf. on Grouts and Drilling Muds*, Butterworths, London, pp. 36-42, 1963.
7. Longitudinal velocities in clay during plastic compression (with D. Taylor-Smith), *Pure and Applied Geophysics*, 58, pp. 55-60, 1964.
8. Irreversible thermodynamics of perfect plasticity, *Quarterly of Applied Mathematics*, 22, pp. 364-368, 1965.
9. The analysis of the stability of general slip surfaces (with V.E. Price), *Geotechnique*, 15, pp. 79-93, 1965.
10. The stability of a slurry trench in cohesionless soils (with I. Amir-Tahmasseb), *Geotechnique*, 15, pp. 387-395, 1965.
11. Non-linear deformation of a sandstone (with A.L.T. Phukan), *Proc. First Int. Cong. Rock Mechs.*, 1, pp. 543-548, 1966.
12. A numerical method for solving the equations of stability of general slip surfaces (with V.E. Price), *The Computer Journal*, 9, pp. 338-393, 1967.
13. The optical determination of preferred orientation in clay and its application to the study of microstructure in consolidated kaolin, I (with J.S. Tchalenko), *Proc. Roy. Soc.*, 300, pp. 218-234, 1967.
14. The optical determination of preferred orientation in clays and its application to the study of microstructure in consolidated kaolin, II (with J.S. Tchalenko), *Proc. Roy. Soc.*, 300, pp. 235-250, 1967.
15. Microstructural observations on shear zones from slips in natural clays (with J.S. Tchalenko), *Proc. Geotechnical Conf. Oslo*, 1, 147-152, 1967.

16. Submarine slumping and the initiation of turbidity currents in *Marine Geotechnique*, ed. by A.F. Richards, Univ. of Illinois Press, pp. 189-200, 1967.
17. Microscopic structures in kaolin subject to direct shear (with J.S. Tchalenko), *Geotechnique*, 17, 309-328, 1976.
18. Approximate solution of seepage problems by a simple electrical analogue method (with R.L. Meehan), *Civil Engineering and Public Works Review*, 63, pp. 65-70, 1968.
19. Shear strength of stiff clay, *Proc. Geotech. Conf. Oslo*, 2, pp. 59-72, 1968.
20. Ultimate behaviour of rock structures, Chapter 10 in *Rock Mechanics* ed. by K. Stagg and O. Zienkiewicz, John Wiley and Sons Ltd., 1968.
21. Engineering Aspects of the Skopje Earthquake, July 26, 1963 (with N.N. Abraseys), *Proc. Inst. Civil Engrg.*, 1969, in press.
22. Non-linear stress strain relations for homogeneous sandstone (with A.L. Tamuly Phykan) *Int. Jnl. Rock Mechanics and Mining Sciences*, 6, pp. 127-142, 1969.
23. Intake factors for cylindrical piezometer tips (with Z.A. Al-Dhahir), *Soil Science*, 107, 1, pp. 17-21, 1969.
24. Stresses and displacements in a homogeneous non-linear foundation (with A.L. Tamuly Phykan), *Int. Symp. on Stresses in Rock Masses*, Madrid, 1969, pp. 313-320.
25. Observations on pore pressures beneath the ash lagoon embankments at Fiddler's Ferry power station (with Z.A. Al-Dhahir and M.F. Kenard). *Proc. Conf. on In-situ Investigations in Soils and Rocks*, Institution of Civil Engineers, pp. 175-186, 1969.
26. Foundation Conditions at Muda Dam (with C.L. Clarke and P.M. James), *Proc. 2nd Int. Cong. Rock Mechanics*, Belgrade, 1970, 3, Paper 7-15.
27. Structural and physico-chemical effects on the properties of clays (with J.K. Mitchell and R.M. Quigley), *Proc. 7th Int. Conf. Soil Mechs. and Found. Engrg.*, Mexico City, 1970, 3, pp. 455-472.
28. Methods of estimating lateral loads and deformations (with Z. Eisenstein), *Proc. Specialty Conference on Lateral Stresses in the ground*, ASCE, pp. 51-102, 1970.
29. Comparative observations on the use of the Pitcher sampler in stiff clay (with S. Thomson), in *"Sampling of Soil and Rock"*, ASTM Spec. Pub. 483, pp. 180-191, 1970.
30. The influence of groundwater on stability in *"Stability in Open Pit Mining"*, ed. by C.O. Brawner and V. Milligan, AIME, pp. 65-82, 1970.
31. On solutions of plane strain consolidation problems by finite element methods (with C.T. Hwang and D.W. Murray), *Canadian Geotechnical Journal*, 8, pp. 109-118, 1971.

32. The influence of structural rigidity on the foundation loads of the CN Tower, Edmonton (with J. DeJong), *Canadian Geotechnical Journal*, 9, 1971.
33. The consolidation of a clay layer in two dimensions (with S.D. Koppula), *J. Soil Mechanics Found. Div., ASCE*, 98, 1972.
34. One-dimensional consolidation of thawing soils (with J.F. Nixon), *Canadian Geotechnical Journal*, 8, 1971.
35. A slide in Cretaceous bedrock, Devon, Alberta (with D. Eigenbrod), 2nd Int. Symposium on Stability in Open Pit Mining, 1972.
36. An analysis of the cracking at Duncan Dam (with Z. Eisenstein and A.V. Krishnayya), *Proc. Specialty Conference on Performance of Earth Structures, ASCE*, 1972.
37. An analysis of cracking in dams (with Z. Eisenstein and A.V. Krishnayya), *Proc. Waterways Experiment Station Symposium on Finite Element Methods in Geotech. Engrg.*, 1972.
38. Application of the finite element method to consolidation problems (with C.T. Hwang and D.W. Murray), *Proc. Waterways Experiment Station Symposium on Finite Element Methods in Geotech. Engrg.*, 1972.
39. Seepage into an excavation possessing stress dependent permeability (with H. Guther), *Proc. Symposium on Percolation through Fissured Rocks, Karlsruhe*, 1972.
40. Thaw-consolidation tests on remolded clays (with L.B. Smith), *Canadian Geotechnical Journal*, 10.
41. Heave and settlement of two tall building foundations in Edmonton, Alberta (with J. DeJong), *Canadian Geotechnical Conference*, 1972, 10.
42. Practical extensions to a theory of consolidation for thawing soils (with J.F. Nixon), 2nd Int. Conf. on Permafrost, pp. 369-376.
43. Physics, chemistry and mechanics of frozen ground: a review (with D.M. Anderson), 2nd Int. Conf. on Permafrost, pp. 257-288.
44. Environment design for major resource developments, *Engineering Journal*, May-June, 1973, pp. 28-32.
45. The residual stress in thawing soils (with J.F. Nixon), *Canadian Geotechnical Journal*, 10, pp. 571-580.
46. Thaw-consolidation tests on undisturbed fine-grained permafrost (with J.F. Nixon), *Canadian Geotechnical Journal*, 11, pp. 202-214.

47. Landslides in the vicinity of the Mackenzie River (with E.C. McRoberts), Environmental-Social Committee, Northern Pipelines, Task Force on Northern Oil Development, Report No. 73-35, Information Canada.
48. Pressure response below high air entry discs (with D.G. Fredlund), Proc. 3rd Int. Conf. Expansive Soils, pp. 97-108.
49. Fractured coal subjected to direct shear (with D.K. Noonan), Proc. 3rd Int. Cong. Rock Mechanics, 1974.
50. An analysis of the deformation of three dam foundations (with J. Bourbonnais), Proc. 3rd Int. Cong. Rock Mechanics, 1974.
51. The stability of thawing slopes (with E.C. McRoberts), Canadian Geotechnical Journal, 11, 1974.
52. Stability of slopes in frozen soils, Mackenzie Valley, N.W.T. (with E.C. McRoberts), Canadian Geotechnical Journal, 11, 1974.
53. Behaviour of a compacted soil in tension (with A.V. Krishnaya and Z. Eisenstein), Proc. ASCE, Geotechnical Engineering Div., 1974.
54. Discussion: A geochemical investigation of the sensitivity of a normally consolidated clay from Drammen, Norway (with B. Balasubramonian), Norwegian Geotech. Inst., Pub. No. 96, 1973; also Geotechnique, Vol. 22, pp. 542-544.
55. Classification of argillaceous soils and rocks (with K.D. Eigenbrod), Proc. ASCE, Geotech. Engrg. Div., 1974.
56. Pore water expulsion during freezing (with E.C. McRoberts), Canadian Geotechnical Journal, 12, pp. 130-141, 1975.
57. Observations on recent highway cuts in permafrost (with D.E. Pufahl and W.D. Roggensack), Environmental-Social Committee, Northern Pipelines Task Force on Northern Oil Development, Report No. 74-32, Information Canada.
58. Parameter for the design of tailings dams (with H.K. Mittal), Canadian Geotechnical Journal, 12, pp. 235-261.
59. An analysis of the performance of a warm oil pipeline in permafrost, Inuvik, N.W.T. (with J.F. Nixon), Canadian Geotechnical Journal, 12, pp. 199-208.
60. Water flow induced by soil freezing (with W.D. Arvidson), Canadian Geotechnical Journal, 1977, Vol. 14, pp. 237-245.
61. Landslide characteristics in argillaceous bedrock, Alberta, Canada (with S. Thomson), in Mechanics of Rock Slides and Avalanches, Vol. 2, Elsevier, in press.

62. Methods of slope stability analysis (with D. Sangrey), Chap. 7 in U.S. Transportation Research Board, Special Publication, Landslides, in press.
63. Methods of stability analysis, in "Computer Applications in Foundation Engineering and Construction", Illinois Section, ASCE, 1974, pp. 44-68.
64. Stress-strain relations for soils in practice, Proc. 5th Pan American Conf. Soil Mechs. Found. Eng., 4, pp. 1-41.
65. Stability of slopes in residual soils (with M. de Matos) Proc. 5th Pan American Conf., Soil Mechs. Found. Eng., 3, pp. 369-384.
66. Seepage control in tailings dams (with H. Mittal) Canadian Geotechnical Journal, 13, pp. 277-293.
67. Constitutive relations for unsaturated soils (with D. Fredlund) Canadian Geotechnical Journal, 13, pp. 261-276.
68. Mechanics of the Frank Slide (with J. Krahn) Proc. ASCE Geotechnical Engineering Specialty Conference, Rock Engineering for Foundations and Slopes, pp. 309-332, Boulder, Colorado.
69. Factors affecting distribution of landslides along rivers in Southern Alberta (with S. Thomson) Canadian Geotechnical Journal, Vol. 14, No. 4, pp. 508-523, 1977.
70. Indentation tests to investigate ice pressures on vertical piers (with K. Croasdale and J.B. Nuttal), J. Glaciology, 1977, in press.
71. Stress state variables for unsaturated soils (with D. Fredlund) J. Geot. Eng. Div., ASCE, 1977, Vol. 103, pp. 447-466.
72. Design and performance of tailings dams (with H. Mittal), Proc. ASCE Geotechnical Specialty Conf., 1977, pp. 475-492.
73. Influence of load and heat extraction on moisture transfer in freezing soils (with D. Hill), Int. Conf. Frost Problems in Soils, Lulea, Sweden, 1977.
74. Field test results for a chilled pipeline buried in frozen ground (with W. Slusarchuk, J. Clark, J. Nixon, and P. Gaskin), 3rd International Conf. on Permafrost, 1978, pp. 877-883, Edmonton, Canada.
75. Slopes and Excavations - State of the Art (with G. Blight, N. Janbu, D. Resendiz) Proc. 9th International Conference Soil Mech. Found. Eng., Tokyo, 1977, Vol. 2, pp. 547-604.
76. Preliminary results on deformation behaviour of polycrystalline ice (with D. Segeo), National Research Council, Technical Memorandum No. 121, pp. 124-130, 1977.

77. Slopes and Excavations - General Report, Proc. 9th Int. Conf. Soil Mech. Found. Eng., Tokyo, 1977, Vol. 3, pp. 317-324.
78. Shear strength of Athabasca Oil Sands (with M.B. Dusseault), Canadian Geotechnical Journal, 1978, Vol. 15, No. 2, pp. 216-238.
79. Characteristics of natural slopes in the Athabasca Oil Sands (with M.B. Dusseault), Canadian Geotechnical Journal, 1978, Vol. 15, No. 2, pp. 202-215.
80. Sampling and testing of Athabasca Oil Sands for stability studies (with M.B. Dusseault), Proc. Canada-Venezuela Seminar on Oil Sands, 1977, pp. 260-269, Edmonton, Canada.
81. Shear strength of unsaturated soils (with D. Fredlund and R. Widger), Canadian Geotechnical Journal, 1978, Vol. 15, pp. 313-321.
82. Stress-deformation and strength characteristics: a discussion (with H. Schmertmann) Proc. 9th Int. Conf. Soil Mechs. Found. Eng., Tokyo, 1977, Vol. 3, pp. 356-359
83. Direct shear tests on natural fine-grained permafrost soils (with W.D. Roggensack), 3rd Int. Conf. on Permafrost, 1978, pp. 728-735, Edmonton, Canada.
84. Locked sands (with M.B. Dusseault), Q.J. Engineering Geology, 1979, Vol. 12, pp. 117-131.
85. Conference Summary, ASCE Conf. on Applied Techniques for Cold Environments, Anchorage, 1978, Vol. 2, pp. 815-819.
86. Mobile soil and rock flows, Geotechnical Engineering, 1978, Vol. 9, pp. 123-141.
87. Tunnels in oil sands (with M.C. Harris and S. Poppen), 1979, Journal of Canadian Petroleum Technology, Vol. 8, No. 4.
88. Description and classification of geotechnical complexities (with D.M. Cruden), Proc. Int. Symp. Geotechnically Complex Materials, Capri, 1977, Vol. 2, pp. 195-203.
89. The ultimate frictional resistance of rock discontinuities (with J. Krahn) Int. Journal Rock Mechanics and Mining Sciences, 1979, Vol. 16, pp. 127-133.
90. Stabilization of planar landslides in permafrost (with D.E. Pufahl), Canadian Geotechnical Journal, 1979, Vol. 16, pp. 734-747.
91. Time-dependent deformation of jointed rock near rock failure (with P.K. Kaiser), Proc. 4th Int. Cong. Rock Mechs., 1979, Montreux, Vol. 1, pp. 195-202.
92. Geotechnical behaviour of clay shales - an overview, Proc. Int. Symp. on Soil Mechs., Oaxaca, 1979, Vol. 1, pp. 29-52.

93. A problem-oriented classification of soils for slope stability analysis. Proc. Seminar on Landslides, China Society of Civil Engineers, Taiwan.
94. Conference summary. Proc. 1st Canadian Conf. on Marine Geotechnical Engineering, Canadian Geotechnical Society, 1979, pp. 458-460.
95. Observations on moisture migration in frozen soils (with D. Mageau), Canadian Geotechnical Journal, Vol. 17, pp. 54-60.
96. The behaviour of friction piles in ice and ice-rich frozen soils (with W.D. Roggensack and J.S. Weaver), Canadian Geotechnical Journal, Vol. 17, pp. 405-415, 1980.
97. Cast-in-place piles in permafrost (with J.S. Weaver), Canadian Geotechnical Journal, Vol. 17, pp. 320-325.
98. Energy balance at an ablating headscarp in permafrost (with D. Pufahl), Canadian Geotechnical Journal, Vol. 17, pp. 487-497, 1980.
99. Factors affecting the selection of shear strength parameters in slope stability analysis, Proc. Int. Conf. Landslides, 1980, New Delhi, Vol. 2, pp. 83-94.
100. A mechanistic theory of ice lens formation in fine-grained soils (with J. Konrad), Canadian Geotechnical Journal, Vol. 17, pp. 473-486.
101. Effects of pore fluid on the swelling of clay-shale (with B.I. Balasubramonian), Proc. 4th Int. Conf. Expansive Soils, 1980, Denver, Vol. 1, pp. 190-205, ASCE.
102. Remedial measures for slope instability in thawing permafrost (with D.E. Pufahl), Proc. 2nd Int. Symposium on Ground Freezing, 1980, Trondheim, pp. 1089-1101.
103. A numerical approach for predicting stresses and displacements around a three-dimensional pressurized fracture (with O. Hungr), Int. Journal Rock Mechanics and Mining Sciences, Vol. 17, pp. 333-338, 1980.
104. Time-dependent deformation of small tunnels: Part 1; experimental facilities (with P.K. Kaiser), Int. Journal Rock Mechanics and Mining Sciences, Vol. 18, pp. 129-140, 1981.
105. Time-dependent deformation of small tunnels: Part 2; typical test data (with P.K. Kaiser), Int. Journal Rock Mechanics and Mining Sciences, Vol. 18, pp. 141-152, 1981.
106. Performance of temporary tie-backs under winter conditions (with D. Segó), Canadian Geotechnical Journal, Vol. 18, pp. 566-571, 1981.
107. Phenomenological model for rock with time-dependent strength (with P.K. Kaiser), Int. Journal Rock Mechanics and Mining Sciences, Vol. 18, pp. 153-166, 1981.

108. Simple shear creep tests on frozen soils (with J.S. Weaver), *Canadian Geotechnical Journal*, Vol. 18, pp. 217-229, 1981.
109. Pile design in permafrost (with J.S. Weaver), *Canadian Geotechnical Journal*, Vol. 18, pp. 357-370, 1981.
110. The segregation potential of a freezing soil (with J-M. Konrad), *Canadian Geotechnical Journal*, Vol. 18, pp. 482-491, 1981.
111. Geotechnical engineering and frontier resource development. *Geotechnique*, Vol. 31, pp. 303-366, 1981.
112. Role of the universities in achieving Canadian offshore excellence. Proc. 10th Workshop on Frontier Oil and Gas Development, Arctic Institute of North America, pp. 44-51, 1981.
113. Stress-strain relationship for a jointed coal (with S.A. da Fontura), Proc. Int. Symposium on Weak Rock, Tokyo, Vol. 1, pp. 105-110, 1981.
114. The analysis of wall supports to stabilize slopes in Application of Walls to Landslide Control Problems, ASCE, pp. 19-29, 1982.
115. Tangent pile wall for Edmonton Convention Centre. (with L. Balanko and R. Yacyshyn) in Application of Walls to Landslide Control Problems, ASCE, pp. 108-124, 1982.
116. On the consolidation of sedimenting clays. (with S.D. Koppula) *Canadian Geotechnical Journal*, Vol. 19, pp. 260-268, 1982.
117. Prediction of frost heave in the laboratory during transient freezing. (with J.-M. Konrad) *Canadian Geotechnical Journal*, Vol. 19, pp. 250-259, 1982.
118. Extensions to generalized method of slices for stability analysis. (with Z.Y. Chen) *Canadian Geotechnical Journal*, Vol. 20, p. 104-119.
119. Construction in difficult soils - commentary and case histories. Proceedings of Conference on Construction in Difficult Soils, Canadian Society for Civil Engineering, Thunder Bay, 1982.
120. Effects of applied pressure on freezing soils (with J.-M. Konrad), *Canadian Geotechnical Journal*, Vol. 19, pp. 494-505.
121. Performance of a shaft in weak rock (Bearpaw Shale), (with P.K. Kaiser and C. Mackay). Proceedings ISRM Symposium on Caverns and Pressure Shafts, Aachen, Vol. 2, pp. 613-622, 1982.
122. Recent observations on the deformation of ice and ice-rich permafrost in J. Ross Mackay Symposium Volume, ed. by M. Church and O. Slaymaker, University of British Columbia Press, 1982.

123. Deformation of ice under low stresses (with D.C. Segó), *Canadian Geotechnical Journal*, 1983, Vol. 20, p. 587-602.
124. Time-dependent deformation of small tunnels, III, pre-failure behaviour (with P.K. Kaiser), *International Journal of Rock Mechanics and Mining Sciences*, 1982.
125. Analysis of the movements of Gardiner Dam (with J.V. Simmons), *Proc. 4th International Conf. Numerical Methods in Geomechanics*, Edmonton, Vol. 3, 1982, p. 1003 - 1028.
126. Construction pore pressures in embankments (with S.D. Koppula) *Proc. Int. Symposium on Numerical Methods in Geomechanics* ed. by S. Dungar, Balkema, 1982, p. 588-596.
127. Frost heave-pipeline interaction using continuum mechanics (with J.F. Nixon and S.N. Reesor), *Canadian Geotechnical Journal*, 1983, Vol. 20, pp. 251-261.
128. Time-dependent behaviour of tunnels in highly stressed rock (with P.K. Kaiser and S. Maloney). *Proc. 5th Int. Cong. Rock Mechanics*, Melbourne, 1983, Vol. 2, p D329-336.
129. Frost heave prediction of chilled pipelines buried in unfrozen soils (with J.-M. Konrad), *Canadian Geotechnical Journal*, 1984, Vol. 21, p. 100-115.
130. Frost susceptibility of soils in terms of their Segregation Potential (with J.-M. Konrad). *Proc. 4th Int. Conf. Permafrost*, Fairbanks, USA, 1983, pp. 660-665.
131. Deficient pore pressure in an eroding soil mass (with S. D. Koppula), *Canadian Geotechnical Journal*, 1984, Vol. 21, pp. 277-288.
132. Vibratory pile driving in frozen sand (with S. Dufour and D.C. Segó). *Proc. 4th Int. Conf. Permafrost*, Fairbanks, USA, 1983, pp. 255-260.
133. Underground cavities in ice-rich frozen ground (with P. Weerdenburg). *Proc. 4th Int. Conf. Permafrost*, Fairbanks, USA, 1983, pp. 1384-1389.
134. Geotechnical testing of Alberta Oil Sands at elevated temperatures and pressures (with J.G. Agar and J.D. Scott). *Proc. 24th U.S. Symposium on Rock Mechanics*, Texas A & M University, 1983, p. 795-806.
135. The undrained equilibrium behaviour of gassy sediments, (with J.C. Sobkowicz), *Canadian Geotechnical Journal*, 1984, Vol. 21, pp. 439-448.
136. Deformation of small tunnels, IV; behaviour during failure (with A. Guenot and P.K. Kaiser). *International Journal of Rock Mechanics and Mining Sciences*, 1985, Vol. 22, pp. 141-152.
137. Convocation address, University of Toronto, June 8, 1983 (unpublished).
138. Experiments in high velocity open channel flow of granular materials (with O. Hungr), *Geotechnique*, 1984, Vol. 34, pp. 405-414.

139. High velocity ring shear tests on sand (with O. Hungr), *Geotechnique*, 1984, Vol 34, pp. 415-422.
140. Punch indentation of polycrystalline ice (with D.C. Segeo), *Canadian Geotechnical Journal*, 1985, Vol. 22, pp 226-233.
141. Geotechnical contributions to Arctic resource development. Proc. 7th Pan American Conference on Soil Mechanics and Foundation Engineering, Vancouver, 1983, Vol. 3, pp. 889-914.
142. The Grierson Hill Slide, Edmonton, Alberta (with R.L. Martin, D.R. Williams and L.A. Balanko), Proc. 37th Canadian Geotechnical Conference, 1984, Toronto, pp. 125-134.
143. Geotechnical conditions of slopes at a proposed pipeline crossing, Great Bear River Valley, Northwest Territories, (with Wayne Savigny) *Canadian Geotechnical Journal*, 1986, Vol. 23, pp. 490-503.
144. In situ creep properties in ice-rich permafrost soil (with Wayne Savigny) *Canadian Geotechnical Journal*, 1986, Vol. 23, pp. 503-514.
145. Creep behaviour of undisturbed clay permafrost (with Wayne Savigny) *Canadian Geotechnical Journal*, 1986, Vol. 23, pp. 515-527.
146. Three-dimensional analysis of an artificial island (with E. Evgin). Proc. Arctic'85, ASCE Conf. in Civil Engineering in the Arctic Offshore, pp. 617-625.
147. Anchor test program, Edmonton Convention Centre (with L. Balanko). Proc. Int. Symp. on Prestressed Rock and Soil Anchors, PTI Institute, 1984, pp.R1-R31.
148. Geotechnical aspects of environmental control. Proc. 11th - ICSMFE, San Francisco, 1985, Vol. 1, pp. 155-186.
149. The use and performance of seepage control measures (with R.D. Powell). Proc. Symp. on Leakage and Seepage from Impoundments, 1985, ASCE, pp. 158-182.
150. Thermal expansion and pore pressure generation in oil sands. (with J.G. Agar and J.D. Scott) *Canadian Geotechnical Journal*, 1986, Vol. 23, p. 327-333.
151. Ground temperatures. Symposium on Thermal Design Considerations in Cold Regions Engineering, ASCE, p. 1-7.
152. Geotechnical characteristics of a soft fissured clay.(with A.C. Chan) Proc. 38th Canadian Geotechnical Conference, Edmonton, 1985, pp. 179-188.
153. Computer estimation of tunnel cost. (with A.D. Gale and P.K. Kaiser) *Tunnels and Tunnelling*, 1986, Vol. 18, No. 3, p. 49-54.

154. Shear strength and stress-strain behaviour of Athabasca Oil Sand at elevated temperatures.(with J.G. Agar and J.D. Scott), Canadian Geotechnical Journal, 1987, in press.
155. Three-dimensional simulation of rock-liner interaction near tunnel face. (with F. Pelli and P.K. Kaiser) Proc. NUMOG II, Symposium on Numerical Models in Geomechanics, Ghent, 1986, p. 359-368.
156. Behaviour of cohesionless broken ice. (with A.D. Gale and D.C. Segoo), Proc. 3rd Can. Conf. on Marine Geotechnical Engineering, St. John's, 1986, Vol. 2, p. 485-502.
157. Model tests on laterally loaded groups of short rigid piles in clay. (with F.W. Morison), Proc. 3rd Can. Conf. on Marine Geotechnical Engineering, St. John's, 1986, Vol. 2, p. 729-742.
158. Compressibility and stress history of Holocene sediments in the Canadian Beaufort Sea. (with H.A. Christian),Proc. 3rd Can. Conf. on Marine Geotechnical Engineering, St. John's, 1986, Vol. 1, p. 276-300.
159. Measurement of lateral stress in a lacustrine clay deposit. (with A.C. Chan), Proc. 39th Canadian Geotechnical Conference, Ottawa, 1986, p. 285-290.
160. State of the Art-Engineering Sciences and Allied Fields. Proc. 1st Northern Workshop, 1984, Boreal Institute for Northern Studies, University of Alberta, p. 22-27.
161. Current considerations in leakage and seepage control, Seminar on Dam Safety, Alberta Environment, 1986.
162. A non-linear soil model in ADINA. (with E. Evgin), Int. J. Computers and Structures, 1986, Vol. 24, No. 4, p. 581-588.
163. Analysis of progressive deformation of the Edmonton Convention Centre Excavation, (with D. Chan), Can. Geotech. Journal, 1987, Vol. 24, p. 430-440.
164. Progressive failure of the vane test. (with J.H. Alencar and D.H. Chan). International Symposium on Laboratory and Field Vane Shear Strength Testing, ASTM, STP 1014, pp. 150-165.
165. Use of ADINAT to calculate soil consolidation. (with F.P.K. Yung) Computers and Structures, Vol. 26, 1987, p. 153-164.
166. Fluid transport properties of Athabasca Oil Sand at elevated temperatures over confining stresses (with J.G. Agar and J.D. Scott). Can. J. Pet. Tech., 1987, under review.
167. Geological control of stability on large projects. Proc. 8th Pan American Conference on Soil Mechanics and Foundation Engineering, Cartagena, Colombia, 1987, Vol. 1, p. 293-316.

168. An experimental investigation of transient pore pressure behaviour in soils due to gas exsolution. (with J. Sobkowicz), Proc. Int. Symp. Prediction and Performance in Geotechnical Engineering, Calgary, 1987, ed. by R.C. Joshi and F.J. Griffiths, Balkema, p. 267-276.
169. Design, construction and performance of the Nipawin Dams (with D.S. Matheson and H. Nussbaum) Proc. 40th Canadian Geotech. Conf., Regina, 1987, p. 139-171.
170. Large shear box tests on broken ice. (with A.D. Gale, T.T. Wong, and D. C. Segó) Proc. 9th Int. Conf. on Port and Ocean Engineering under Arctic Conditions, Fairbanks 1987, Vol. 3, p. 97-107.
171. Stress strain behaviour of cohesionless broken ice. (with A.D. Gale, T.T. Wong and D.C. Segó). Proc. 9th Int. Conf. on Port and Ocean Engineering under Arctic Conditions, Fairbanks, 1987, Vol. 3, p. 109-119.
172. Influence of geological history on the properties of a lacustrine clay. (with A.C.Y. Chan). Proc. Int. Symposium on Geotechnical Engineering of Soft Soils, Mexico City, 1987, Vol. 1, p. 25-32.
173. Testing to determine the geotechnical properties of oil sands. (with K.M. Kosar and J.D. Scott). Proc. 38th Annual Technical Meeting, Petroleum Society of C.I.M., Vol. 2, p. 995-1010, 1987.
174. Modelling the development of rupture surfaces using displacement type finite element methods. (with R. Wan and D. Chan). Proc. 6th, Int. Conf. Numerical Methods in Geomechanics, Innsbruck, 1988, ed. by G. Swoboda, Balkema, pp. 373-378.
175. Hydraulic fill structures - a perspective. (with A. Kupper). Proc. ASCE Specialty Conference on Hydraulic Fill Structures, 1988, Fort Collins, Colorado, p. 1-31.
176. Geotechnical properties of oil sands. (with P.R. Kry and J.M. Gronseath). Chapter 8 in "Technical Handbook on Oil Sands, Bitumens and Heavy Oils" AOSTRA, 1989, p. 185-202.
177. A plasticity model for broken ice. (with T.T. Wong and DD.C. Segó). Proc. 41st Canadian Geotechnical Conference, 1988, p. 114-123.
178. Influence of ground ice variability on settlement in thawing permafrost. Proc. 5th Int. Conference on Cold Regions Engineering, 1989, ASCE, p. 297-307.
179. Geotechnical engineering beyond soil mechanics - a case study. (with A.E. Fair and E.C. McRoberts). Canadian Geotechnical Journal, 1988, Vol. 24, p. 637-661.
180. An effective stress approach to undrained analysis. (with D. Chan) in NUMOG III, ed. by S. Pietrusczak and G.N. Pande, Elsevier, 1989, p. 740-750.

181. Embankment dams and dam foundations. (with O. Vardé, V.F.B. de Mello, and P. Anagnosti), Proc. 12th ICSMFE, Rio de Janeiro, 1989, Vol. 4, p. 2177-2226.
182. The numerical modelling of the development of shear band in geomechanics. (with R. Wan and D. Chan), in NUMOG III, ed. by S. Pietrusczak and G.N. Pande, Elsevier, 1989, p. 319-329.
183. Bearing capacity of strain-weakening soils. (with D. Chan), The De Mello Volume, p. 59-68.
184. A modified shear strength formulation for swelling soil. (with P.K. Chatterji) ASTM, STP 1095, Physio-Chemical Aspects of Soil and Related Materials, 1990, p. 118-135.
185. Some influences of ice thrusting in geotechnical engineering. (with D.M. Cruden, S. Thomson, and P.C. Tsui) 1989, Proceedings Quaternary Engineering Geology Conference, Geological Society, Engineering Geology Special Publication #7, London, 127-134.
186. Limit states design in slope stability problems. Symposium on Limit States Design in Foundation Engineering, Toronto, p. 1989.
187. Convocation Address, Queen's University, May 27, 1989, (unpublished).
188. A failure criterion for stiff soils and rocks exhibiting softening. (with N. Yoshida and D. Chan) Canadian Geotechnical Journal, 1990, Vol. 27, p. 195-202.
189. Experience with embankment dam safety evaluation in Alberta. (with M. Houston). Proc. Dam Safety Seminar, Edmonton, 1989, p. 3-24, BiTech Publishers Ltd., Vancouver.
190. A constitutive model for broken ice (with T.T. Wong and D.C. Segó) Cold Regions Science and Technology, Vol. 17, p. 241-252.
191. Analysis of softening effects in mudstone and over-consolidated clays. (with N. Yoshida and D.H. Chan), Soils and Foundations, 1991, Vol. 31, p. 121-130.
192. Behaviour of broken ice as a geomaterial. (with T.T. Wong and D.C. Segó), Canadian Geotechnical Journal, 1991, Vol. 28, p. 451-457.
193. Ice rubble attenuation of ice loads on arctic offshore structures. (with T.T. Wong and D.C. Segó) Canadian Geotechnical Journal, 1991, Vol. 28, p. 881-895.
194. Instability mechanisms in stiff soils and weak rocks. Keynote Lecture. Proc. 10th S.E. Asian Geotech. Conf., Taipei, 1990, Vol. 2, p. 27-36.
- 194.(a) Instability mechanisms in rocks of variable stiffeners (in German). Geotechnik, Vol. 13, p. 129-129. (translation).

195. A finite element method for the analysis of shear bands in geomaterials. (with R.G. Wan and D.H. Chan), *Finite Elements in Analysis and Design*, 1991, Vol. 7, p. 129-143.
196. Finite element analysis of softening effects in fissured, over-consolidated clays and mudstones. (with N. Yoshida and D.H. Chan), *Canadian Geotechnical Journal*, 1991, Vol. 28, p. 51-61.
197. On the yield strength of geotechnical materials from the slump test. (with B. Rajani), *Canadian Geotechnical Journal*, 1991, Vol. 28, p. 457-462.
198. Time dependent hydraulic fracturing of potash mines. (with K. Sepehr) *Int. J. Rock Mechs. and Mineral Science*, 1991, Vol. 28, p. 187-198.
199. The influence of near face behaviour on monitoring of deep tunnels. (with F. Pelli and P.K. Kaiser), *Canadian Geotechnical Journal*, 1991, Vol. 28, p. 226-238.
200. An interpretation of ground movements recorded during construction of the Donkin-Morien tunnel. (with F. Pelli and P.K. Kaiser), *Canadian Geotechnical Journal*, 1991, Vol. 28, p. 239-254.
201. Influence of foundation conditions on design and construction of the Nipawin hydroelectric project. (with D.S. Matheson and J.G. Macpherson). *Trans. 17th ICOLD, Vienna*, 1991, Vol. 3, p. 1775-1802.
202. Limitations of stability analysis in geotechnical practice. (6th Manuel Rocha Lecture), *Geotecnia, Rievista da Sociedade Portuguesa do Geotecnia*, No. 61, p. 5-19, 1991.
203. Simulation of rock-liner interaction for tunnels in isotropic and anisotropic rock masses. (with F. Pelli and P.K. Kaiser), *Proc. 7th Int. Cong. Rock Mechanics, Aachen*, Vol. 1, p. 793-798.
204. Behaviour of piles in frozen soils, a visco-elastic finite element study. (with K. Sepehr). *Proc. CSCE Annual Conference, Vancouver*, 1991, Vol. 2, p. 152-159.
205. Performance of a highwall in soft rock, Highvale Mine, Alberta. (with C.A. Small). *Canadian Geotechnical Journal*, 1992, Vol. 29, p. 353-363.
206. Laboratory tests to study hydraulic fill. (with A.A.G. Kupper and D.C. Segó), *Canadian Geotechnical Journal*, 1992, Vol. 29, p. 405-417.
207. Comparison between various flume tests used for hydraulic fill studies. (with A.A.G. Kupper and D.C. Segó), *Canadian Geotechnical Journal*, 1992, Vol. 29, p. 418-425.
208. Pipelines and laterally loaded piles in an elasto-plastic medium. (with B. Rajani), *Proc. ASCE, J. Geotechnical Engineering*, 1993, Vol. 119, p. 1431-1448.

209. Progressive failure of the Lower San Fernando Dam. (with W.H. Gu and P.K. Robertson), Proc. ASCE, J. Geotechnical Engineering, 1993, Vol. 119, p. 333-351.
210. Behaviour of a semi-infinite beam in a creeping medium (with B. Rajani), Canadian Geotechnical Journal, 1992, Vol. 29, p. 779-788.
211. Stress history and vertical displacement matching for the pipeline at Caen, France, subjected to frost heave. (with B. Rajani) Canada-France Seminar: Gas pipelines, oil pipelines, civil engineering in arctic climates. Caen, France, October, 1991.
212. Progressive failure of the Carsington Dam - A numerical study. (with Z. Chen and D. Chan). Canadian Geotechnical Journal, 1992, Vol. 29, p. 971-988.
213. Post-earthquake deformation analysis of Wildlife Site. (with W.H. Gu and P.K. Robertson). Proc. ASCE, J. Geotechnical Eng., 1994, in press.
214. The emergence of environmental geotechnics. Proc. 9 Asian Regional Conference, ISSMFE, Bangkok, 1991, Vol. 2, p. 19-25.
215. Observations of highwall cut in soft rock, Highvale Mine. (with A. Small), Proc. 44th Canadian Geotechnical Conference, p. 93.1-93.10, Calgary.
216. Progressive failure analysis of offshore gravity base structures. (with M. Mathioudakis and D.H. Chan). Proc. 2 Int Offshore and Polar Engineering Conf. Vol. 1, p. 288-294, 1992, San Francisco.
217. The role of analysis in the evaluation of slope stability. Proc. 6th Int. Symp. Landslides, Vol. 3, 1995, Christchurch, p. 1615-1630.
218. The evaluation of slope stability - a 25 year perspective. Proc. ASCE Conf. on Stability and Performance of Slopes and Embankments - II, Vol. 1, p. 1-26, Berkeley.
219. Uplift of model steel pipelines embedded in polycrystalline ice. (with B. Rajani), Canadian Geotechnical Journal, 1993, Vol. 30, p. 441-454.
220. Modelling discontinuous behaviour and fault formation in geomaterials. Proc. ISRM Symposium on Rock Joints, 1992, Lake Tahoe, p. 327-334.
221. Geotechnics of mine waste audits (with R.F. Dawson and D.C. Sego). Proc. 2nd Int. Conf on Environmental Issues and Management of Waste in Energy and Mineral Production, Calgary, 1992, Vol. 2, p. 1003-1014.
222. Geotechnical engineering and the mining industry - a case study. Proc. 9 - Pan Am. Conf. SMFE, Vol. 4, p. 1507-1520, 1991, Santiago.
223. Incorporation of measured pore pressure in the finite element analysis. (with J.A. de Alencar and D.H. Chan), Proc. 45th Can. Geotech. Conf., 1992, Toronto, p. 62(1-10).

224. An experimental investigation into hydraulic fracture propagation; Part 1, Experimental facilities. (with F. Guo and J.D. Scott). *Int. J. Rock Mechs. Mineral Sciences*, 1993, Vol. 30, p. 177-188.
225. An experimental investigation into hydraulic fracture propagation; Part 2, Single well tests. (with F. Guo and J.D. Scott). *Int. J. Rock Mechs. Mineral Sciences*, 1993, Vol. 30, p. 189-202.
226. An experimental study on well communication by hydraulic fracturing (with F. Guo and J.D. Scott). *Int. J. Rock Mechs. Mineral Sciences*, 1993, Vol. 30, p. 203-218.
227. Geotechnics of non-segregating oil sand tailings (with D.L. Caughill and J.D. Scott). *Canadian Geotechnical Journal*, 1993, Vol. 30, p. 801-811.
228. Collapse behaviour of sand (with S. Sasitharan, P.K. Robertson and D.C. Segoo). *Canadian Geotechnical Journal*, 1993, Vol. 30, p. 569-577.
229. A simplified design method for pipelines subject to transverse soil movements. (with B.B. Rajani and P.K. Robertson) *Proc-OMAE Conf.*, Singapore, 1993.
230. Interpretation of hydraulic fracturing breakdown pressure. (with F. Guo and J.D. Scott), *Int. J. Rock Mechs. Mineral Sciences*, 1993, Vol. 30, p. 617-626.
231. Interpretation of hydraulic fracturing pressure: a comparison of eight methods used to identify shut-in pressure. (with F. Guo and J.D. Scott), *Int. J. Rock mechs. Mineral Sciences*, 1993, Vol. 30, p. 627-632.
232. Interpretation of hydraulic fracturing pressure: fracture pressure analysis. (with F. Guo and J.D. Scott), *Canadian J. of Petroleum Technology*, 1994, Vol. 33, p. 18-22.
233. State boundary surface for very loose sand and its practical implications. (with S. Sasitharan, P.K. Robertson and D.C. Segoo), *Canadian Geotechnical Journal*, 1994, Vol. 31, p. 321-334.
235. An elasto-plastic model for liquefaction deformation analysis. (with W.H. Gu and P.K. Robertson), 1994, in *Performance of Ground and Soil Structures during Earthquakes*, 13-ICSMFE, Japanese Society of Soil Mechanics and Foundation Engineering, p. 219-226.
235. Numerical simulation of drained creep deformation of Tar Island Dyke clay. (with M.M. Morsy and D.H. Chan). *Proc. Int. Conf. Soft Soil Engineering*, Guangzhou, p. 190-195, 1993. Science Press, Beijing.
236. Results and implications of seismic performance studies, Duncan Dam. (with P.M. Byrne and A.S. Imrie). *Proc. 46th Canadian Geotechnical Conference*, p. 271-281; also *Canadian Geotechnical Journal*, 1994, Vol. 31, p. 979-988.
237. Analysis of foundation deformations beneath the Syncrude tailings dyke. (with J. d'Alencar and D. Chan). *Canadian Geotechnical Journal*, 1994, Vol. 31, p. 868-884.

238. Simplified design methods for pipelines subject to transverse and longitudinal soil movements. (with B.B. Rajani and P.K. Robertson). *Canadian Geotechnical Journal*, 1995, Vol. 31, p. 309-323.
239. Collapse of dry sand. (with P. Skopek, P.K. Robertson and D.C. Segó). *Canadian Geotechnical Journal*, 1994, Vol. 31, p. 1008-1014.
240. Observations on the collapse of granular materials. The Kersten Lecture. Proc. 42 Annual Geotechnical Engineering Conf., Minneapolis, 1994.
241. Effects of rock mass anisotropy and non-linearity on the near face stresses in deep tunnels. (with F. Pelli and P.K. Kaiser). *Rock Mechanics and Rock Engineering*, 1995, Vol. 28, p. 125-132.
242. Comparison of predicted and observed responses of pipeline to differential frost heave. (with B. Rajani). *Canadian Geotechnical Journal*, 1994, Vol. 31, p. 803-816.
243. The observational method in environmental geotechnics. Proc. 1st Int. Cong. Environmental Geotechnics, 1994, p. 963-976, Edmonton.
244. An effective stress model for creep of clay. (with M. Morsey and D.H. Chan). *Canadian Geotechnical Journal*, 1995, Vol. 32, p. 819-834.
245. Simulation of creep deformation in the foundation of Tar Island Dyke. (with M. Morsey and D.H. Chan). *Canadian Geotechnical Journal*, 1995, Vol. 32, p. 1002-1023.
246. Evaluation of wave effects on seabed stability in the Fraser River Delta. (with A.R.V. Chillarige, P.K. Robertson, H. Christian and D.J. Woeller). Proc. 47th Canadian Geotechnical Conf. Halifax, 1994, p. 186, a-j.
247. Deformation of artificially frozen shafts during excavation. (with Y. Zhang and D.C. Segó). Proc. 7th Int. Symp. Ground Freezing, 1994, Nancy, p. 225-232.
248. Measurement of electrical properties of soils at radio frequencies (with C.P. Stroemich, R.C. Armstrong, F.S. Chute, and F. Vermeulen) *J. of Microwave Power and Electromagnetic Energy*, 1994, Vol. 29, p. 149-152.
249. Uso de Pressoes Neutras de Campo em Analise por Elementos Finitos. Proc. Xth Brazilian Congress on Soil Mechanics and Foundations Engineering, X-COBRAMSEF, Fox do Iguacu, Brazil, p. 771-778.
250. Geotechnics of fine tailings management. (with J.D. Scott). in *Geoenvironment 2000*, ASCE, 1995, p. 1663-1673.

251. A critical evaluation of pump-and-treat remediation methodology. (with B.M. Adams) in Solutions '95, 26th International Congress Int. Assoc. Hydrogeologists, 1995, Edmonton, Paper No. 2.
252. A numerical scheme for modeling kinematic propagation of shear bands. (with X.R. Wang and D.H. Chan). Numerical models in Geomechanics - NUMOG V, ed. by G. Pande and S. Pietruszzak, Balkema, Rotterdam, p. 215 -222.
253. Static collapse of mine waste fill. (with R.F. Dawson). Proc. 4th International Symposium on Mine Planning and Equipment Selection, Calgary, 1995, p. 845-851.
254. Hazard assessment for rock fall on a highway (with C. Bunce and D.M. Cruden). Proceedings 48th Canadian Geotechnical Conference, Vancouver, 1995, p.449-508.
255. Numerical analysis of centrifuge modelling for the CANLEX experiment. (with D. Chan and A. Soroush). Proceedings 48th Canadian Geotechnical Conference, Vancouver, 1995, p. 367-374.
256. Characterization of Fraser River Delta sand. (with A.R.V. Chillarige, P.K. Robertson, and H. Christian). Proceedings 48th Canadian Geotechnical Conference, Vancouver, 1995, p. 711-720.
257. Managing risk in geotechnical engineering (3rd Casagrande Lecture). Proceedings Xth Pan American Conference Soil Mechanics Foundation Engineering, Guadalajara, Mexico, Vol. 4, 1995, p. 102-126.
258. Assessment of the hazard from rock fall on a highway. (with C. Bunce and D.M. Cruden). Canadian Geotechnical Journal, 1997, Vol. 34, p. 344-356.
259. Seabed Instability due to flow liquefaction in the Fraser River Delta. (with A.V. Chillarige, P.K. Robertson and H.A. Christian). Canadian Geotechnical Journal, 1997, Vol. 34, p. 520-533.
260. Evaluation of in-situ state of Fraser River Sand. (with A.V. Chillarige, P.K. Robertson, and H.A. Christian). Canadian Geotechnical Journal, 1997, Vol. 34, p. 510-519.
261. Rapid flow slides of coal mine wastes in British Columbia. (with O. Hungr, R. Dawson, A. Kent and D. Campbell) in "Catastrophic Landslides" ed. by S.G. Evans and J.V. De Graft, Geological Society of America, Reviews in Engineering Geology, in press.
262. Simulation of time-dependent movements in the Syncrude tailings dyke foundation. (with A.M.P. Wedage and D.H. Chan). Canadian Geotechnical Journal, 1998, Vol. 35, p. 284-298.
263. A strain-rate dependent constitutive model for clays at residual strength. (with A.M.P. Wedage and D.H. Chan). Canadian Geotechnical Journal, 1998, Vol. 35, p. 364-373.

264. Post-earthquake deformation analysis of the Upper San Fernando Dam. (with A. Soroush, P.K. Robertson and D. Chan.) Proceedings International Symposium on Seismic and Environmental Aspects of Dam Design (Earth, Concrete and Tailings Dam), Santiago, p. 405-418.
265. Rapid downhole plate load tests in loose sands. (with C. Fear, G. Cyre and P.K. Robertson). Proceedings 49th Canadian Geotechnical Conference, Vol. 2, p. 879-886.
266. Presidential Address, Proceedings 13th, ICSMFE, New Delhi, Vol. 6, p. 7-9, 1994.
267. Numerical analysis of the CANLEX Phase III field event. (with A. Soroush and D. Chan). Proceedings 49th Canadian Geotechnical Conference, Vol. 2, p. 605-614, 1996.
268. CANLEX Phase III, full-scale flow liquefaction test. (with P.K. Robertson et al). Proceedings 49th Canadian Geotechnical Conference, Vol. 2, p. 567-578, 1996.
269. Liquefaction flowslides in Rocky Mountain coal mine waste dumps (with R.F. Dawson and A.W. Stokes). Canadian Geotechnical Journal, Vol. 35, p. 328-343, 1998.
270. Oil sand geotechnique. (with J.D. Scott). Geotechnical News, Commemorative Edition, Vol. 15, p. 102-109, October, 1997.
271. Toward landslide risk assessment in practice. Proceedings Workshop on Landslide Risk Assessment, edited by R. Fell and D. Cruden, Balkema, 1997, p. 15-24.
272. Analysis of Mam Tor Landslide considering rate effects. (with A.M. Wedage and D.H. Chan). Proceedings 14th ICSMFE, Hamburg, 1997, Vol. 1, p. 229-232.
273. Kinematic modelling of shear zone deformation. (with X.R. Wang and D.H. Chan). Proceedings International Symposium on Deformation and Progressive Failure in Geomechanics, IS-Nagoya '97, ed. By A. Asaoka, T. Adachi and F. Oka, p. 389-394.
274. Progressive failure analysis of windrow induced slope movements at the Syncrude Limited mine site (with M. Mathioudakis and D.H. Chan). International Journal of Rock Mechanics and Mining Science, Vol. 34, p. 192-201.
275. A case history of liquefaction flow failures in mountainous mine waste dumps (with W.H. Gu, R.F. Dawson and P.K. Robertson). Proceedings 4th International Conference on Case Histories in Geotechnical Engineering, St. Louis, 1998, p. 491-494.
276. Geotechnics and mine waste management. International Symposium on Seismic and Environmental Aspects of Dam Design, Santiago, Vol. 2, p. 5-26, 1996.
277. Societal risk: a criterion for landslide risk management in urban environments. (With M. Pacheco, D.M. Cruden). Proceedings 11th Brazilian Conference on Soil Mechanics and Geotechnical Engineering.

278. Contributions of geotechnical engineering to large scale resource developments. Nikken Sekai Nakase Lecture, in press.
279. Constitutive modeling of loose collapsible soils. (With R. Imam, P.K. Robertson and D.H. Chan). Proceedings 51st Canadian Geotechnical Conference, Edmonton, Vol. 2, p. 705-711.
280. Effect of loading direction on the constitutive behavior of soils. (With R. Imam, D.H. Chan and P.K. Robertson). Proceedings 51st Canadian Geotechnical Conference, Edmonton, Vol. 2, p. 713-719.
281. The behavior of loose gassy sands. (With J.L. Grozic and P.K. Robertson). Proceedings 51st Canadian Geotechnical Conference, Edmonton, Vol. 2, p. 697-704; also Canadian Geotechnical Journal, Vol. 36, p. 482-492, 1999.
282. Numerical simulation of drained creep tests on Pisa Clay. (With J. Bai and D.H. Chan). Proceedings 51st Canadian Geotechnical Conference, Edmonton, Vol. 2, p. 649-655.
283. The Canadian Liquefaction Experiment: An Overview (with P.K. Robertson et al.). The Canadian Geotechnical Journal, Vol. 37, p. 499-504, 2000.
284. CANLEX full-scale experiment and modelling (with P.M. Byrne et al.). The Canadian Geotechnical Journal, Vol. 37, p. 543-562, 2000.
285. The CANLEX Project: summary and conclusions (with P.K. Robertson et al.). The Canadian Geotechnical Journal, Vol. 37, p. 563-591, 2000.
286. Geotechnics and Mine Waste Management – An Update. Proceedings of Workshop on Risk Assessment and Contingency Planning in Tailings Management Systems, Buenos Aires, International Council on Metals in the Environment, p. 171-175, 1999.
287. Practical applications of time-dependent behaviour. Memorial Symposium in Honour of Professor Sang-Kyn Kim, Seoul, South Korea, p. 37-57, 1999.
288. Cyclic liquefaction of loose gassy sand (with J.L.H. Grozic and P.K. Robertson), Canadian Geotechnical Journal, Vol. 37, p. 843-856, 2000.
289. Using time domain reflectometry in triaxial testing. (with J.L. Grozic, M.E. Lefebvre and P.K. Robertson), Canadian Geotechnical Journal, Vol. 37, p. 1325-1331, 2000.
290. Performance in geotechnical practice, Inaugural Lumb Lecture. Transactions Hong Kong Institute of Engineers, Vol. 7, p. 1-15, 2000.
291. Common Ground. Keynote Address, Proceedings, GEO-ENG 2000, Vol. 1, p. 1-20, 2000.

292. Terzaghi and liquefaction flow slides. Reports on Geotechnical Engineering, Soil Mechanics and Rock Engineering, Vienna Technical University, (Jubilee Volume), 2000-2001, Vol. 5, p. 64-72.
293. Yielding and flow liquefaction of loose sand (with S.M. Reza Imam, P.K. Robertson and D.H. Chan), Soils and Foundations, Vol. 42, 3, p. 19-32, 2002.
294. Effect of anisotropic yielding on the flow liquefaction of loose sand (with S.M. Reza Imam, P.K. Robertson and D.H. Chan), Soils and Foundations, Vol. 42, 3, p. 33-44, 2002.
295. Kinematic modeling of shear band localization using discrete finite elements. International Journal for Numerical and Analytical Methods in Geomechanics (with X. Wang and D. Chan), Vol. 27, p.289-324, 2003.
296. Numerical simulation of shear bands by element bands. International Journal for Numerical Methods in Engineering (with X. Wang and D. Chan), Vol. 54, 8, p. 1131-1159, 2002.
297. Probabilistic slope stability analysis for practice. Canadian Geotechnical Journal, (with H. El Ramly and D.M. Cruden), Vol. 39, p. 665-683, 2002.
298. Probabilistic stability of analysis of a tailings dyke on pre-sheared clay-shale. Canadian Geotechnical Journal (with H. El Ramly and D.M. Cruden), Vol. 40, p. 192-208, 2003.
299. Probabilistic stability analysis of Lodalen slide. Proceedings 55th Canadian Geotechnical Conference, Niagara Falls, (with H. El Ramly and D. M. Cruden), 2002, p. 1053-1060 .
300. A critical state constitutive model for liquefiable sand (with R. Imam, P.K. Robertson and D. Chan). Canadian Geotechnical Journal, 2005, Vol. 42, in press.
301. Contributions of geotechnical engineering to large scale resource development. Nikken Nakase Geotechnical Institute lecture, Report No. 6, p. 49-60, 2002.
302. Discussion on "Probabilistic slope stability analysis for practice" (with H. El Ramly and D. M. Cruden), Canadian Geotechnical Journal, 2003, Vol. 40, p. 851-855.
303. Quantitative risk analysis for a cut slope. (with H. El Ramly and D. M. Cruden) Proc. GEOHAZARDS 2003, 3rd Canadian Conference on Geotechnique and National Hazards, Edmonton, p. 162-169.
304. Risk Mitigation Against Fast Slope Movements in Proc. International Conference in Fast Slope Movements – Prediction and Prevention for Risk Mitigation, Naples, 2003, in press.
305. Reflections on Skempton's contributions to the study of slopes. Proceedings of The Skempton Conference, London, 2004, Thomas Telford, Vol. 1, p. 14-17.
306. Probabilistic stability analysis of an embankment on soft clay. (with H. El Ramly and D. M. Cruden). Proceedings 27th Canadian Geotechnical Conference, Quebec City, p. 3F; 14-21.

307. Probabilistic assessment of stability of a cut slope in residual soil (with H. El Ramly and D. M. Cruden), *Geotechnique*, Vol. 55, p. 77-84, 2005.
308. A Historical Overview of Permafrost Engineering In Canada: Personal Reflections. Symposium on Permafrost and Arctic Geotechnology, Our Canadian Legacy, Calgary, Canada, 2004, CD.
309. Probabilistic assessment of a cut slope in residual soil (with H. El Ramly and D.M. Cruden). *Geotechnique*, Vol. 55, p. 77-84, 2005.
310. Lodalen Slide: a probabilistic assessment (with H. El Ramly and D.M. Cruden). *Canadian Geotechnical Journal*, Vol. 43, p. 956-968, 2006.
311. Modelling sand behaviour in constant deviation stress loading (with R. Imam) in *Soft Soil Engineering*, ed. By D. Chan and K.T. Law, Taylor and Francis, p. 389-395, 2006.
312. Groundwater and movements of earth slides in the Thompson River Valley (with A. Eshraghian, C.D. Martin and D.M. Cruden). *Proceedings 59th Canadian Geotechnical Conference*, CD, Vancouver, 2006.
313. Landslides in the Panama Canal (with J.M. Duncan, Maxmiliano de Puy, Robert Schuster, William Marsucon and Luis Alfaro, 2007. *Proceedings, 1st North American Conference on Landslides*, Vail, Colorado.
314. Effect of the Thompson River on the stability of the South Slide (with A. Eshraghian and C.D. Martin), 2007. *Proceedings, 1st North American Conference on Landslides*, Vail, Colorado.
315. Movement triggers and mechanisms of two earth slides in the Thomspon River Valley, British Columbia, Canada (with A. Eshraghian and C.D. Martin). *Canadian Geotechnical Journal*, 2007, Vol. 45, p. 1189-1209.
316. Hazard analysis of an active slide in the Thompson River Valley, Ashcroft, British Columbia, Canada (with A. Eshraghian and C.D. Martin). *Canadian Geotechnical Journal*, 2008, Vol. 45, p. 297-313.
317. Risk management for urban flow slides in North Vancouver, Canada (with M. Porter, M. Jakob, W. Savigny and S. Fougene). *Proceedings, 60th Canadian Geotechnical Conference*, Ottawa, 2007, p. 690-698.
318. A review of pore-pressure induced reactivation of translational earth slides (with A. Eshraghian and C.D. Martin). *Proceedings, 60th Canadian Geotechnical Conference*, Ottawa, 2007, p. 2245-2251.
319. A railway ground hazard risk analysis methodology overview (with T. Keegan, D.Cruden, D. Martin, M. Ruel, and M. Pritchard). *Proceedings, 60th Canadian Geotechnical Conference*, Ottawa, 2007, p. 2278-2286.

320. Landslides: Seeing the Ground (with C.D. Martin). Proc. 10th International Symposium on Landslides and Engineered Slopes, Xi'an, China. Taylor and Francis Group, London, 2008, Vol. 1, p. 3-23.
321. Three-dimensional creep analysis of the Leaning Tower of Pisa (with J. Bai and D. Chan), Soils and Foundations, Vol. 48, p. 195-206, 2008.
322. Numerical analysis of time-dependent behavior for the Leaning Tower of Pisa (with J. Bai and D. Chan), Soils and Foundations, Vol. 48, p. 207-220, 2008.
323. Displacements on a pre-existing shear zone/plane (with X. Su, D.D. Tannant and C.D. Martin). Geotechnical Testing Journal, Vol. 30, p. 1-11, 2007.
324. Possibility of using centrifugal filtration for production of non-segregating tailings (with R.M. Nik and D.C. Segó). Proc. First International Oil Sands Tailings Conference, 2008. P. 200-208.
325. Re-examination of the Little Smokey slide (with M.F. Mansour C.D. Martin). Proc. 61st Canadian Geotechnical Conference, Edmonton, 2008, p. 1095-1102.
326. Creep movements of the Little Chief Slide, (with M.F. Mansour and C.D. Martin). Proc. 61st Canadian Geotechnical Conference, Edmonton, 2008, p. 461-468.
327. A geotechnical perspective of oil sands tailings (with J. Sobkowicz). Proc. Tailings and Mine Waste '09, 2009.
328. Expected damage from displacement of slow-moving slides (with M.F. Mansour and C.D. Martin). Landslides, Vol. 8, pp. 117-131, 2010.
329. Recent advances in debris flow in modellings (with X. Wang and D.H. Chan). Proc. 63rd Canadian Geotechnical Conference, Calgary, 2010.
330. Risk management of large rock slopes (with R. Macciotta and C.D. Martin). Proc. 63rd Canadian Geotechnical Conference, p. 891-894, Calgary, 2010.
331. Improving the safety of mine waste impoundments. Proc. Tailings and Mine Waste '10, 2010, p. 3-10.
332. Movement behaviour of the Little Chief Slide (with M.F. Mansour and C.D. Martin). Canadian Geotechnical Journal, 2011, Vol. 48, p. 655-670.
333. Reclamation and closure of an oil sands tailings facility (with J.C. Sobkowicz). Proc. 2nd International Oil Sands Tailings Conference, p. 269-276, 2011.

334. Flow behavior and robustness of non-segregating tailings made from filtered.centrifuged MFT (with R.M. Nik and D.C. Segó).). Proc. 2nd International Oil Sands Tailings Conference, p. 319-330, 2011.
335. Combining geology, morphology and 3D modeling to understand the rock fall distribution along the railways in the Fraser River Valley, between Hope and Boston Bar, B.C. (with R. Macciotta, D.M. Cruden, C.D. Martin). Proc. International Symposium on Rock Slope Stability in Open Pit Mining and Civil Engineering, 2011, Vancouver, B.C.
336. Reflections on ISSMGE Past. Proc. 14th Pan-American Conference on Soil Mechanics and Geotechnical Engineering, 2011 (CD).
337. Spatial and temporal aspects of slope hazards along a railroad corridor in the Canadian Cordillera (with R. Macciotta, D.M. Cruden, C.D. Martin and M. Petrov) in Slope Stability, 2013, International Symposium on Slope Stability in Open Pit Mining and Civil Engineering, Brisbane, p. 1171-1186, 2013.
338. Assessing a novel technology using a tailings management simulation model (with N. Beier and D. Segó) in Proceedings 4th International Oil Sands Tailings Conference, Lake Louise, Alberta, p. 113-122, 2014.
339. Quantitative risk assessment of slope hazards along a section of railway in the Canadian Cordillera; Methodology Concerning the Uncertainty in the Results (with R. Macciotta and C.D. Martin). Landslides, on line January 13, in press.
340. Development and application of a quantitative risk assessment to a very slow moving rock slope (with R. Macciotta, C.D. Martin and D. Cruden), Landslides, in press.
341. A direct shear apparatus with vibrational loading (with K. Taslagyan and D. Chan), Geotechnical Testing Journal, ASTM, in press.
342. Effect of vibration on the critical state of dry granular soils (with K. Taslagyan and D. Chan), Granular Matter, under review.
343. Vibrational fluidization of granular matter (with K. Taslagyan and D. Chan). Journal of Geomechanics, under review.
344. Report on Mount Polley Tailings Storage Facility Breach (with S.G. Vick and D. Van Zyl), January 30, 2015, Government of British Columbia.

SOME MISCELLANEOUS TECHNICAL ACTIVITIES

- 1959 Member, Imperial College glaciological expedition to Austerdalsbre, Norway.
- 1963 Member, Royal Society, Institution of Civil Engineers mission to Skopje, Yugoslavia to report on earthquake effects.
- 1964 to 1997 Member, Editorial Board of International Journal of Rock Mechanics and Mining Sciences.
- 1970 to 1976 Member, Editorial Board of Journal of Soil Mechanics and Foundations, American Society of Civil Engineers.
- 1970 to 1976 Member, Canadian Advisory Committee on Rock Mechanics, Department of Energy, Mines and Resources.
- 1971 to 1975 Member, UNESCO Committee of Experts on Strong Motion Seismology.
- 1971 to 1978 Member, Associate Committee for Geotechnical Research, National Research Council of Canada.
- 1972 to 1976 Member, Canadian National Committee for Earthquake Engineering.
- 1972 to 1976 Member, Publications Committee, ASCE, Geotechnical Engineering Division.
- 1973 to 1980 Member, Engineering Geology Committee, ASCE, Geotechnical Engineering Division.
- 1973 to 1976 Member, Earth Sciences Grant Selection Committee, National Research Council of Canada; Chairman, 1975-76
- 1973 to 1981 Member, Editorial Board, Bulletin of Association of Engineering Geologists.
- 1974 to 1984 Member, Embankment Dams and Slopes Committee, ASCE, Geotechnical Engineering Division.
- 1974 to 1978 Member, Organizing Committee, 3rd International Congress on Permafrost; Chairman, Technical Program Sub-Committee.
- 1975 to 1978 Member, Editorial Board, Earth Surface Processes.
- 1975 to 1977 Member, Editorial Board, Canadian Geoscience Council.
- 1975 Member, Alberta Mission to Europe.
- 1977 Member, Canadian Permafrost Delegation to China.

SOME MISCELLANEOUS TECHNICAL ACTIVITIES (continued)

- 1977 to 1981 Member, University Evaluation Panel, Alberta Oil Sands Technology and Research Authority.
- 1978 to 1979 Member, Organizing Committee, Canadian Conference on Marine Geotechnical Engineering.
- 1978 Chairman, Conference on Industrial Research and Development in Alberta.
- 1978 to 1980 Member, Technical Sub-Committee on Slope Stability, Canadian Geotechnical Society.
- 1978 Member, Ad Hoc Review Committee, Geotechnical Program, University of California, Berkeley.
- 1978 to 1980 Member, Sub-Committee on Tailings Dams, Canadian National Committee on Large Dams.
- 1979 to 1981 Member, Sub-Committee on Soil and Rock Engineering, Associate Committee for Geotechnical Research, National Research Council.
- 1980 Member, Ad Hoc Review Committee on Geotechnical Research, National Research Council.
- 1980 Member, Natural Sciences and Engineering Research Council of Canada, Task Force on Equipment.
- 1980 Chairman, APEGGA Task Force on Bidding for Professional Services.
- 1980 to 1981 Member, Research Committee, Association of Canadian Universities for Northern Studies.
- 1980 to 1984 Member, Executive, Canadian Geoscience Council. Vice-President (1982); President. (1983)
- 1981 Member, Organizing Committee, Third International Symposium in Ground Freezing.
- 1981 Member, Task Force to Establish NRC Cold Regions Facility in Alberta
- 1981 to 1984 Member, Organizing Committee, 4th International Symposium in Landslides
- 1983 to 1986 Member, US National Research Council Committee on Ground Failure Hazards

SOME MISCELLANEOUS TECHNICAL ACTIVITIES (continued)

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| 1983 to 1987 | Member, Organizing Committee, 6th International Congress on Rock Mechanics |
| 1983 | Member, Dean's Review Committee, Dept. of Civil Engineering, University of Toronto |
| 1984 | Member, NSERC Task Force on Research Infrastructure |
| 1984 to 1992 | Member, Canadian Standards Association Committee, on preparation of code for offshore structures. |
| 1985 to 1986 | Member, Organizing Committee, 3rd Canadian Marine Geotechnical Conference |
| 1985 to 1988 | Member, Organizing Committee, ASCE Specialty Conference on Hydraulic Fill Structures |
| 1985 to 1989 | Member, Executive, International Society for Soil Mechanics and Foundation Engineering |
| 1988 | Member, NSERC Supercomputer Funds Allocation Committee |
| 1988 | Member, Expert Advisory Committee for International Decade for Natural Disaster Reduction, United Nations |
| 1989 to 1991 | President, Canadian Geotechnical Society |
| 1989 to 1991 | Vice-President, Engineering Institute of Canada |
| 1989 to 1994 | President, International Society for Soil Mechanics and Foundation Engineering |
| 1989 to 1991 | Member, RSC/CAE Task Force on Canadian response to IDNDR |
| 1989 to 1993 | Advisory Board, The Northern Engineer, University of Alaska |
| 1989 to 1991 | Advisory Board, Int. Conf. on Geotechnical Engineering for Coastal Development, Tokyo |
| 1991 to 1992 | Member, NATO Science-Collaborative Grants Committee |
| 1992 to 1998 | Member, Finance Committee, Royal Society of Canada |

1992 to 1997 Member, Fund Raising Committee, Royal Society of Canada

SOME MISCELLANEOUS TECHNICAL ACTIVITIES (continued)

1993 to 2000 Member, Canadian National Committee for International Decade for Natural Disaster Reduction

2000 Member, U.S. National Research Council Committee on Coal Waste Impoundment

2001 to 2004 Member, Killam Prize Selection Committee, Canada Council

2002 to 2004 Member, U.S. National Research Council Committee on National Landslide Hazards Mitigation Strategy

2003 to 2004 Member, ASTech Awards Selection Panel

2003 to 2010 Chair, Management Committee, Oil Sands Tailings Research Facility

2004 to 2006 Member, National Research Council Monograph Board

2006 to date Member, Scientific Advisory Board, Council of Canadian Academies

HONOURS AND AWARDS

1961 British Geotechnical Society Prize

1966 British Geotechnical Society Prize

1971 Walter L. Huber Civil Engineering Research Prize, American Society of Civil Engineers

1974 Gzowski Society Lecture, University of Western Ontario

1975 Fellow, Royal Society of Canada, Academy of Sciences

1977 Canadian Geotechnical Society Prize

1979 Legget Award, Canadian Geotechnical Society

1981 Rankine Lecture, British Geotechnical Society

1981 Boase Lecture, University of Colorado

1981 University of Toronto, Engineering Alumni, Class of '25 Award

1983 University Professor of Civil Engineering, University of Alberta

1983 D.Eng. (h.c.) University of Toronto

1984 University Research Prize, University of Alberta

1984 Centennial Award, Association of Professional Engineers, Geologists and Geophysicists of Alberta

1985 Fellow, Engineering Institute of Canada

- 1985 Canadian Geotechnical Society Prize
- 1987 Sir Frederick Haultain Prize in Science, Government of Alberta

HONOURS AND AWARDS (continued)

- 1987 Roger J.E. Brown Memorial Award, Canadian Geotechnical Society
- 1987 Thomas Roy Award, Canadian Geotechnical Society
- 1988 Fellow, Canadian Academy of Engineering
- 1988 Distinguished Lecturer, Memorial University of Newfoundland
- 1988 Distinguished Geotechnical Lecturer, Colorado State University
- 1989 D.Sc. (h.c.) Queen's University
- 1989 6th Manuel Rocha Memorial Lecture, Portuguese Society for Geotechnique
- 1990 Honorary Research Fellow, Institute of Water Conservancy and Hydroelectric Power Research, Beijing, PRC
- 1991 Geotechnical Society of Edmonton Award
- 1991 Alberta Order of Excellence
- 1992 Foreign Associate, U.S. National Academy of Engineering
- 1992 27th Karl Terzaghi Lecture, American Society of Civil Engineers
- 1993 125 Year Commemorative Medal, Government of Canada
- 1993 Honorary Professor, Central Research Institute of Building and Construction, Ministry of Metallurgical Industry, PRC
- 1994 Kersten Lecture, University of Minnesota
- 1994 50th Anniversary Lecture, Hydro-Quebec
- 1995 Engineering Alumni Medal, University of Toronto
- 1995 Alberta Science and Technology Foundation Prize for Innovation in Oil Sands Research
- 1995 3rd Casagrande Lecture
- 1996 Foreign Member, Royal Academy of Engineering, United Kingdom
- 1997 Fellow, Canadian Society of Civil Engineers
- 1998 Nikkon Sekai Nakase Lecture, Tokyo
- 1999 International Honorary Member, Japanese Geotechnical Society
- 1999 Foreign Fellow, Indian National Academy of Engineering
- 2000 R.M. Quigley Award, Canadian Geotechnical Society
- 2000 The First Lumb Lecture (Hong Kong)
- 2001 Member, Order of Canada
- 2001 2001 Killam Prize in Engineering
- 2001 R.M. Quigley Award, Canadian Geotechnical Society

- 2002 CAN-AM Civil Engineering Amity Award, American Society of Civil Engineers
- 2002 The Queen's Golden Jubilee Medal
- 2003 Sir John Kennedy Medal, Engineering Institute of Canada
- 2005 Harold R. Peyton Award for Cold Regions Engineering, American Society of Civil Engineers

HONOURS AND AWARDS (continued)

- 2006 R.M. Quigley Award, Canadian Geotechnical Society
- 2006 Varnes Medal, International Consortium for Landslides
- 2007 D.Sc. (h.c.), University of Alberta
- 2009 Schuster Medal, Association of Engineering Geologists and Canadian Geotechnical Society
- 2011 H. Bolton Seed Medal and See Lecture, American Society of Civil Engineers
- 2011 Fellow, American Society of Civil Engineers
- 2012 Queen Elizabeth II Diamond Jubilee Medal
- 2014 Honorary Professor, Zhejiang University, PRC
- 2015 Honorary Fellow, Canadian Academy of Engineering

MAJOR COMMUNITY ACTIVITIES

- 1977 to 1981 Member, Board of Directors, Young Naturalists Foundation
- 1978 to 1986 Member, Board of Directors, Edmonton Symphony Society
- 1979 to 1986 Vice-President, Edmonton Symphony Society